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Abstract

This paper aims to make an alternative development policy which can encourage the foreign trade efficiency. In order to make the policy, the current situation of Mongolian Foreign Trade has been determined and invented the product sectors that have a chance to be developed for the further. In this paper, several methods such as Revealed Comparative Advantage (RCA) method, Product Space Analysis or Monkey and Tree Model, Opportunity Index, and Gravity Model have been used to make analysis. The paper illustrates that firstly, Mongolian Foreign Trade has been becoming more dependent from a single country, a single product and there is no structural shift. In other words, the most part of Mongolian export goods consist of the products that have low sophistication level and low value added, and based on natural resources. Also, the diversification of export goods basket is poor and even no unique products are included in the basket. Therefore, this paper suggests an alternative development policy based on Hidalgo, Ricardo Hausmann, and Bailey Klinger's policy recommendations and foreign trade policy experience of China whose economic performance was the best in the world last 30 years.

JEL Classification Numbers: C55, F14, F42
Keywords: Revealed Comparative Advantage (RCA), Product space model, Structural transformation

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1 Introduction

Adam Smith regards industrialization and foreign trade as a mean of that a state turns into wealth and distributes it to its people at the Wealth of Nations. According to the concept, wealthy and abundant life belongs not only to aristocrats but also it may be created by typical people via labor and efforts. Thereon, Jan Batist Sei and Fredrick Bastia have noticed benefits of industrialization as that "it assists human named animal to achieve real human characteristics" and determined that it is the most optimal mean that trade of made products to other countries creates wealth by human labor. Thus, all of above show that industrialization and foreign trade are resources of wealth (Scausen, 2010).

In contemporary economy, the concept "Foreign trade" has been changed into very essential question during last 60 years. There have been cases that growth of foreign trade of some countries has exceeded over that of GDP. However a policy which replaces import was been widely applied during 1950-1970, the result of export oriented policy of Asian tiger countries was weak. But, other countries could make substantial changes in short-term by implementing export-oriented policy.

Improbity and corruption spilled out of control and ineffective resource distribution were been seen during the period when pursued to develop domestic market by importation protectionism before 1980. The consequence demonstrates that the policy couldn't achieve its goal. Rather, countries have been guided by free trade policy which directs to exportation and aimed to ensure economic growth by creating competency since 1980. This policy has been extremely effective and played an important role to make changes in international foreign trade structure.

During last 20 years, great ambition of countries to earn benefits from the foreign trade has led to adoption of treaties such as free zone and free trade agreements and active unity of countries in the world. The year 1994 was the unification epoch. 124 countries joined in Uruguay treaty, touched upon issues on intellectual property and intended to establishment of a new institution.

However, General agreement of tariff and tax failed at first, it was backbone of World Trade Organization. Almost half of countries in the world including leaders of Bulgaria, The Indonesia, and Asia-Pacific countries have set a goal that industrialized countries have developed perfect free trade by 2010 and developing countries have developed it by 2020. Like this, globalization is intensifying and trade is being released constantly.

It considers that foreign trade structure of particular country reflects its economic structure. In other words, export goods sectors have well developed and import good sectors have underdeveloped in domestic industrialization. On the other hand, the country exports goods made by lesser expenses and imports goods that can't be made itself. This is the Revealed comparative advantage's principle.

For Mongolia, mining is the most possible sector to raise money and has been short and mid-term financial resource. Unfortunately, scholars have identified that mining causes to follow the Dutch disease. Thus, it is important to develop other sectors by rational allocation

of profits gained from mining. If not, a question "what will produce?" will arise seriously after minerals come to end.

This paper intends to determine a "possible development option" by evaluating current Mongolian potentiality, nominating sectors which have ability to grow up in short term based on the evaluation and recommending most rational forms and levels of government's interference in development of these sectors. Benefits and originality of this paper is resides in discovering a possible option that can separate from dependency by turning Mongolia to producer country, its economy is stable and under the immunity, its people are wealthy and rich, have great income and decrease gap between rich and poor.

The paper consists of Conditional analysis and Policy analysis. Conditional analysis contains: (*i*) Evaluation of Mongolian foreign trade structure, its dependency, concentration, gravitation of trade partners and determination of sectors that produces goods which have potential to expand. (*ii*) Evaluation of manufacturing level and corporative advantages of Mongolian export goods, outline of product space and determination products which have capacity to develop.

Methodologies such as Gravity model of foreign trade developed by Timbergen and Poyhonen, indexes which value foreign trade concentration and dependency, Revealed Comparative Advantages method which evaluate products' comparative advantage developed by Balassa and Products' space analysis developed by Hidalgo, Haussmann, Klinger and Baraboso and Index of opportunity developed by Jesus Felipe, Utsav Kumar and Arnelyn Abdon have been applied in orther to carry out an analysis. In frame of policy analysis, most optimal interference level of government which is effective in increasing export of value-added goods in foreign trade and growing benefits of foreign trade based on current situation has studied by associating with Chinese foreign trade policy and recommendation of policy developed by Ricardo, Haussmann, Klinger and Hidalgo.

2 Literature Review

2.1 Necessity of General Theory of Foreign Trade Policy

Comparative study on various countries which developed by McGovan and Shapiro seems that it has generally eliminated weakness that lack of prime theory of foreign trade and has demonstrated treats lack of prime theory of foreign trade. The lack of foundational theory in this sector leads several serious consequences. For instance:

- We have unable to explain relations of findings in particular sector and can recommend only a hypothesis on behavior of foreign trade;

- We might hope for only luck in order to gain hypothesis of an effective work;

- The work is temporary, unplanned, without required reason to select particular case, non-systematic and inconstant; and

- Explanation without theory never becomes specialized science.

Structure of Foreign policy theory is needed to investigate daily interaction in international relations and compare particular foreign policy. Also, structure of the theory which devoted to analyze foreign policy is not only issue which is relevant to universities. That is a political issue in connection with increasingly raising level of correlation between countries and unification of global interests. Wide range of data base with empiric study and data attracted attention of specialists who work out the structure of Foreign policy general theory. Scientists have concluded its evolutionary dispersion in taking advantage of many methods:

- Collation of particular condition compared with given country's behavior with empiric studies;

- Analysis which gives substantial weight to foreign policy process and factors that influence in foreign policy;

- Scientific methods and models which are devoted to foreign policy analysis such as correlation, national and public models; and

- Studies which are strive to provide global model.

2.2 Foreign Trade Policy of Developing Countries

Since WWII, building and creation of industrial sector which was the key of economic development has greatly influenced in trade policy of most developing countries and the best and most successful mode was protection of domestic producers form international competence during 30 years.

Import-substituting Industrialization: In order to foster their domestic industrial sectors, developing countries have tried to accelerate their development by curbing imports of industrial products from WWII to 1970. This strategy has been exercised widely.

Figure 2-1. Tariff level of the countries, 1980-1998
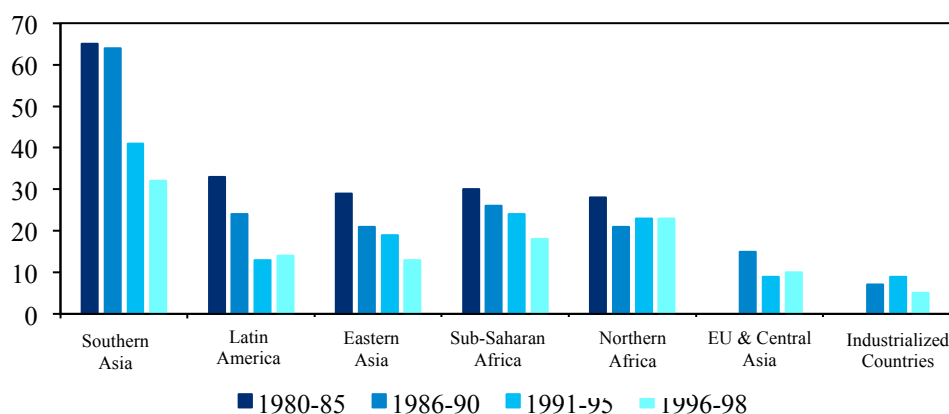
Source: National Statistical Office

Industrialized countries have reached the peak of protectionism in 1930s. In 1947, General Agreement Tariff and Tax was established and began weakening the protectionism. Tariff which was 50% in 1940s decreased to 41% on an average by 1988.

There were lots of negative consequences like businessmen who were at the rule of a state took trade power their hands and created inappropriate distribution of resource and corruption spread because the state provide quota and licenses as tariff and non-tariff means. But, the import-substituting policy has been abolished from 1980 and initialization of implementing export-oriented policy has completely changed foreign trade type of developing countries.

Trade liberalization since 1985: In the middle of 1980s, some of the developing countries have changed tax to lower level and eradicated importation quota, other restrictions and barriers in trade. The transition of developing countries to more liberal trade and commerce was one of the marked events in trade policy in last two decade.

Since 1985, many countries have declined customs duty and abolished importation quota and opened their economy for import competence in general. Table 2-1 shows foreign policy trend of India and Brazil which have chosen importation substitute as their development strategy. Both of them had industrial sectors which were highly protected in 1985.

South-East Asian miracle of export-oriented industrialization: Developing countries united with the concept that there was opportunity to create industrial foundation by replacing imports with domestic industrial products in 1950s and 1960s. But, it has been seen that there are other potential way to support industrialization since 1960s: Export of industrial products to developed countries. Likewise, the World Bank names countries which have developed by this model as High-performing Asian economies: some economies of them had over 10% of annual growth. From the middle of 1960s to Asian crisis, GDP of "Tiger" countries grew up by 8-9% on an average.

However, that of USA and Western European countries increased by 2-3% at the same time. The recent growth of Asian other economies has reached level that can compare with them and China's economic growth level is over 10%. Besides the high level of growth, High-performing Asian economies have another specific feature: They are open to international trade. Indeed, rapidly growing Asian economies are more export-oriented than other developing countries in particular Latin America and South Asia (Krugman & Obstfeld, 2007).

Table 2-1. Protectionism Impact in industrial sectors

	India	Brazil
1980s	126	77
1990s	40	19

Source: Krugman & Obstfeld (2007)

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Trade policy of High-performing Asian economies: Most economists believe that economic high ratio is a reason for success of economy. For example, both of import and export of Thailand jumped in 1990s. Why? Its reason was that the country was destination which was favorable for sophistication of Multinational corporations. These corporations directly produced most of its new export and import of raw materials for their sophistication turned into a large wave in its import capacity. In such a manner, Thailand gained a large amount of export and import.

Industrialization policy of High-performing Asian economies: Some analysts rely on that efficiency of free trade policy has generated accomplishment of the High-performing Asian economies. In practice, majority of countries which their economy achieved growth pursued more comprehensive industrial policy such as not only restriction on customs duty and import and export subsidy but also lower interest of loan and promotion of government for research and examination. In general, it is difficult to evaluate industrial policy. Studies on the issue were arguable and problematic because of 3 reasons.

Firstly, high-performing Asian economies followed variety of policy: Whilst almost free policy was exercised in Hong-Kong, economy of Singapore was guided and regulated by its government accurate direction. South Korea has enhanced structure of their larger industries in step by step and small household enterprises are still dominating in economy of Taiwan. The all economies couldn't reach the same level of growth yet.

Secondly, if the industrial policy had not come into the limelight, its actual impact in industrial structure might not have been such a substantial. World Bank noted that only surprisingly little proof of the countries with concrete industrial rapidly fostered, not seen before, industrial sector at study on Asian miracle.

Finally, the industrial policy of most successful economies had several mistakes. For instance, South Korea was guided by a policy to develop heavy industrial and chemical sectors such as chemicals, steel and automobiles. This policy affirmed that it had spent a large amount of expenses and it was considered as an improper policy and refused. Maybe, the industrial policy was not a key of Asian economic growth (Krugman & Obstfeld, 2007).

2.3   Trend of International Trade and Integration

Multilateral tendency: The beginning of multilateral trade system did not succeed. Breton Wood agreement which has included International Monetary Fund and World Bank had an objective to empower in International Trade Organization to perform its operation which is

covered wide range of activities. But, the objective didn't realize because of USA Congress' disapproval. However, the International trade organization remained under the name of General agreement of Tariff and Tax. The agreement, adopted in 1947, has been passing through 8 phases up to now in total. Please find the phases in Table 2-2.

Table 2-2. Rounds of GATT

Country	Beginning date	Duration	Number of states	Topic	Results
Geneva	April, 1947	7 months	23	Tariff	Adopted GATT and negotiated, 45,000 tariffs
Annecy	April, 1949	5 months	13	Tariff	Negotiated 5,000 tariffs
Torg	September, 1950	8 months	38	Tariff	Negotiation on 8,700 tariffs
Geneva II	January, 1956	5 months	26	Tariff and Japanese permition	Tariff rebare, $2.5 billion
Dillon	September, 1960	11 months	26	Tariff	Tariff rebare, $4.9 billion
Kennedy	May, 1964	37 months	62	Tariff and agains dumping	Tariff rebate $40 billion
Tokyo	September, 1973	74 months	102	Measuremnet of tariff and non-tariff	Evaluation of tariff rebate, beyond $300 billion
Uruguay	September, 1986	87 months	123	Tariffic and non-tarific measures, charter, service, intellectual property riths, agriculture and WTO	Establsihed WTO and expanded its activities and tariff was reduced by 40%
Doha	September, 2001	-	141	Tariffic and non-tarific measures, agriculture, labor standard, invironment, competitiveness, investment, patent etc	-

Developing countries have confronted with two issues. One is an issue on improvement of legal environment and another one is an issue on establishment of customs rate, government procurement, product standard and measures against dumping (Martin, Trade Policies, Developing Countries, and Globalization, 2001).

International free trade zones: It was essential for countries in Latin America to create international free-trade zones. List of larger international free-trade zones is shown in Table 2-3.

Table 2-3. International free-zones

	Region	Trade free-zones
1.	African continent	Mauritius Bizerte and Zarzis in Tunisia Walwis Bay Export Processing Zones, Namibia Calabar Free Trade Zone
2.	American continent	Uruguayan free zone Free Zone of the Republic of Panama Brazilian free-zones Baraguassu of Brazilia Bahama's free zone Macuiladoras Managua, Nicaragua Paraguayan free zone Franca industial free zone, Santiago, Dominican Republic CentrePort Canada - Manitoba, Canada Sant Luis Potocy, Mexico
3.	Asian continent	Izmir, Turkey Okinava and Nagasaki free trade zones, Japan Free posts of India Arshiya-International trade free zone, India
4.	Eurpean continent	Bruselian free trade zone, Belgium Shannon free zone, Shannon Shannon, Ireland Sebirian free trade zone
5.	Middle-East	Jebel Ali free zone, Dubai Aras free zone, Iran Free zone of Bahrain Aden, the Republic of Yemen Chabahar, Iran
6.	Pacific countries	Bayan Lepas free trade zone, Penang, Malasia Batam free trade zone, Batam, Indonesia Caviteg free zone, Philippines Kulim's free zone, Kedah, Malasia Port Klang's free zone, Malasia Pasir Gudang Free Trade Zone, Johor, Malaysia

Source: National Development Institution

Continental and regional cooperation and contemporary trend: Currently, following regional integration blocks have been established at the level of continents and regions.

Table 2-4. Regional integration blocks

	Scope	Blocks	Countries within the block
1.	Industrialized countries and developing countries	European Union /EU/	Belgium, France, Germany, Italy, Neiderland, Denmark, Great Britain, Greece
		European economic zone	Island, Liechtenstein, Norway
		The Euro-Meditarranean free trade economic zone	EU -Tunisia, EU-Marraco
		Bilateral agreements between EU and East European countries	EU-Hungery, EU-Poland, EU-Bulgaria, EU-Romania EU-Estonia, EU-Latvia, EU-Lithuania, EU-Czech, EU-Slovakia
		Canada-The United States free tarde zone	Canada- USA
		North American Free Trade /NAFTA/	Canada, USA. Mexico
		Asian Pacific Economic Cooperation /APEC/	Brunei Darussalam, Canada, Indonesia, Malaysia, Newzealand, Singapore etc
		Organization of Economic Cooperation and Development	Ausralia, Canada, Czech, Denmark, France, Germany, Italy, Japan, South Korea
		Organization of the Petroleum Exporting Countries /OPEC/	Iran, Iraq, Kuwait, Saudi-Arab, Venezuela, Qatar, Nigeria, Indonesia , Libya, Ageria
2.	South America and Caribbean	Andean Pact	Bolivia, Columbia, Equador, Peru, Venezuela
		The Central American Common Market /CACM/	El Salvador, Guatemala, Hoduras, Nicaragua, Costa Rica
		Southern Common Market South America /MERCOSUR/	Argentina, Brazilia, Paragua, Urugua
		Group of Tree	Columbia, Mexico, Venezuela
		Latin American Integration Association /LAIA/	Mexico, Ergentina, Bolivia, Brazilia, Chile, Columbia, Equador, Paragua, Urugua, and Venezuela
		Caribbean Community and Common Market /CARICOM/	Antigua and Barbuda, Barbados, Jamaica, St. Christopher and Nevis , Trinidad and Tobago, Belize, Dominica, Grenada
3.	Sub-Saharan Africa	Cross-Border Initiatives	Brundi, Comoros, Kenya, Madagascar, Rwanda, Swaziland, Tanzania, Uganda
		East African Cooperation	Kenya, Tanzania, Uganda
		Central African Finance and Economic Association	Cameroon, Republic of Central Africa, Chad, Congo, Gabon, Equatorial Guinea
		The Economic Community of West African States /ECOWAS/	Benin, Burkina Faso, Kape-Verde, Cote d'Ivore, Gambia, Gana, Guinea, Mali, Nigeria, Togo
		Common Market for Easter and Southern Africa	Angola, Brundi, Comoros, Egipty, Ethiopia, Kenyam Lesoto, Malawi, Mauritius
		Souther African Development Community /SADC/	Botswana, Malawi, Tanzania, Zimbabwe, Namibia, Republic of South Africa, Mauritus

Source: National Development Institution

Table 2-4. Regional integration blocks (continued)

	Scope	Blocks	Countries within the block
3.	Sub-Saharan Africa	West African Economic and Monetary Union	Benin, Burkina Faso, Cote d'Ivoire, Maurintania, Nigeria, Senegal, Togo, Guinea-Bissau
		South African Custom Union /SACU/	Botswana, Lesotho, Namibia, Republic of South Africa, Swaziland
		Economic Association of Great Lakes Region	Brundi, Rwanda, Congo
4.	Middle-East and Asia	Association of South East Asian Nations /ASEAN/	Indonesia, Malaysia, Philippines, Singapore, Thailand, Vietnam, Myanmar, Lao PDR, Cambodia
		ASEAN+3	Japan, China, South Korea
		Shanghain Cooperation Organization /SCO/	China, Russia, Kazakhstan, Kyrkyz, Tajikstan, Uzbekistan
		Central Asian Regional Economic Cooperation /CAREC/	Afganistan, Azerbaijan, China, Kazakhstan, Kyrgyz, Mongolia, Tajikstan, Uzbekistan
		Culf Cooperation Council /GCC/	Bahrain, Kuwait, Oman, Qatar, Butan, India, Moldavian, Nepal, Pakistan, Shri-Lanka

Source: National Development Institution

Trade interconnection among regions reduces in barriers in trade and makes more efficient trade.

Economic outcome of regional integrations and issues on expenses: Membership in regional integration agreements causes negative and positive effect in almost every sector of its economy. Whilst some sectors are opened to an opportunity of expansion, some of them shrinks and tightens due to competence, scale effect and influence of trade and location. The influence of competence and scale effect will increasingly integrate economy of particular country in united markets. The larger market will encourage scale effect and firm producers and sophisticationrs of member states with mutual competence.

Also, it may be made changes in import price of suppliers, scale of market, competence as well as tendency of foreign investment attraction of non-member states. Regional integration intensifies competence within only the block as well as enhances competence of foreign companies which export their products to the integrated market. Several activities carry out during the integration process such as convergence, clustering and divergence and the activity may efficient and inefficient to particular country depending on its condition and circumstance.

Location influence can change actual profit of consumer and producers and income which is generated from tax.

Influence of trade policy: Due to every state has an aspiration to sell their products which it exports as expensive as possible and purchase their import products as inexpensive as possible, trade creation and trade diversion will occur towards to integration in and out-countries and they are main reasons for gain and loss.

The trade diversion and trade creation may emerge at each type of integrations. The free-trade zone may form the trade diversion in pattern that transfers the trade from more efficient suppliers which are out the free-trade zone to more inefficient supplier which are within the zone. The trade creation means new creation of trade structure and classification which have been missed in the zone. In other words, supply will run up at the result of producers' efficient operation gaining profits.

2.4 Review on Empirical Analysis

2.4.1 The Gravity Model

For the beginning, there were a few theoretical evidences in this field and this situation has disappeared since the second part of 1970s. Anderson (1979) attempted to redevelop the Gravity model based on goods' discrimination. Bergstrand (1985, 1989) proposed the bipartite trade theoretical models that used Gravity model equations as simple monopolistic competition model by the studies. Finally, Deardoff (1995) proved that Gravity model equations can define many models and it can be explained by standard trade theories (Martinez-Zarzoso & Nowak-Lehmann, 2003).

Many studies have tended to develop the Gravity model equations. Some of them associated with these articles. Matyas (1997, 1998), Chen and Wall (1999), Breuss and Egger (1999) and Egger (2000) developed econometric definition of the Gravity model equations. Then, Bergstrand (1985), Helpman (1987), Wei (1996), Soloaga and Winters (1999), Limao and Venables (1999) and Bougheas *et al* (1999) upgraded the factors that considered in the model and added some new factors (Martinez-Zarzoso, 2003).

Timbergen (1962) and Poyhonen (1963) implemented *The Gravity Model* to international trade flow for the first time. Hence, researchers started to use this model wide spread for their articles. Furthermore, studies such as population movements and foreign investment were implemented widely. This model includes the dummies that determined exports of country *j* from country *i*, their GDPs, population and distance between them (Martinez-Zarzoso, 2003).

Inmaculada Martinez-Zarzoso studied bipartite trade flow for European Union (EU), North American Free Trade Agreement (NAFTA), Carribbean Community, Centro-American Common Market and Mediterranean Countries etc. He evaluated gravity equations by using Least Square method and Panel data of total 47 countries from 1980 to 1999.

As a result, income sensitivity is nearly to 1 and it corresponds to theoretical hypothesis. The income of the exporting country is more sensitive than that of importing country which shows production possibility importance of export contributing country. Population coefficient of the exporting country was negative and it defines there is absorb effects. However, population coefficient of the importing countries has been negative until 1990. Since 1991, it became positive and it shows that benefit importance of economy is growing along with market capitalization effects in international trade model (Martinez-Zarzoso, 2003).

Inmaculada Martinez-Zarzoso and Felicitas Nowak-Lehmann (2002) evaluated the gravity model between Mercosur-European Union and purposed to calculate effects of their recent trade agreement. Their work based on the panel data analysis of 4 official members of Mercosur included Chile and 15 countries of EU. They used *Extended Gravity model*. This model includes infrastructure, GPD per capita of i and j countries and real exchange rate more than its traditional model. As a result of this work, income sensitivity was close to its theoretical value and population of exporting country effect was negative. All factors that added to this model were statistical significant, although, the factor of importing country's infrastructure wasn't statistical significant.

2.4.2   Revealed comparative advantages

Balassa (1965) developed the concept of revealed comparative advantage, which is the measure of the share of a given product in a country's total exports relative to the product's share in total world exports, that is, a ratio of relative export structure. If one finds, for example, that the RCA of a country is high for a commodity group requiring the intensive use of capital, one can conclude that the country has a relatively large endowment of capital.

Kang-Taeg Lim (1997) studied the foreign trade of Democratic People's Republic of Korea (DPRK) by using Comparative Advantage model and database between 1970 and 1992. The result of study showed that foreign trade products of DPRK are being modified from Ricardo's goods to Heckscher-Ohlin's goods. The consumer goods export of DPRK is centralized on the Communist market and production goods import relies on the source of non-Communist market. In conclusion, DPRK is working for developing its economic structure, main structure of goods is moving to goods that use standard technology from the goods that uses natural resources, furthermore, they have a chance to produce goods that use advanced technology.

2.4.3   Product space and structural revolution

A study of Ricardo Hausmann (2006) and Bailey Klinger (2006) is one of the studies on the issue. They have initially developed the concept of product space. According to their study, think of a product as a tree and the set of all products as a forest. The monkey jumps from one tree to another and if the tree is distant, monkey can't jump to it. Distance of trees demonstrates that there is possibility to produce new products based on present potential resources. Also, government is able to bring close the trees by implementing suitable policy. For instance, if infrastructure, electricity and water supply are solved by establishment of free-zone, there will be more opportunity to produce new products there. Structural revolution of the product space and acceleration of conversion depend on how distant new product space.

Countries where turn out products using a unique labor and capital restricts their opportunity to produce different kind of products. For example, it is difficult to Chile which has large amount of natural resource to revolute its structure. It is made easy structural revolution that electronic goods and products which include mostly capitals have more capacity to connected in other products whilst tropical products and production of raw materials has fewer networks with other products. It causes 2 indirect impacts. Indirect

impact within their sector will be created by firms if a country advanced comparative advantage of a particular product. But, inter-sector indirect impact will be created if the potential opportunities reduce their space in between the product.

Ricardo Hausmann (2007) and Bailey Klinger (2007) have done a comparative study of Chilean structural transformation with other countries using data between 1960 and 2007. However Chile could create large amount of increase in its export service, it has limited space to expand export market, lesser degree of export sophistication, product space without connection and fewer opportunities to do structural transition in the future.

Furthermore, its present condition is ordinary but there may be risk make trouble in further. Basic prize of its export products lacks of growth and is dropping in compared with other countries. For the current export structure, there are not near trees. Due to distant space among trees, there is high possibility that the jump will fail.

It is necessary to find product space because missing opportunities to enhance its product quality in some ways. Base on international experience, this effort is issue of public policy and government needs to take policy measures. For instance, establishment of special zone and attraction of foreign investment. State policy should direct to create new market not to improve now existing sectors.

Ricardo Hausmann (2009) and Bailey Klinger (2009) worked on structural revolution of Caribbean countries. Emphasizes government policy is valuable. Experts have identified potential ways and means of government measures.

Jesus Felipe, Utsav Kumar and Arnelyn Abdon (2010) have developed a new Index of Opportunity. The index consists of 4 indexes such as:

- Sophistication index;
- Diversification index;
- Standardness index;
- Open forest measurement

as measure of the potential for further structural change. It allows determining a country's capabilities to undergo structural transition though the index.

Their study results suggest that China, Brasilia, German, India and the Indonesia have accumulated a significant number of capabilities. But, Russian Federation has shown lower index of opportunity. China whit lower income acquires most advantages or comparative advantages of 265 products whilst the Russian Federation owns the lowest advantage or advantages of only 105 products.

Also, China is most comparative advantaged (106) of basic commodities and the Russian Federation is the lowest advantaged in them (42). Whilst China has comparative advantages in automobile production, India and Poland don't have. China, India, Poland, Mexico, and Brazil have accumulated a significant number of capabilities, which will allow them to do

well in the long run. It is important to diversify and increase the level of sophistication of their export baskets in order to do so. These countries have inseminated in plentiful and productive soil and have opportunity to harvest substantial amount of crops if it will be sustained by right policy. For other countries, situation is worse.

3 Methodology and Data

Foreign trade is study through its flows analysis and its structural transition analysis. This paper evaluates foreign trade flows using the gravity model.

3.1 The Gravity Model

The model was derived from universal law of gravity by Tinbergen. Universal gravity correlates directly with weight of particular two planets and conversely with space between planets. This imagination is applied so that gravity is to be as export, weight of planets is to be as GDP and space between planets is to be geological locations of two countries.

Traditional gravity model:

$$X_{ij} = \beta_0 Y_i^{b1} Y_j^{b2} D_{ij}^{b5} A_{ij}^{b6} u_{\{ij\}} \tag{3-1}$$

where:

Y_i - GDP of exporting country;
Y_j - GDP of importing country;
D_{ij} - distance between capitals of two countries;
A_{ij} - coefficient of other factors;
u_{ij} - regression residual.

Expanded gravity model:

$$X_{ij} = \beta_0 Y_i^{b1} Y_j^{b2} N_i^{b3} N_j^{b4} D_{ij}^{b5} A_{ij}^{b6} u_{\{ij\}} \tag{3-2}$$

where:

$Y_i(Y_j)$ - GDP of exporting and importing countries;
$N_i(N_j)$ - populations of exporting and importing countries;
D_{ij} - distance between capitals of two countries;
A_{ij} - coefficient of other factors;
u_{ij} - regression residual.

Another version of the model indicated GDP per capita instead of population:

$$X_{ij} = \gamma_0 Y_i^{\gamma 1} Y_j^{\gamma 2} YH_i^{\gamma 3} YH_j^{\gamma 4} D_{ij}^{\gamma 5} A_{ij}^{\gamma 6} u_{ij} \tag{3-3}$$

where:

$YH_i(YH_j)$ - GDP per capita of expotring and importing countries.

Coefficients of these two models deal with each other as follow.

$$\beta_3 = -\gamma_3$$
$$\beta_4 = -\gamma_4$$
$$\beta_1 = \gamma_1 + \gamma_3 \qquad (3\text{-}4)$$
$$\beta_2 = \gamma_2 + \gamma_4$$

Berstrand (2000) has noted that it is suitable to use the second equation to analyze export of a particular special product. But, Endoh (2000) considered that it is appropriate to apply the first equation to evaluate total export.

A high level of income in the exporting country indicates a high level of production, which increases the availability of goods for export.

Therefore β_1 is expected to be positive. The coefficient of Y_j, β_2 is also expected to be positive since a high level of income in the importing country suggests higher imports. The coefficient estimate for population of the exporters, β_3, may be negatively or positively signed (Oguledo and Macphee, 1994), depending on whether the country exports less when it is big (absorption effect) or whether a big country exports more than a small country (economies of scale). The coefficient of the importer population, β_4, also has an ambiguous sign, for similar reasons. The distance coefficient is expected to be negative since it is a proxy of all possible trade costs (Martinez-Zarzoso, 2003).

3.2   Revealed Comparative Advantages (RCAs)

The main basis of the theory of international specialization has been the principle of comparative advantage, although the principle now goes far beyond the original explanation provided by Ricardo. The concepts of comparative advantage and competitiveness are often confused with one other. Those are, however, quite different in reality. When instability in exchange rates produce disequilibria, competitiveness is seriously disturbed and any analysis based on it is highly inadequate. Therefore any explanation of international specification increasingly has to take into account some measure of comparative advantages. In this case, the comparative advantages concerned are those that are revealed by the results of international trade.

Balassa (1965) developed the concept of revealed comparative advantage, which is the measure of the share of a given product in a country's total exports relative to the product's share in total world exports, that is, a ratio of relative export structure. In line with Balassa s suggestion, revealed comparative advantage (RCA) has taken two forms as follows:

Net exports as a portion of total trade in a commodity group:

$$x_{ij} = \left(X_{ij} - M_{ij}\right) / \left(X_{ij} + M_{ij}\right) \qquad (3\text{-}5)$$

X and M stand for the value of exports and imports respectively, i denotes a commodity group, j a country.

The measure ranges between 1 (corresponding to no exports by country j in commodity group i) and 1 (corresponding to no imports for country j in commodity group i). Even though the interpretation of this measure is subject to criticism, because imports are influenced by the system of protection used in a country, this measure has some merit: (a) it shows the significance of net flows in any commodity group; (b) its absolute value $\left(|x_{ij}|\right)$ represents the portion of inter-industry trade in the total trade of the concerned commodity group $\left(1 - |x_{ij}|\right)$ is the corresponding portion of intra-industry trade).

Theoretically, this measurement is used widely spread and we choose the following form for the empirical study:

$$RCA_{x,ij} = \left(X_{ij} \bigg/ \sum_{i=1}^{N} X_{ij} \right) \bigg/ \left(\sum_{i=1}^{T} X_{ij} \bigg/ \sum_{i=1}^{N} \sum_{t=1}^{T} x_{ij} \right) \tag{3-6}$$

The indicators x_{ij} and m_{ij} may have opposite directions. A priori, comparative advantage must meet the conditions, $x_{ij} > 1$ and $m_{ij} < 1$, while comparative disadvantage requires $x_{ij} < 1$ and $m_{ij} > 1$. One could, however, encounter the case that $x_{ij} > 1$ and $m_{ij} > 1$, or $x_{ij} < 1$ and $m_{ij} < 1$. How can one make a conclusion about comparative advantage in those cases? As an attempt to overcome this ambiguity, we can consider Equation (3-1), (3-2), and (3-3).

Lafay (1992) and Murrell (1990) agree that the trade balance is more likely to be well-behaved than the exports side or imports side only. Since the world average of trade balance will be zero, one cannot define any statistic of the trade balance as exactly analogous to Equation (3-2) and (3-3). As Murrell (1990) suggested, therefore, the '*net*' trade performance in a commodity which is still useful as a descriptive measure with a natural scale will be examined. According to Murrell (1990), one can define.

X_{ij} is the amount of exports of a commodity i by country j, T is the number of countries included in the study, and N is the number of commodities. The flows X_{it} and X_{it} correspond to the total exports of the reference zone for commodity i and for all commodities, respectively.

When Balassa (1965) proposed this indicator, he justified considering only exports on the grounds that imports were influenced by protectionist measures. However, examining only X_{ij} might fail to reflect overall comparative advantages because it ignores half of trade behavior, imports. Therefore, it is necessary to consider the imports side and the exports side together.

If the import flows are denoted by M, then one can define an analogous measure of comparative advantage to exports as follows:

$$w_{ij} = x_{ij}/m_{ij} \tag{3-7}$$

The indicators defined in Equation (3-2), (3-3), and (3-4) are referred to by the name '*revealed comparative advantages* (RCAs)'.

If one finds, for example, that the RCA of a country is high for a commodity group requiring the intensive use of capital, one can conclude that the country has a relatively large

endowment of capital. The interpretation of these indicators is very simple. The indicators x_{ij} measures the share of country j's exports that are in commodity group i relative to the share of world exports that are in commodity group i. Therefore, x_{ij} shows the performance f exports in commodity group i of country j relative to the rest of the world.

Categorization of Commodities for RCAs: There is some literature which shows how to categorize the commodities for measuring the RCAs. Hufbauer and Chilas (1974) divide the commodities into three categories corresponding to the nature and importance of specific production factors: 'Ricardo goods', 'Heckscher-Ohlin goods' and 'Product-cycle goods'. 'Ricardo goods' are characterized by the importance of natural resources in their production. 'Heckscher-Ohlin goods' are produced with a standard technology and sophisticationd with a constant return to scale in the use of capital and labor. 'Product-cycle goods' are produced with an advanced technology.

Table 3-1. Product category

Name of Group	Property of Group	Commodities included in Group
Industrial goods for consumers	Goods used predominantly by consumers	Medicinal and pharmaceutical products, perfumery, soaps, travel goods, clothing, footwear.
Industrial goods for production	Goods used primarily for production and invetment	Inorganic chemicals, radioactive materials, dyes, veneers, plywood boards, building materials, mineral, sophistications, iron and steel, metals, machinery, electrical machinery, road motor vehicles.
Ricardo goods	Goods using natural resources in production	Food, wood, fibers, minerals, paper, non-ferrous metals, oils, ores, raw fuels.
Heckscher-Ohlin goods	Goods using a standard technology	Berverages, tobacco, cement, floor coverings, glass, pottery, ferrous metals, cars, metal, products, locomotives, ships, domestic appliance, books, furniture, clothing, jewelry, stationary.
Product-cycle goods	Goods using an advanced technology	Chemicals, medicines, plastics, dyes, fertilizers, explosives, machinery, aircraft, instruments, clocks, munitions.

Source: Hufbauer (1970) and Hufbauer & Chilas (1974)

3.3 The Product Space and Structural Transition

A Model of Structural Transformation and the Product Space: Every product requires a particular combination of inputs, such as labor training, capitals, technology, regulatory regimes, infrastructure, property rights, and so on. The exact set is unique to each good, but substitutability is possible. For every pair of goods in the world there is a notion of distance between them: if the goods require highly similar inputs and endowments, then they are 'closer' together, but if they require totally different capabilities, they are 'farther' apart.

Let's make a small change in formula of RCA that is early mentioned in order to be comprehended.

$$RCA_{c,i,t} = \frac{xval_{c,i,t} \Big/ \sum_i xval_{c,i,t}}{\sum_c xval_{c,i,t} \Big/ \sum_i \sum_c xval_{c,i,t}}$$

(3-8)

where:

$RCA_{c,i,t}$ - indicator of RCA in product i of country c in the year t;

$xval_{c,i,t}$ - export of product i of country c in the year t;

$\sum_i xval_{c,i,t}$ - total export of country c in the year t;

$\sum_c xval_{c,i,t}$ - total export of product i to other countries in the year t;

$\sum_i \sum_c xval_{c,i,t}$ - total export of the country.

If $RCA_{c,i,t} > 1$, the country has more RCA in product i than that of country c in the year t. Also,

$$\varphi_{i,j,t} = min\{P(RCA_{i,t}|RCA_{j,t}), P(x_{j,t}|x_{i,t})\}$$

(3-9)

where:

$\varphi_{i,j,t}$ - distance between products;

$RCA_{i,t}$ - revealed comparative advantage indicator of products;

$RCA_{j,t}$ - revealed comparative advantage indicator of products.

$$RCA_{i,c,t} = \begin{cases} 1 & if\ RCA_{i,c,t} > 1 \\ 0 & otherwise \end{cases}$$

(3-10)

The distance is possibility of removal of production resource of product i which is being exported to product j (exporting without comparative advantage). Moreover, we can also see what goods are in a dense part of the forest, and which are on the periphery by simply adding the row for that product in the matrix of proximities. We define the distance-weighted number of products around a tree i at time t.

$$paths_{i,t} = \sum_j \varphi_{i,j,t}$$

(3-11)

where:

$paths_{i,t}$ - indicator of product i's joint; and

$\varphi_{i,j,t}$ - distance between products i and j.

Hausmann Hwang & Rodrik's (2005) measure of the income level of the product $PRODY_{i,t}$. This is a measure calculated as the GDP per capita of countries that produce it, weighted by

their revealed comparative advantage in that product. As mentioned above, Hausmann Hwang & Rodrik use this product-level variable to calculate the level of sophistication of a country's export basket, $EXPY_{c,t}$ as the $PRODY_{i,t}$ for each component of the country's export basket weighted by its share. Price in our model is considered relative to the numeraire, which is the price of the 'standard' good. The price of this standard good is captured by $EXPY$. Formally,

$$PRODY_{i,t} = \sum_c \left[\frac{\left(xval_{c,i,t} \middle/ \sum_i xval_{c,i,t} \right)}{\sum_c \left(xval_{c,i,t} \middle/ \sum_i xval_{c,i,t} \right)} * GDPpc_{c,t} \right] \tag{3-12}$$

and

$$EXPY_{c,t} = \sum_i \left(\frac{xval_{c,i,t}}{\sum_i xval_{c,i,t}} * PRODY_{i,t} \right) \tag{3-13}$$

where:

$PRODY_{i,t}$ - level of product i's sophistication;

$EXPY_{c,t}$ - level of export package sophistication of country c;

$GDPpc_{c,t}$ - GDP per capita of country c in the year t;

$xval_{c,i,t}$ - export of product i which is produced in the year in the country c;

$\sum_i xval_{c,i,t}$ - total export of country c in the year t.

If the characteristics of product space are indeed important to the process of structural transformation, then the probability of developing revealed comparative advantage (RCA) in a particular good in the future is affected by the ease with which the current capabilities in the economy can be adapted to the new product. That is, the new product's proximity to the country's current export basket will matter.

To test this, we need to use the pairwise proximity measures for each element of the country's entire export basket. We call this measure density. For each product, it measures the degree to which a country's current exports 'surround' the particular product under consideration. It is the sum of all paths leading to the product in which the country is present, scaled by the total number of paths leading to the product. As such, it varies from 0 to 1, with higher values indicating that the country has monkeys in many nearby trees and therefore should be more likely to export that good in the future.

$$density_{j,k,t} = \left(\frac{\sum_i \varphi_{i,j,t} * x_{i,k,t}}{\sum_i \varphi_{i,j,t}} \right) \tag{3-14}$$

where:

$density_{j,k,t}$ - density indicator;

$\varphi_{i,j,t}$ - distance between product i and j.

Here, $density_{j,k,t}$ indicates close density to product j in the case of availability of country k's export package and if $RCA_{k,i} > 1$ бол $x_{i,k,t} = 1$. Higher density would be, more products develop surrounding product j. In order words, firms are more likely to move to new products if the distance is low, which would be the case if density is high.

It is affirmed that in testing the density influence whether the next structural transformation, development of RCA in particular product of giving country depends on country's nearness in nowadays and its sophistication.

The Product Space & Country Level Export Sophistication: We have seen that the opportunities for future structural transformation are in part determined by what products are nearby. We can measure the 'option value' of a country's unexploited opportunities. Given the set of products a country is currently producing, we can measure the 'open forest' at its doorstep as the distance-weighted value of all the products it could potentially produce. The 'Open forest' consists of basic forms: forest size and forest value. Formally:

$$open\_forest_{c,t} = \sum_i \sum_j \left[\frac{\varphi_{i,j,t}}{\sum_i \varphi_{i,j,t}} \left(1 - x_{c,j,t}\right) * x_{c,j,t} PRODY_{j,t} \right] \qquad (3\text{-}15)$$

$$open\_forest\_size_{c,t} = \sum_i \sum_j \left[\frac{\varphi_{i,j,t}}{\sum_i \varphi_{i,j,t}} \left(1 - x_{c,j,t}\right) * x_{c,j,t} \right] \qquad (3\text{-}16)$$

$$open\_forest\_value_{c,t} = \frac{open\_forest_{c,t}}{open\_forest\_size_{c,t}} \qquad (3\text{-}17)$$

where:

$open\_forest_{c,t}$ - open forest of country c in the year t;
$open\_forest\_size_{c,t}$ - open forest size of country c;
$open\_forest\_value_{c,t}$ - open forest value of country c;
$PRODY_{i,t}$ - level of production sophistication;
$\varphi_{i,j,t}$ - distance of products i and j.

It is essential that estimation of 'Open forest' allows approximate products which could be develop in the country in the future.

Product space: According to the Leamer's product classification system, product space of particular country is shown as follows.

Figure 3-1. Outline of the Product Space
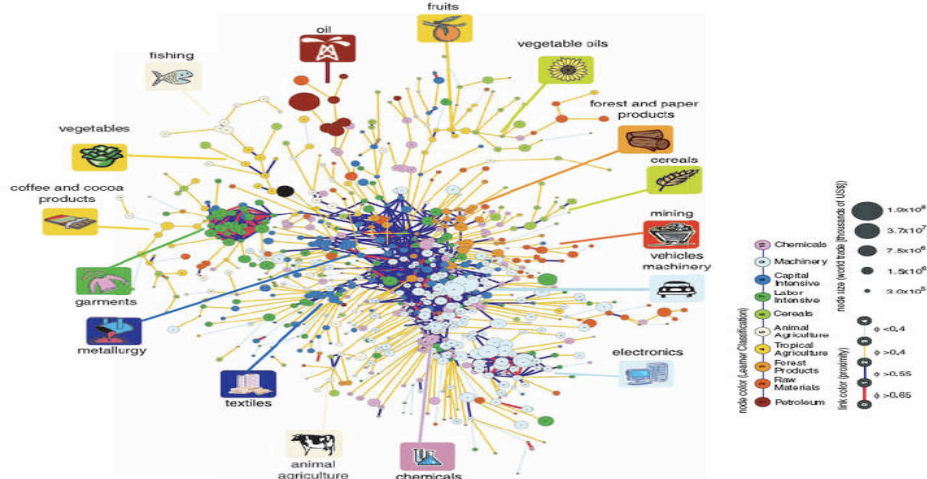
Source: Hidalgo (2007)

Industrialized countries have more RCAs and their product space is denser. For Sub-Saharan countries, gap between trees in product space and they have lesser RCA. But, Product spaces of East-Asia Pacific, Latin America and Caribbean countries are similar to each other.

Figure 3-2. Outline of product space of Industrialized and East-Asia and Pacific countries

Industrialized countries

East-Asia and Pacifics
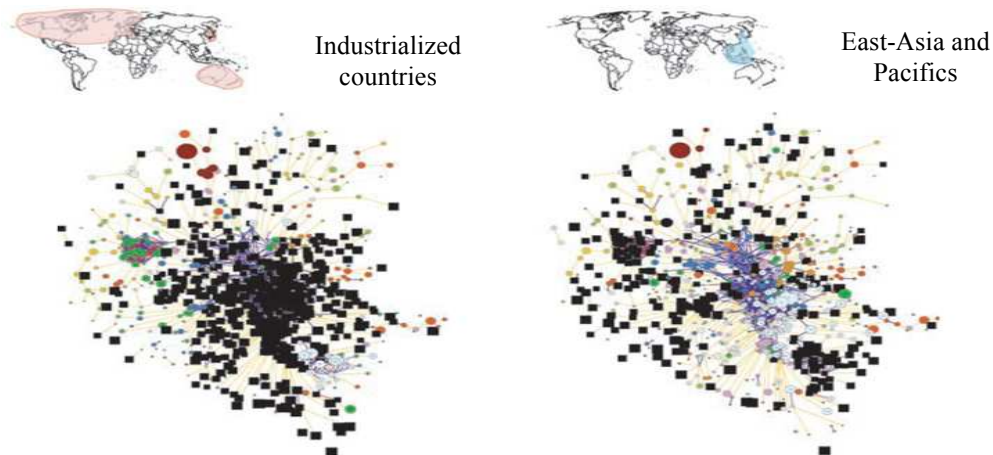
Source: Hidalgo (2007)

It should be noted that the black square is product with RCA.

Figure 3-3. Outline of product space of Latin American and Sub-Saharan countries
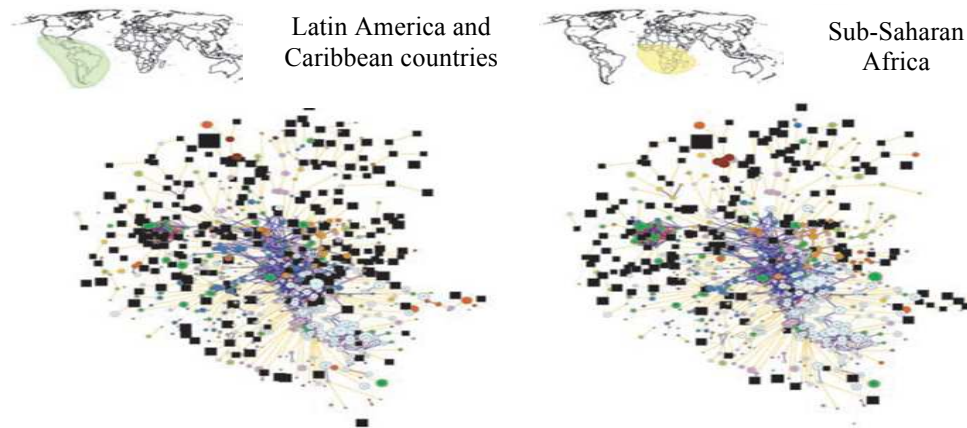
Source: Hidalgo (2007)

Leamer's product classification system:

Scholar Leamer invented a product classification which is available to use in analysis of product space. He has divided products into 10 divisions as shown below.

Table 3-2. Leamer's product category

1. ANIMAL PRODUCT	2. CEREAL
Live animals	Cereal
Meat	Feed
Dairy products	Miscellaneous edible product
Fish	Tobacco
Hides, skin	Oil seed
Crude animal and vegetable material	Textile fibre
Animal and vegetable oils and fat	Animal oils and fats
Animals, live (nes)	Fixed vegetable oils and fat
3. CHEMICALS	**4. LABOR INTENSIVE**
Organic	Non-metallic mineral
Inorganic	Furnitur
Dyeing and tanning	Travel goods, handbag
Medicinal and pharmaceutical	Articles of apparel
Oils and perfume	Footwear
Fertilizers	Miscellaneous sophistication
Explosives	Postal packet
Artificial resins and plastic	Special transactions, not classified
Chemical materials, nes	Coin
5. AGRICULTURE	**6. FOREST PRODUCT**
Vegetables and fruit	Cork and wood
Sugar	Pulp and waste paper
Coffee	Cork and wood, cork sophistications
Beverage	

Source: Jesus Philip (2010)

Table 3-2. Leamer's product category (continued)

7. RAW MATERIAL	8. CAPITAL INTENSIVE
Crude fertilizer and crude minerals	Leather
	Rubber
Metalliferous ore	Textile yarn, fabrics
Coal	Sanitary fixtures and fittings, nes
Gas	Iron and steel
Electric curren	Sophistications of metals, nes
Non-ferrous metal	**9. PETROLEUM**
Gold, non-monetar	Petroleum and petroleum product
10. MACHINERY	**11. FOREST PRODUCT**
Power generating	Cork and wood
Specialized for particular industries	Cork and wood, cork sophistications
Metalworking	Pulp and waste paper
General industria	Paper
Office and data processing	**12. CAPITAL INTENSIVE**
Telecommunication	Leather
Electrical	Rubber
Other transport equipments	Textile yarn, fabrics
Professional and scientific instruments	Sanitary fixtures and fittings, nes
Photographic equipment	Iron and steel
Armoured vehicles, firearms, and ammunition	Sophistications of metals, nes

Source: Jesus Philip (2010)

3.4 The Index of Opportunity

This index includes 4 dimensions such as sophistication, diversification, standardness and possibilities for exporting with comparative advantage over other products.

3.4.1 Export Sophistication

The first two factors that we consider in the Index of Opportunities are the sophistication level of the overall export basket (denoted EXPY) and the sophistication level of the core products (denoted EXPY-core). The EXPY core is included chemicals, machinery and metal products. It is easier different products taking advantage of ingredients in EXPY-core and gap between trees is near.

3.4.2 Diversification

Diversification indicates the number of products with RCA in export basket. Formally:

$$number_{c.a,t} = \sum_{i=1}^{n} i_t \tag{3-18}$$

$$i_t = \begin{cases} 1 & if \ RCA_i > 1 \\ 0 & otherwise \end{cases} \qquad (3\text{-}19)$$

where:

$number_{c.a,t}$ - number of products with RCA of country c in the year t;

n \qquad - number of products;

i_t \qquad - product with RCA.

The diversification measures capability of product's competitiveness in wide range. Also, for the EXPY-core, the diversification is measured by measurement which is similar to above. A question will come up that what about their diversifications of the EXPY-core are different when two countries have same diversifications. In this case, the country which has more diversifications in the EXPY-core has possibility to progress rapidly. Following ratio shall be applied in estimating it.

$$ratio_{c,t} = \frac{number_{core.c.a,t}}{number_{c.a,t}} \qquad (3\text{-}20)$$

3.4.3 Standardness

Another special way of export basket is estimation on how many countries produces the particular product. It is named 'standardness' In other words, it determines whether the product is standard or not by that the product is produced by many country and fewer countries. Standardness of export basket of the country is shows as follows:

$$standardness_{c,t} = \frac{1}{diversification_{c,t}} \sum_i ubiquity_{i,c,t} \qquad (3\text{-}21)$$

where:

$standardness$ \quad - unique indicator of export basket of country c;

$diversification$ - number of products with RCA is exported by the country;

$ubiquity$ \qquad - number of countries which export product i with RCA.

A lower value of standardness indicates that the country's export basket is more unique.

3.4.4 Open Forest

This concept was mentioned in Hausmann and Klinger (2006). Open forest provides a measure of the (expected) value of the goods that a country could potentially export. In other words, it means which product could be exported with comparative advantage based on current potentiality. This measure is called 'Open forest'. It measures value of the goods that a country could potentially export. This value depends on how far the non-exported goods are from the goods currently being exported with comparative advantage, and on the sophistication level of these non-exported goods. It is calculated as the weighted average of

the sophistication level of all potential exports of a country where the weight is the density or distance between each of these goods and those exported with comparative advantage.

3.5 Economic dependency and concentration index

Economic dependency index:

$$\frac{\Delta \sum M_{sd}}{\Delta GDP_d} \tag{3-22}$$

where:

d - country's index;
s - group of other countries;
Δ - change operator;
M - import;
GDP - Gross Domestic Product.

In other words, numerator of the ratio is diversion of total import of country d and denominator is its diversion of GDP.

The Herfindahl-Hirschman Index (HHI):

$$H = \sum_{i=1}^{N} s_i^2 \tag{3-23}$$

where:

s_i - market weight of firms;
N - group of other countries;

The Herfindahl index ranges from $1/N$ to one and N is number of firms competing in the market. Equivalently, if percents are used as whole numbers, as in 75 instead of 0.75, the index can range up to 100^2, or 10,000.

Table 3-3. Herfindahl-Hirschman Index

Herfindahl-Hirschman Index (HHI)< 0.01 (100)	High competitive market
HHI < 0.15 (1,500)	Unconcentrated market
0.15 (1500) <HHI <0.25 (2500)	Moderate concentration
HHI > 0.25 (2500)	High concentration

A small index indicates a competitive industry with no dominant players. If all firms have an equal share the reciprocal of the index shows the number of firms in the industry. When firms

have unequal shares, the reciprocal of the index indicates the "equivalent" number of firms in the industry. The normalized Herfindahl index ranges from 0 to 1.

4 Empirical Analysis

We intend to study the concentration of import and export by the Herfindahl-Hirschman Index, foreign trade flows by the Gravity model, comparative advantage by method RCA, Export package by the Opportunity Index and product space by the Tree and Monkey model, indentify contemporary situation of foreign trade and formulate a recommendation and research which are dedicated to increase economic benefits of foreign trade based on them in this section. In carrying out this analysis, data of International Trade Centre, Statistical Yearbook of National Statistical Office of Mongolia and Database COMTRADE of the United Nations are applied.

4.1 Economic Overview

4.1.1 Export and import structure

The Russian Federation, People's Republic of China, Japan, Republic of Korea, USA and Kazakhstan as importing countries are dominating and their portions in total import are stable. But, minerals and machinery are Mongolian main importation goods.

Figure 4-1. Import by countries
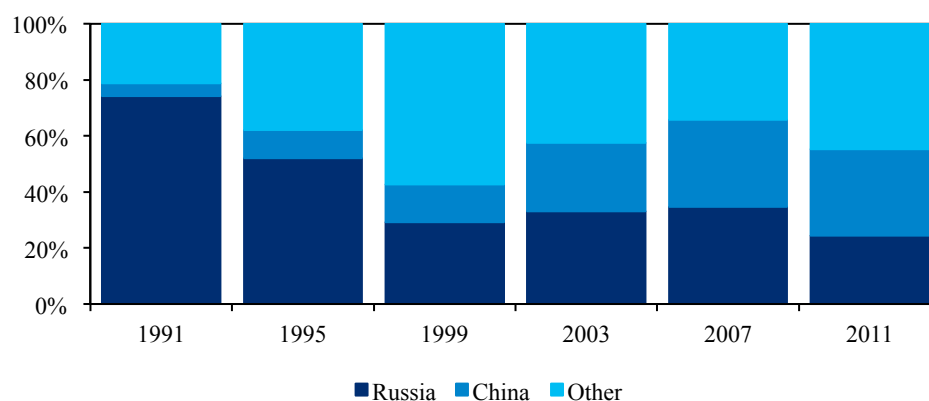
Source: National Statistical Office

Total amount of Mongolian import is growing up year to year except for decrease of 2009 in connection with world financial crisis.

Figure 4-2. Export by products
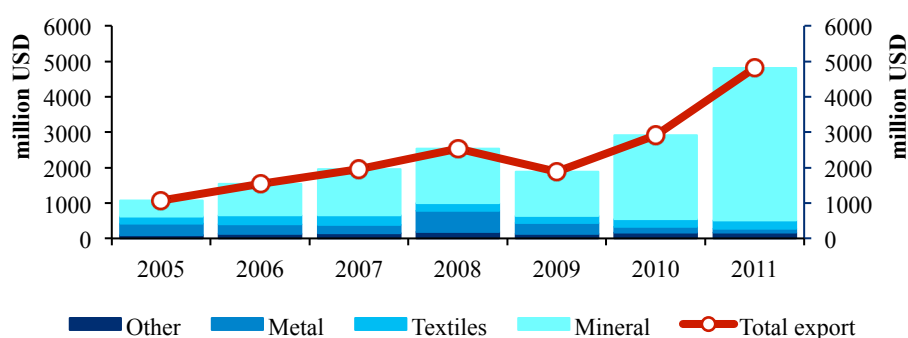
Source: National Statistical Office

Over 80 percent of total export of Mongolia is occupied by People's Republic of China and about 80 percent of the export is minerals. It demonstrates that out country is increasingly depending on one country and one product for its exportation.

Figure 4-3. Export by countries, mil USD
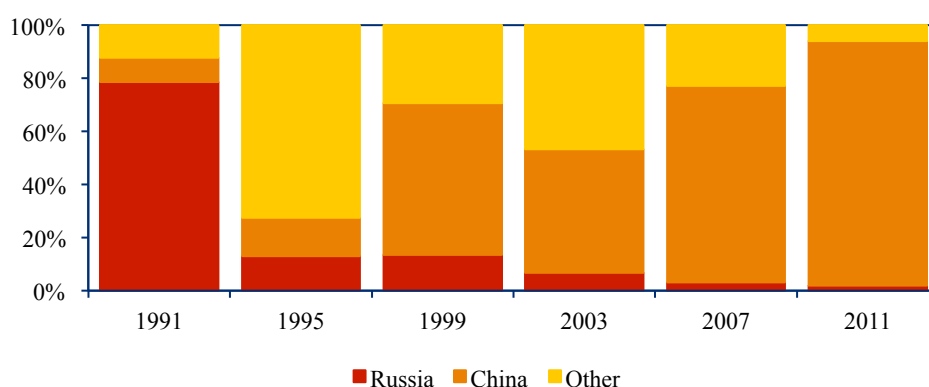
Source: National Statistical Office

Like this, deepening of the concentration is causing the dependence of Mongolian economy on one country. It will constantly reduce efficiency and benefits of foreign trade.

4.1.2 Dependency and concentration analysis

Economic independency index: Growth of the independency index in recent years shows that our economy is increasingly depending on. Scholars have noticed that it is related to its import growth and the import is likely to expand in further.

Figure 4-4. Economic independency
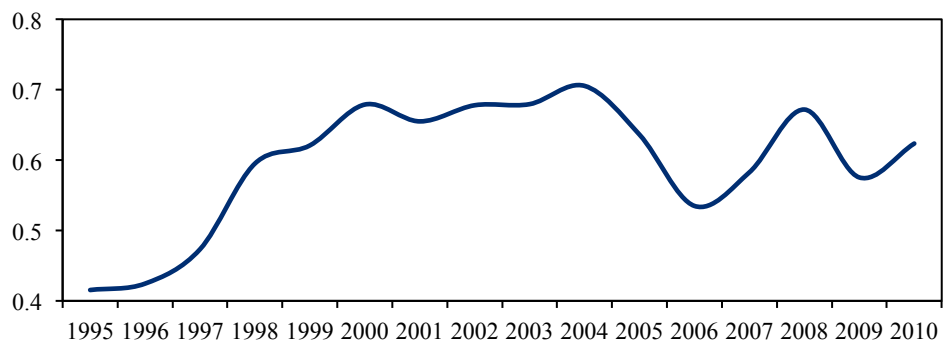
Herfindahl-Hirshman index: There is not product concentration in its import. But, minor concentration in importing countries is observed. The concentration tends to increase in the future.

Figure 4-5. HHI, import by products
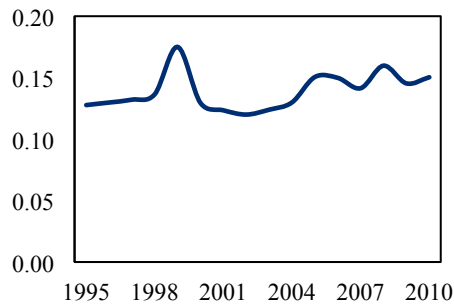
Figure 4-6. HHI, import by countries
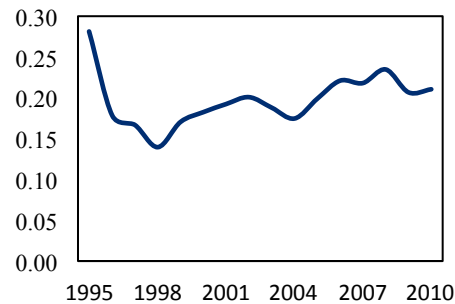
The concentration in export products is connected with export growth of industry in particular exploration sector. But, still increasing concentration in exporting countries is related to that large portion of export of exploration sector is being exported to China. Both of exporting countries and products have large amount of concentration and they are likely to constantly concentrate in further.

Figure 4-7. HHI, export by products
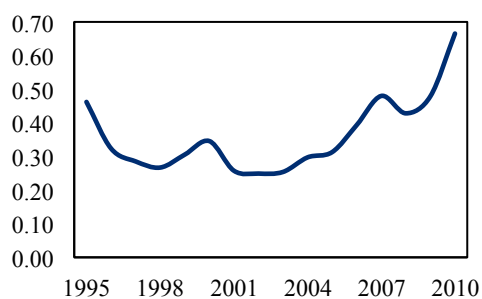
Figure 4-8. HHI, export by countries
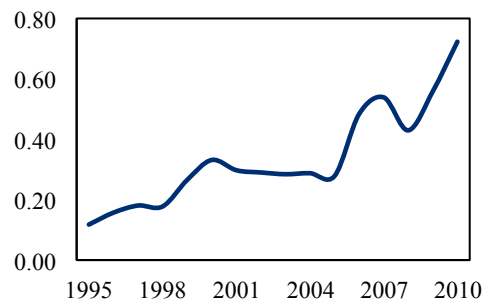
4.1.3 Analysis of the Gravity model

Following results are arisen by Panel data analysis on traditional and expanded Gravity model based on data of Mongolia between 2000 and 2010.

Table 4-1. Evaluation of expanded model

Variables	Coefficients	Standard mistakes	Statistics	Expectancy
C	259,3731	134,1416	1,933577	0,0553
GDPJ	0,202826	0,190419	1,065157	0,2887
GDPI	0,983932	0,765862	1,284738	0,2011
POPJ	0,079498	0,187756	0,423413	0,6727
POPI	-19,05591	10,14604	-1,878163	0,0625
DIS	-0,311207	0,282681	-1,100913	0,2729
EX (-1)	0,518975	0,080103	6,478882	0
EX (-2)	0,248457	0,084212	2,950371	0,0037
			R^2	0,75197
			AR^2	0,739013
			DW	2,046876
			CE	FIXED
			FE	FIXED

The traditional model has more capability of explanation. According to the model, GDPs of two countries impacts on Mongolian export and gap between them is beneficial. These are consistent with theoretical hypothesis of the model.

Table 4-2. Evaluation of traditional model

Variables	Coefficients	Standard mistakes	Statistics	Expectancy
C	8,537881	5,685903	1,501587	0,1355
GDPJ	0,269031	0,121565	2,213068	0,0286
GDPI	-0,403916	0,239938	-1,683419	0,0946
POPJ	-	-	-	-
POPI	-	-	-	-
DIS	-0,3947	0,211209	-1,868769	0,0638
EX (-1)	0,528956	0,080397	6,579297	0
EX (-2)	0,24077	0,083937	2,868466	0,0048
			R^2	0,745145
			AR^2	0,735775
			DW	2,107541
			CE	FIXED
			FE	FIXED

Also, the result of the model shows that our foreign trade is going to increasingly depend on one country. Let's move on RCA analysis in order to investigate efficient of the foreign trade.

4.1.4 Revealed comparative advantage analysis (as of 2010)

We analyze on RCA of productions and products based on data on Mongolian export and import between 2003 and 2010. RCA analysis of the comparative advantage of products that dedicated to production and consumers is the following ($RCA_{x,ij} = x$, $RCA_{m,ij} = m$, $RCA_{ij} = w$).

Table 4-3. Mongolian industrial products for consumers and productions

		2003	2004	2005	2006	2007	2008	2009	2010
Industrial products for consumers	x	0.846	0.738	0.614	0.421	0.323	0.315	0.333	0.200
	m	1.173	1.209	1.126	1.401	1.360	1.254	1.578	1.310
	w	0.721	0.610	0.545	0.300	0.237	0.251	0.211	0.153
Industrial products for production	x	3.920	3.467	3.416	4.073	4.105	2.837	2.872	2.002
	m	1.652	2.036	1.774	1.620	1.457	1.283	1.157	1.543
	w	2.372	1.702	1.925	2.514	2.816	2.211	2.482	1.297

As above-mentioned, there is no comparative advantage in industrial goods that intended to consumers and production. However, it noticed that the certain goods of any groups have comparative advantages. Two out of the total 39 types of industrial goods for consumers have comparative advantages.

Table 4-4. Products with RCA within the products for consumers

		2003	2004	2005	2006	2007	2008	2009	2010
Meat and offal	x	3.421	1.525	1.315	1.903	1.578	1.636	2.640	1.527
	m	0.144	0.124	0.144	0.301	0.204	0.361	0.215	0.359
	w	23.71	12.21	9.101	6.310	7.709	4.530	12.23	4.252
Animal products	x	21.03	18.80	17.08	10.38	8.819	8.268	9.461	5.816
	m	0.111	0.197	0.158	0.389	0.039	0.239	0.011	0.212
	w	188.1	95.18	107.7	26.63	223.2	34.52	822.4	27.31

In addition, 5 out of the total 48 types of industrial goods for production have comparative advantages.

Table 4-5. Products with RCA within the products for productions

		2003	2004	2005	2006	2007	2008	2009	2010
Copper and copper products	x	0.716	1.184	1.067	0.973	1.071	1.472	1.204	1.108
	m	0.072	0.061	0.066	0.033	0.061	0.068	0.089	0.063
	w	9.926	19.24	15.93	29.28	17.42	21.41	13.40	17.44
Iron ore	x	72.49	70.98	53.37	63.78	65.89	62.91	52.41	29.91
	m	0.043	0.010	0.005	0.002	0.002	0.138	0.001	0.004
	w	1674	6870	9626	30171	23321	454.9	40767	6046
Metals	x	11.71	13.88	16.39	8.732	5.950	4.005	3.244	3.073
	m	0.008	0.007	0.009	0.007	0.014	0.036	0.355	0.045
	w	1423	1902	1814	1240	416.8	109.7	9.122	67.35

Wool and Cashmere	x	47.39	43.10	63.58	89.95	94.47	46.76	56.24	40.52
	m	7.579	18.50	3.071	6.018	1.840	1.141	0.519	0.866
	w	6.253	2.328	20.69	14.94	51.32	40.97	108.2	46.76
Leather and skin	x	27.20	9.024	10.59	11.71	9.723	1.813	2.992	2.915
	m	0.006	0.079	0.033	0.002	0.010	0.548	0.412	0.553
	w	3969	113.8	313.0	4391	888.1	3.306	7.252	5.269

We categorized Mongolian foreign trade structure by the technology degree then the result was as follows:

Table 4-6. Mongolian export goods are categorized by thechnological degree

By technology degree:	2003	2004	2005	2006	2007	2008	2009	2010
Ricardo goods	79%	82%	88%	92%	97%	95%	97%	98%
Heckscher-Ohlin goods	19%	16%	10%	6.7%	1.9%	4.1%	1.9%	1.5%
Product-cycle goods of Mongolia	0.7%	0.3%	0.5%	0.6%	0.6%	0.3%	0.3%	0.2%

More than 95 percent of Mongolian foreign trade structure is Ricardo's goods. It represents that Mongolia has heavy natural resources and they have comparative advantages. But this structure of trade is the most inefficient structure. Because, Ricardo's goods are made by using a big amount of natural resources, less value-added and their manufacturing is low.

Therefore, we should develop the industry of Heckscher-Ohlin products which uses standard technology and gives constant benefit. It includes the products such as beverages, tobacco, cement, floor coverings, glass, pottery, ferrous metals, cars, metal, books, furniture and clothing.

The next step of the Heckscher-Ohlin goods production is the Product-cycle goods. The goods that correspond to this group are the goods using an advanced technology. For example, chemicals, medicines, plastics, dyes, fertilizers, explosives, machinery and clocks. The following products from Ricardo's total 32 types of goods have comparative advantages:

Table 4-7. Types of Mongolian products with RCA

		2003	2004	2005	2006	2007	2008	2009	2010
Meat and offal	x	3.421	1.525	1.315	1.903	1.578	1.636	2.640	1.527
	m	0.144	0.124	0.144	0.301	0.204	0.361	0.215	0.359
	w	23.71	12.21	9.101	6.310	7.709	4.530	12.23	4.252
Animal products	x	21.03	18.80	17.08	10.38	8.819	8.268	9.461	5.816
	m	0.111	0.197	0.158	0.389	0.039	0.239	0.011	0.212
	w	188.1	95.18	107.7	26.63	223.2	34.52	822.4	27.31
Copper and copper products	x	0.716	1.184	1.067	0.973	1.071	1.472	1.204	1.108
	m	0.072	0.061	0.066	0.033	0.061	0.068	0.089	0.063
	w	9.926	19.24	15.93	29.28	17.42	21.41	13.40	17.44

Iron ore	x	72.49	70.98	53.37	63.78	65.89	62.91	52.41	29.91
	m	0.043	0.010	0.005	0.002	0.002	0.138	0.001	0.004
	w	1674	6870	9626	30171	23321	454.9	40767	6046
Metals	x	11.71	13.88	16.39	8.732	5.950	4.005	3.244	3.073
	m	0.008	0.007	0.009	0.007	0.014	0.036	0.355	0.045
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	w	6.253	2.328	20.69	14.94	51.32	40.97	108.2	46.76
Leather and skin	x	27.20	9.024	10.59	11.71	9.723	1.813	2.992	2.915
	m	0.006	0.079	0.033	0.002	0.010	0.548	0.412	0.553
	w	3969	113.8	313.0	4391	888.1	3.306	7.252	5.269

But there is no goods which contained in groups of Heckscher-Ohlin goods and Product-cycle goods have comparative advantages. It shows that Mongolian technology development is poor and exports of value-added goods are low. List of Mongoilian products with RCAs:

Table 4-8. Mongolian products with RCAs

	Products
1.	Beef
2.	Mutton and chevon
3.	Horse meat
4.	Leather of sheep and lumb
5.	Mineral and chemical Fertilizers
6.	Spruce
7.	Wool of lumb
8.	Wool of sheep and lumb
9.	Animal hair
10.	Horse hair
11.	Concentarion and ore of other nonferrous metals
12.	Garbage of Concentarion and ore of other nonferrous metals
13.	Bones, horns fangs, hoofs claws and corals
14.	Other animal materials
15.	Nut-Butter
16.	Flour
17.	Ox leather
18.	Hides
19.	Skin of goat
20.	Skin and wool of sheeps and lumb
21.	Condemned wool of sheep and lumb
22.	Hair of other animals
23.	Waste of iron-steel
24.	Quartz, luster, Spar, and cryolite

4.1.5 Analysis on Mongolian export package

Sophistication level which is $7,700 by 2010 of Mongolian export package is twice as little as sophistication level of average export of other countries with low income which is similar to Mongolia. It shows inefficient of its foreign trade.

Figure 4-9. Export package of low income countries
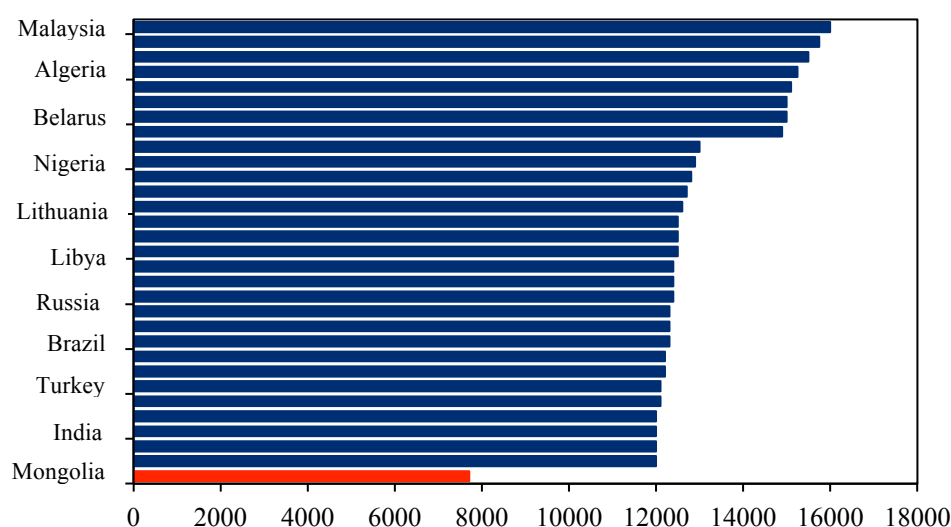
The Mongolia is exporting about 70 products in total. For Mongolia, fewer of products with high sophistication and many of products with low sophistication are being exported and they reduce sophistication level of export package. Rather, sophistication of export package in countries with high income is over $15,000.

Figure 4-10. PRODY of Mongolian   Figure 4-11. Export diversification
          export products   of Mongolia
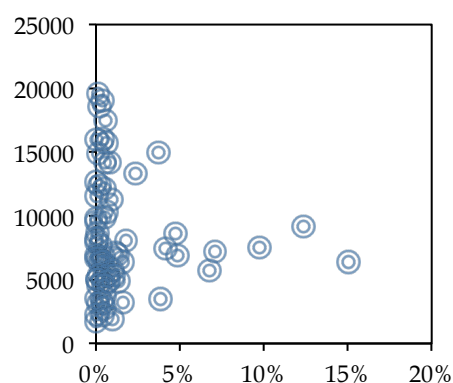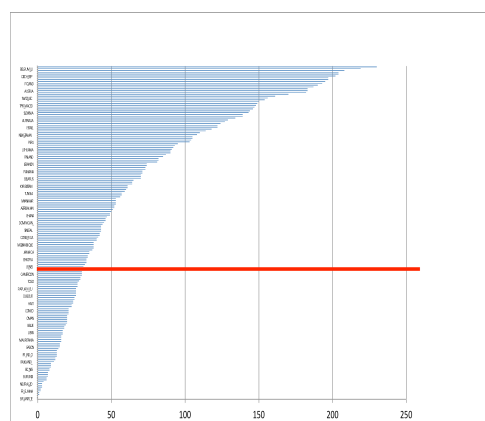
Diversification: Number of products with RCA in Mongolia is continuously decreasing. The decrease causes constant inefficiency of foreign trade structure.

The chart shows amount of products with RCA in 182 countries in total. Countries like the Nederland, France and Turkey own most RCA and their export packages are substantially diversified. But, Mongolia which is on the red line has RCA in 30 products.

Figure 4-12. Standardness and Diversification
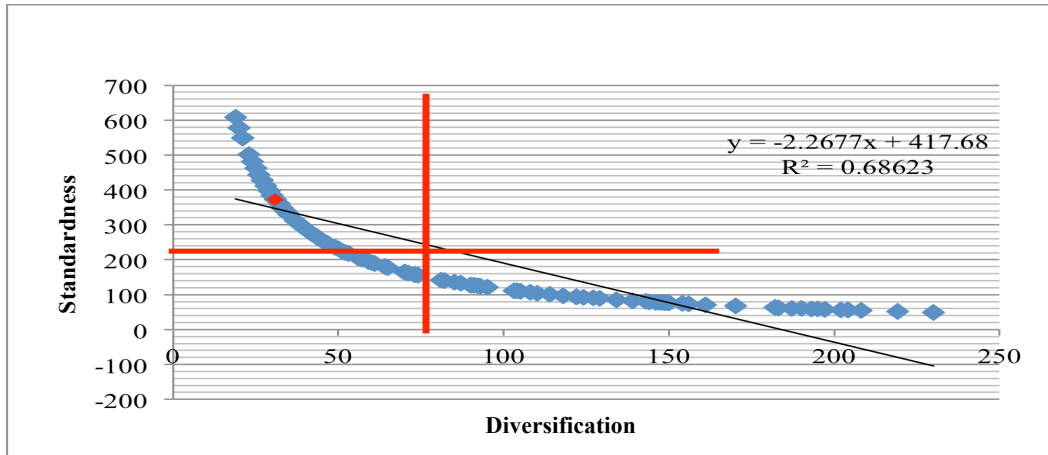
Standardness: The worst countries exist on the second stage and the best countries are on the fourth stage. Mongolia is on the second stage. This demonstrates that Mongolia has lame diversification and no export of special product. All these examples show that efficient of Mongolian foreign trade is declining year to year. Rather, let's illustrate product space of Mongolian foreign trade and determine level of opportunity to grow up efficient of foreign trade.

4.1.6 Product space analysis

There are results of the product space analysis of Mongolia using data in 2005 and 2010.

Figure 4-13. Product space of Mongolia in 2010
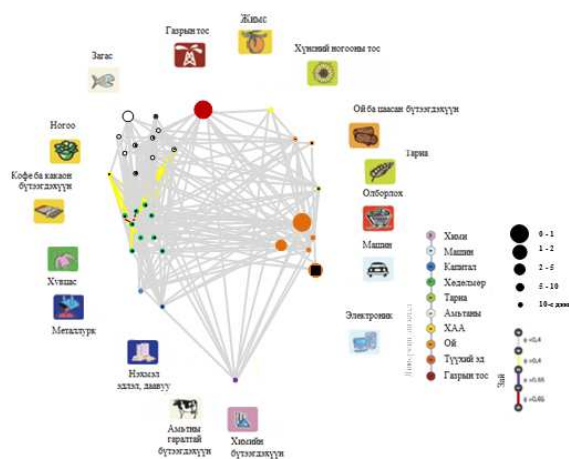
According to the Leamer's classification, Mongolia is exporting over 70 nominal products in 30 kinds in total in 5 out of 10 items. There were merely structural transformation between 2005 and 2010 and number of products with RCA was decreased. Rather, gap between products closed in. RCAs in labor intensive, animal and mining products might reduce the sophistication level and decrease efficient of foreign trade.

Figure 4-14. Product space of Mongolia in 2005
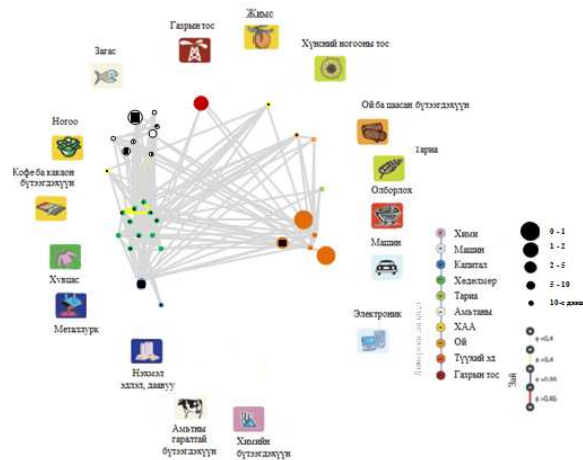
As mentioned above, product space of Mongolia is small, gap between trees is distant, and its forest is not thick and rare. In this case, the situation burdens living environment of the monkeys, slows speed of structural transformation, diminishes possibility of successful structural transformation and worsens the condition. Under this circumstance, governmental rational policy is needed.

4.2   Policy analysis

4.2.1   Reform of foreign trade policy of China

China introduced its trade reform policy in 1979. China's foreign trade volume has grown rapidly by implementation of export-oriented policy and refusal for an industrial policy 'Import substitution strategy'. China's total import and export value grew to $2,207.22 billion in 2009 from only $20.60 billion in 1978. In 31 years China's foreign trade value has increased 106-fold and it can be the largest exporting country in 31 when China ranked 32nd among nations in global trade.

China is repeating the history of the United States, Germany and Japan. In framework of a policy which has been carried out since 1979, export-oriented strategy is applied initially in labor intensive sectors. But, the Import substitution strategy was still exercised in capital and technology intensive sectors. China's fundamental policies are:

1. Attracting export-oriented foreign investment;
2. Enhancement of competitiveness on the international level.

Establishment of special economic zones: Since 1980, the PRC has established special economic zones in Shenzhen, Zhuhai and Shantou in Guangdong Province and Xiamen in Fujian Province and attracted foreign investment in there. Main purposes of the establishment are:

- Infrastructure development;
- Special tax incentives for foreign investments in the SEZ; and
- Encouragement of export-oriented projects.

In 1984, the PRC established Economic and Technological development zones 14 coastal cities and implemented the same policy in there. Then large number of special zones such as new and high-tech industrial development zones and exporting progress zones were established. Like this, it could unite inexpensive land, labor, foreign technology and management with comparativeness by attracting foreign investors. These special zones are pillars of China's development today.

Implementation of processing trade policy: Foreign investment projects require substantial import and re-export. Chinese government carried out the processing trade policy in order to solve the problem. The processing trade is way to import all ingredients which are useful to productions and re-export end products. The way is divided into 2 categories such as processing with supplied materials and processing with imported materials. In the first case, the imported materials and parts are supplied by the foreign party and hence the processing enterprise does not have to make foreign exchange payment for the imports. The processing enterprise only charges the foreign party a processing fee, while the foreign party is responsible for selling the finished products. In the second case, the processing enterprise not only makes foreign exchange payment for the imported materials and parts but also exports the finished products after processing. Enterprises with foreign investment have been still influential and occupied large portion of Chinese processing trade.

Export tax rebate policy: According to the Charter of WTO, export products are rebated from indirect taxes in putting on the market. In 1985, the PRC began implementation of the policy which rebated export products from indirect taxes. The first implementation was that the export subsidy was abolished. As the export tax rebate rate was set by product categories, overlapping taxation made it difficult to determine how much tax should be rebated.

In 1994, the government implemented abolished the industrial and commercial standard tax and introduced a new value-added tax (VAT). The export tax rebate was replaced with VAT and refunded taxes accumulated by export product's tax. This opened up environment that Chinese producers can compete with competitors from other countries equally. However, percent of the refund has been declined recently due to rapid development of export causes financial pressure.

Export and trade incentives: the PRC is constantly carrying out export incentive policy. Currently, there are over 10 trading posts. The biggest post is Guangzhou and the largest in the world which is influential in encouragement of export. After joining in WTO, the policy was accelerating increasingly and Trade-Intensive Committee was established. Process of custom registration was simplified, and its speed was grown up. Shanghai leads attraction of foreign investment like this and is exercising electronic clearance. Shanghai's system is being introduced in other provinces. All these things are the results of right and rational policies.

4.2.2   Policies to achieve Structural Transformation

Hidalgo has recommended policy versions in various situations of product space. He offers following matrix with policy versions.

```
┌─────────────────────────────────────────────────────────────────────────┐
│                                                                           │
│      A Policy map for structural Transformation                           │
│                                                                           │
│   High        Stairway to heaven              Let it be                   │
│                                                                           │
│               Parsimonious      industrial    It ain't broke             │
│               policy                           Sample space to move in    │
│               Help jump short distance to      all directions             │
│               other countries                                            │
│                                                                           │
│               Bridge over troubled waters      Hey Jude: make it better   │
│                                                                           │
│               Strategic bets                   Competitiveness policy     │
│               Little   space   to   improve    Improve   the  quality  of │
│               quality and few nearby trees     what already exist         │
│   Low                                                                     │
│                                                                           │
│        Low            Room to Upgrade Quality and Grow in Existing   High  │
│                       Products                                            │
└─────────────────────────────────────────────────────────────────────────┘
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(Vertical axis label: Ease of moving to New Product)

This policy map helps assess the degree to which policies to promote structural transformation are needed, and what form those policies should take.

The bottom right hand side of the matrix represents existing activities that can be enhanced to push the country into much higher levels of income. Such a change requires competitiveness policies: strategies to do more of and better the things that the country is already doing. This strategy involves solving coordination problems within the clusters or, in other words, between the relevant related activities. This involves a dialogue between existing businesses and with the government.

The upper left-hand corner represents the challenge to move toward relatively nearby activities. These are activities that either do not yet exist or only on a very small scale but where many of the requisite inputs are already in place. In this situation, entrepreneurs should be encouraged to venture into these new spaces and should be supported in sorting out the coordination failures caused by the missing public and private inputs. These pioneer activities may generate significant spillovers because they reveal information about opportunities and obstacles that are socially valuable.

The lower left-hand corner represents the strategic bets. These are activities that cannot happen without major public involvement because on its own the market is unlikely to solve the coordination problems. These activities require many large inputs to be available that cannot be provided or coordinated by the market. For example, making the Maya Route into

a major tourism destination requires conservation and archeological activities, roads, airports, infrastructure, advertising, and many more highly specific inputs. These things do not happen without major government involvement.

In all of these activities, the quality, depth, and bandwidth of the public–private dialogue is key. We discuss some policy guidelines for both facilitating nearby jumps (parsimonious) and more distant jumps (strategic bets), and then give some specific initiatives as examples.

4.2.3 Institutional Setup for Learning and Facilitating Nearby Jumps

As argued, the CARICOM countries need a way to dialogue with the private sector to learn the sector-specific inputs that are missing. Certainly a public–private dialogue already exists to some extent, but this dialogue has to identify barriers at a much higher level of specificity than is often the case. Meetings with representatives of the private sector collectively will not get this job done because at this high level of aggregation, the particular needs of each individual sector will be lost.

Only the lowest common denominator across industries or those concerns of the largest existing industries will rise to the surface. For example, while an overall tax reduction may be mentioned, the telecom upgrading needed by the call center industry and the IP regulatory reform needed by the pharmaceutical industry will be lost in aggregation since these sectors may be small or nonexistent. To identify sector-specific constraints, the dialogue must occur at a much more disaggregated level, and therefore have the necessary bandwidth to deal with that complexity (Hausmann, 2008).

It is difficult to create the dialogue due to there are lots of business interests. But, there may be possibility to identify some general design principles. The guidelines proposed by Hausmann and Rodrik (2006) and Hausmann, Rodrik, and Sabel (2008) are as follows:

- Let the private sector self-organize;
- The process should be transparent. This dialogue, particularly the requests from the private sector, should be public;
- Interventions should be focused on identifying and providing public inputs that increase a sector's productivity, thus allowing it to be developed or to expand. The effect of interventions should be to increase productivity For example; allowing firms to sell more dearly and forcing suppliers to sell more cheaply, or granting subsidies may make the activity more profitable;
- The private sector should be willing to invest its own funds in the solution so that the request passes a market test; and
- Interventions should have clear criteria for success, accountability, and sunset.

These guidelines should help minimize the chances that a parsimonious industrial strategy will fall victim to corruption, inefficiency, government failure, and private capture. Both sectors and specific inputs without private sector involvement will only prolong the region's lack of structural transformation.

4.2.4   Institutional Setup for Strategic Bet

Substantial regulations and policies of government are needed because of different components which are required to nearby jumps. Thus, it is reliable to expand products space and jump to near trees. Some general policy proposals to facilitate the search for distant opportunities and larger leaps in the product space are also provided in Hausmann, Rodrik, and Sabel (2008). They suggest either a venture fund or a refocusing of development banks on facilitating longer jumps. Such a body would have an open window that encourages investors to come with business plans for such activities and should identify what aspects of the business environment are problematic or missing for the industry to be viable. Financial support is granted in parts.

On the other hand, the venture fund should act as an information revelation mechanism for the space of opportunities and the obstacles and should prepare policy solutions for the obstacles identified.

The idea is not to find solutions that are specific to the investor, but instead, to design solutions that would be of use to any other firm or individual with a problem of that kind. This way, the business environment is improved for all other incumbents and for potential entrants to this activity and others.

Another way to facilitate the search for new activities is to build a new industrial zone with a management team. The zone would solve some easy to identify constraints such as power, water supply, transportation infrastructure for goods and workers, and access to regulatory and certification services.

Beyond this, the management team would have to promote the use of the industrial zone by attracting new investors. Each investor would have specific concerns about operating in the country given the missing public and private inputs and capabilities. The management team would have to have the capacity to analyze these missing inputs, explore ways to circumvent them, and inform government of problems, solutions, and costs (Hausmann & Klinger, 2009).

5   Conclusion

The intention of this paper resides in evaluation of contemporaty situation of foreign trade and determination of a "development opportunity version" to increase efficiency and benefits of the foreign trade.

Foreign trade policy has been updated and its importace has grown up for last 8 years. Following changes have been made in the foreign trade furing last years. Including:

1. Join of most countries in treaties and agreements on foreign trade;
2. Establishment and integration of free posts;
3. Transfer from protectionism to open policy.

Initially, there was scarcity of methods and models for foreing investment analysis. But, they have rapidly developed since 1960s. Currently, it is commonly taken advantage of the Gravity model to analyze foreign trade flows, CGE model to study its structure, RCA methods to investigate comparative advantage and Tree-Monkey model to grow up product space of foreign trade and its efficiency.

For last 10 years, diversification of export package of our country is declining and Mongolia is increasingly depending on one partner and one product and loosing its comparative advantages. It is insufficient result that our efficiency of foreign trade is twice as low as the world average by 2010. The result shows that domestic production of Mongolia is reducing and is being affected by the Dutch desease. It leads to raise significantly a question "what shall be prodced?" Under this circumstance, it is essencial to carry out right and rational policy.

China's foreign trade policy achieved tangible results 10 years later. It leads to development of product sector and growth of product efficiency which are outcome of consistent and rational policy. For the Mongolia, it is important to learn from experience of successfully developed countries, explore suggestions and guidance developed by specialized scholars in detals and accurately identidy potential version for its development.

6 Appendices

Appendix 1. Calculation of RCA for industrial products of consumer

Products		2003	2004	2005	2006	2007	2008	2009	2010
Articles of apparel, accessories, knit	x	6.455	7.145	3.926	2.533	0.711	1.858	0.641	0.682
	m	0.915	0.936	0.689	0.583	0.161	0.751	6.982	3.926
	w	7.051	7.625	5.695	4.344	4.390	2.475	0.091	0.173
Articles of apparel, accessories, not knit or crochet	x	6.168	4.927	3.468	1.935	0.202	0.746	0.225	0.148
	m	0.235	0.165	0.161	0.126	0.125	0.763	1.520	2.124
	w	26.21	29.76	21.53	15.26	1.612	0.977	0.148	0.069
Other made textile articles etc	x	0.150	0.093	0.101	0.124	0.148	0.455	0.308	0.131
	m	2.308	1.725	1.775	1.392	1.232	4.388	8.302	7.066
	w	0.065	0.053	0.056	0.089	0.120	0.103	0.037	0.018
Footwear, gaiters and parts thereof	x	0.001	0.143	0.032	0.032	0.010	0.079	0.051	0.058
	m	0.245	0.203	0.157	0.178	0.203	0.344	0.412	0.402
	w	0.004	0.706	0.205	0.179	0.051	0.229	0.124	0.145
Live animals	x	2.255	1.684	1.234	0.896	1.096	0.016	0.535	0.297
	m	0.013	0.383	0.069	0.066	0.032	0.186	0.177	0.145
	w	172.8	4.394	17.74	13.54	33.26	0.090	3.022	2.044
Ships, boats and other floating structures	x	0.005	0.001	0.000	0.000	0.000	0.697	0.031	0.022
	m	0.010	0.048	0.033	0.001	0.008	2.637	2.362	0.566
	w	0.499	0.003	0.000	0.000	0.000	0.264	0.013	0.039
Works of art, collectors pieces and antiques	x	1.323	0.016	0.082	0.025	0.006	0.121	0.398	0.157
	m	0.020	0.019	0.019	1.913	0.008	0.021	0.025	0.054
	w	65.12	0.852	4.343	0.013	0.806	5.656	15.38	2.909

Appendix 1. Calculation of RCA for industrial products of consumer (continued)

Products		2003	2004	2005	2006	2007	2008	2009	2010
Meat and edible meat offal	x	3.421	1.525	1.315	1.903	1.578	1.636	2.640	1.527
	m	0.144	0.124	0.144	0.301	0.204	0.361	0.215	0.359
	w	23.71	12.21	9.101	6.310	7.709	4.530	12.23	4.252
Products of animal origin, nes	x	21.03	18.80	17.08	10.38	8.819	8.268	9.461	5.816
	m	0.111	0.197	0.158	0.389	0.039	0.239	0.011	0.212
	w	188.1	95.18	107.7	26.63	223.2	34.52	822.4	27.31
Edible fruit, nuts, peel of citrus fruit	x	0.277	1.403	0.096	0.942	0.025	0.271	0.071	0.048
	m	1.030	0.940	0.770	0.489	0.387	0.188	0.281	0.278
	w	0.269	1.491	0.125	1.922	0.064	1.444	0.249	0.174
Furniture, lighting, signs, buildings	x	0.056	0.048	0.075	0.075	0.055	0.054	0.078	0.032
	m	0.818	0.736	0.673	1.143	0.881	1.658	1.312	1.330
	w	0.068	0.065	0.112	0.065	0.062	0.032	0.060	0.024
Carpets and other textile floor coverings	x	1.226	1.136	0.931	0.998	1.265	0.848	0.756	0.579
	m	0.857	0.421	0.426	0.412	0.445	2.569	2.694	2.327
	w	1.430	2.699	2.185	2.417	2.837	0.330	0.280	0.249
Sugars and sugar confectionery	x	0.000	0.000	0.308	0.263	1.407	0.014	0.002	0.096
	m	6.000	7.202	6.616	5.805	6.604	3.563	2.528	2.362
	w	0.001	0.000	0.046	0.045	0.213	0.003	0.001	0.040
Miscellaneous edible preparations	x	0.001	0.001	0.023	0.017	0.044	0.019	0.003	0.080
	m	2.296	2.286	2.878	2.963	3.175	3.795	3.038	3.142
	w	0.000	0.001	0.008	0.005	0.014	0.005	0.001	0.025
Meat, fish and seafood food preparations nes	x	0.022	0.148	0.111	0.102	0.107	0.132	0.307	0.060
	m	0.226	0.118	0.126	0.123	0.173	0.318	0.354	0.341
	w	0.100	1.260	0.879	0.831	0.616	0.415	0.869	0.176
Aircraft, spacecraft, and parts thereof	x	0.118	0.052	0.064	0.054	0.212	0.040	0.032	0.008
	m	0.043	0.049	0.010	0.290	0.177	0.128	0.180	0.093
	w	2.717	1.068	5.959	0.189	1.193	0.312	0.179	0.088
Headgear and parts thereof	x	0.181	0.150	0.123	0.123	0.096	0.202	0.173	0.292
	m	0.181	0.273	0.235	0.284	0.233	0.278	6.455	0.300
	w	1.000	0.548	0.521	0.434	0.411	0.726	0.026	0.973
Beverages, spirits and vinegar	x	0.020	0.022	0.016	0.014	0.018	0.014	0.007	0.014
	m	2.837	2.462	1.511	1.595	1.568	1.947	1.213	1.370
	w	0.007	0.009	0.011	0.009	0.011	0.007	0.006	0.010

Appendix 1. Calculation of RCA for industrial products of consumer (continued)

Products		2003	2004	2005	2006	2007	2008	2009	2010
Dairy products, eggs, edible animal product	x	0.016	0.006	0.008	0.004	0.002	0.067	0.150	0.014
	m	1.407	1.008	0.956	0.991	0.814	1.211	1.028	1.310
	w	0.011	0.006	0.009	0.004	0.002	0.055	0.146	0.010
Articles of leather, harness, travel goods	x	0.018	0.043	0.012	0.022	0.016	0.105	0.011	0.016
	m	0.132	0.098	0.148	0.122	0.135	0.150	2.485	1.567
	w	0.143	0.441	0.083	0.185	0.123	0.705	0.004	0.010
Printed books, newspapers, pictures etc	x	0.263	0.215	0.949	0.181	0.281	0.039	0.014	0.017
	m	4.132	0.835	3.057	12.07	16.92	1.077	0.774	0.581
	w	0.063	0.258	0.310	0.015	0.016	0.036	0.018	0.029
Fish, crustaceans, molluscs	x	0.041	0.019	0.041	0.028	0.012	0.116	0.026	0.009
	m	0.003	0.002	0.005	0.013	0.013	0.009	0.018	0.005
	w	12.66	8.025	7.592	2.145	0.960	12.59	1.405	1.774
Lac, gums, resins, vegetable saps	x	0.000	0.000	0.000	0.000	0.000	0.307	1.171	0.110
	m	0.039	0.220	0.009	0.030	0.082	0.575	0.483	0.163
	w	0.000	0.000	0.000	0.000	0.000	0.534	2.423	0.675
Essential oils, perfumes, cosmetics	x	0.004	0.006	0.000	0.001	0.001	0.009	0.001	0.005
	m	1.717	1.431	1.567	1.559	1.774	2.244	1.591	1.573
	w	0.002	0.004	0.000	0.001	0.001	0.004	0.001	0.003
Tobacco and sophistication tobacco	x	0.028	0.024	0.076	0.109	0.012	0.000	0.001	0.010
	m	3.277	3.980	3.546	4.126	4.518	4.910	4.557	3.503
	w	0.008	0.006	0.021	0.026	0.002	0.000	4E-5	0.002
Edible vegetables and certain roots	x	0.024	0.045	0.030	0.000	0.001	0.035	0.004	0.006
	m	1.798	1.651	1.390	1.341	1.082	0.896	0.803	0.601
	w	0.013	0.027	0.022	0.000	0.001	0.040	0.005	0.010
Miscellaneous sophisticationd articles	x	0.000	0.001	0.017	0.004	0.001	0.001	0.001	0.004
	m	1.504	1.333	1.257	1.091	0.676	0.374	2.405	3.297
	w	0.000	0.001	0.014	0.004	0.001	0.003	0.001	0.001
Manmade filaments	x	0.000	0.000	0.015	0.033	0.000	0.005	0.000	0.003
	m	2.144	2.984	2.536	1.681	0.729	0.262	0.116	0.081
	w	0.000	0.000	0.005	0.020	0.000	0.019	0.000	0.043
Pharmaceutical products	x	0.001	0.001	0.001	5E-05	0.001	0.001	0.001	0.001
	m	0.384	0.368	0.357	0.374	0.356	0.344	0.330	0.338
	w	0.003	0.002	0.002	0.001	0.001	0.002	0.001	0.001

Appendix 1. Calculation of RCA for industrial products of consumer (continued)

Products		2003	2004	2005	2006	2007	2008	2009	2010
Cocoa and cocoa preparations	x	0.000	0.000	0.001	0.002	0.379	0.001	0.001	0.002
	m	3.435	3.364	3.855	3.857	4.004	4.973	4.015	4.038
	w	0.001	0.000	0.001	0.001	0.094	9E-5	0.001	0.001
Special woven or tufted fabric, lace, tapestry etc	x	0.000	0.003	0.025	0.043	0.002	0.015	0.009	0.008
	m	3.919	3.453	2.626	0.857	0.822	0.364	0.326	0.341
	w	0.000	0.001	0.009	0.051	0.002	0.040	0.027	0.024
Toys, games, sports requisites	x	0.005	0.007	0.034	0.024	0.028	0.006	0.011	0.001
	m	0.074	0.142	0.158	0.147	0.052	0.127	0.497	0.129
	w	0.072	0.053	0.217	0.163	0.546	0.051	0.021	0.008
Glass and glassware	x	0.004	0.001	0.001	0.002	0.001	0.002	0.002	0.001
	m	1.090	0.948	1.049	1.027	1.697	1.850	1.602	1.785
	w	0.004	0.001	0.000	0.002	0.001	0.001	0.001	0.001
Live trees, plants, bulbs, roots	x	0.015	0.113	0.034	0.037	0.050	0.000	0.000	0.003
	m	0.011	0.014	0.016	0.054	0.021	0.043	0.038	0.073
	w	1.324	7.950	2.109	0.676	2.303	0.000	0.000	0.048
Paper & paperboard, articles of pulp	x	0.007	0.003	0.001	0.000	0.001	0.001	0.001	0.001
	m	0.996	1.104	1.115	1.123	0.988	0.952	1.034	0.960
	w	0.007	0.002	0.001	0.001	0.001	0.001	0.001	0.001
Furskins and artificial fur	x	0.822	0.560	1.609	0.851	0.166	0.067	0.124	0.007
	m	0.018	0.046	0.037	0.063	0.039	0.184	0.199	0.458
	w	43.35	11.96	42.96	13.31	4.263	0.367	0.624	0.015
Vegetable, fruit, nut, etc food preparations	x	0.000	0.001	0.015	0.014	0.010	0.005	0.001	0.001
	m	2.444	2.350	2.144	2.496	2.668	2.011	1.516	1.582
	w	0.001	0.001	0.007	0.005	0.003	0.002	0.001	0.001
Vegetable plaiting materials	x	0.000	0.000	0.000	0.000	0.000	0.011	0.000	0.000
	m	0.000	0.204	0.066	0.022	0.000	0.000	0.006	0.061
	w	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ceramic products	x	0.012	0.001	0.001	0.001	0.001	0.046	0.001	0.001
	m	1.703	1.360	1.352	1.548	1.979	1.195	1.605	1.174
	w	0.007	0.000	0.001	0.001	0.001	0.038	0.001	0.001
Coffee, tea, mate and spices	x	0.000	0.002	0.017	0.004	0.004	0.000	0.001	0.001
	m	1.195	1.334	1.099	1.082	0.885	0.707	0.692	0.462
	w	0.000	0.001	0.016	0.003	0.005	0.000	0.001	0.002

Appendix 1. Calculation of RCA for industrial products of consumer (continued)

Products		2003	2004	2005	2006	2007	2008	2009	2010
Musical instruments, parts	x	0.011	0.006	0.001	0.009	0.003	0.008	0.005	0.005
	m	0.200	0.401	0.129	0.982	0.213	0.361	0.383	0.542
	w	0.058	0.017	0.015	0.009	0.018	0.023	0.014	0.010
Tools, implements, cutlery	x	0.015	0.002	0.003	0.081	0.027	0.011	0.003	0.001
	m	0.656	0.980	0.666	0.783	0.873	1.031	2.480	1.765
	w	0.023	0.002	0.004	0.104	0.031	0.011	0.001	0.001
Cereal, flour, starch, milk preparations	x	0.003	0.001	0.001	0.001	0.000	0.001	0.001	0.001
	m	2.683	2.635	2.854	2.842	2.825	3.935	3.068	3.503
	w	0.001	0.001	0.001	8E-05	0.000	0.001	0.001	0.001
Cereals	x	0.001	0.000	0.002	0.001	0.000	0.002	0.000	0.000
	m	2.966	7.132	3.886	4.105	2.546	2.705	1.607	1.963
	w	0.000	0.000	0.001	0.001	0.000	0.001	0.000	0.000
Clocks and watches and parts thereof	x	0.000	0.011	0.000	0.003	0.001	0.001	0.000	0.001
	m	0.035	0.056	0.060	0.035	0.052	0.130	0.252	0.367
	w	0.000	0.179	0.000	0.103	0.004	0.011	0.000	0.001
Sophistications of plaiting material	x	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.002
	m	0.198	0.126	0.132	0.176	0.176	0.122	0.141	0.006
	w	0.000	0.000	0.000	0.000	0.000	0.022	0.000	0.312
Arms and ammunition, parts	x	0.000	0.000	0.070	0.013	0.000	0.000	0.001	0.001
	m	0.635	0.651	0.552	3.608	0.570	0.386	0.208	0.151
	w	0.000	0.000	0.128	0.003	0.000	0.000	0.003	0.002
Umbrellas, walking-sticks, seat-sticks	x	0.000	0.000	0.000	0.004	0.000	0.000	0.000	0.000
	m	0.134	0.120	0.132	0.084	0.118	0.080	0.756	0.074
	w	0.000	0.000	0.000	0.049	0.000	0.000	0.000	0.000
Soaps, lubricants, waxes, candles	x	0.001	0.000	0.001	0.003	0.000	0.006	0.000	0.000
	m	3.018	2.649	2.617	2.749	2.587	2.052	2.249	1.463
	w	0.001	0.000	0.001	0.001	0.000	0.003	0.000	0.000
Albuminoids, modified starches	x	0.001	0.012	0.000	0.000	0.000	0.000	0.000	0.000
	m	0.582	0.343	0.466	0.548	0.712	0.483	0.511	0.483
	w	0.001	0.037	0.000	0.000	0.000	0.000	0.000	0.000
Photographic or cinematographic goods	x	0.000	0.000	0.001	0.027	0.001	0.003	0.000	0.000
	m	0.179	0.258	0.251	0.227	0.151	0.328	0.234	0.326
	w	0.000	0.000	0.001	0.122	0.009	0.009	0.000	0.000

Appendix 2. Calculation of RCA for industrial products of producer

Products		2003	2004	2005	2006	2007	2008	2009	2010
Machinery, nuclear reactors, boilers, etc	x	0.035	0.011	0.020	0.032	0.021	0.015	0.014	0.007
	m	1.041	0.939	1.094	0.957	0.981	1.106	0.897	1.119
	w	0.034	0.011	0.018	0.033	0.021	0.013	0.016	0.006
Vehicles other than railway, tramway	x	0.016	0.009	0.041	0.055	0.027	0.001	0.004	0.001
	m	1.091	0.990	0.974	1.130	1.078	1.840	1.070	1.933
	w	0.014	0.010	0.042	0.048	0.025	0.001	0.004	0.001
Electrical, electronic equipment	x	0.003	0.002	0.001	0.010	0.009	0.010	0.005	0.002
	m	0.477	0.507	0.510	0.432	0.543	0.413	0.493	0.384
	w	0.007	0.005	0.003	0.024	0.017	0.024	0.012	0.005
Railway, tramway locomotives	x	0.023	0.035	0.030	0.011	0.101	0.001	0.360	0.001
	m	4.145	7.520	9.296	3.033	2.445	5.010	3.319	19.25
	w	0.005	0.004	0.003	0.003	0.041	0.001	0.108	2E-5
Articles of iron or steel	x	0.135	0.120	0.108	0.029	0.009	0.007	0.008	0.001
	m	2.528	3.025	3.012	2.367	2.479	2.189	3.080	2.136
	w	0.053	0.039	0.036	0.012	0.003	0.003	0.002	0.001
Rubber and articles thereof	x	0.001	0.006	0.022	0.017	0.003	0.002	0.001	5E-5
	m	1.409	1.519	1.299	1.284	1.341	0.893	1.085	1.164
	w	0.001	0.004	0.017	0.013	0.002	0.002	0.001	4E-5
Copper and articles thereof	x	0.716	1.184	1.067	0.973	1.071	1.472	1.204	1.108
	m	0.072	0.061	0.066	0.033	0.061	0.068	0.089	0.063
	w	9.926	19.24	15.93	29.28	17.42	21.41	13.40	17.44
Aluminium and articles thereof	x	0.013	0.002	0.010	0.014	0.002	0.104	0.158	0.087
	m	0.168	0.226	0.157	0.078	0.397	0.248	0.203	0.322
	w	0.081	0.013	0.063	0.188	0.005	0.418	0.779	0.273
Mineral fuels, oils, distillation products, etc	x	0.224	0.267	0.279	0.313	0.635	0.983	1.836	2.622
	m	1.870	1.856	1.896	1.951	1.872	1.397	1.186	1.269
	w	0.119	0.143	0.147	0.160	0.339	0.703	1.548	2.064
Ores, slag and ash	x	72.49	70.98	53.37	63.78	65.89	62.91	52.41	29.91
	m	0.043	0.010	0.005	0.002	0.002	0.138	0.001	0.004
	w	1674	6870	9626	30171	23321	454.9	40767	6046
Pearls, precious stones, metals, coins, etc	x	11.71	13.88	16.39	8.732	5.950	4.005	3.244	3.073
	m	0.008	0.007	0.009	0.007	0.014	0.036	0.355	0.045
	w	1423	1902	1814	1240	416.8	109.7	9.122	67.35

Appendix 2. Calculation of RCA for industrial products of producer (continued)

Products		2003	2004	2005	2006	2007	2008	2009	2010
Wool, animal hair, horsehair yarn	x	47.39	43.10	63.58	89.95	94.47	46.76	56.24	40.52
	m	7.579	18.50	3.071	6.018	1.840	1.141	0.519	0.866
	w	6.253	2.328	20.69	14.94	51.32	40.97	108.2	46.76
Raw hides and skins and leather	x	27.20	9.024	10.59	11.71	9.723	1.813	2.992	2.915
	m	0.006	0.079	0.033	0.002	0.010	0.548	0.412	0.553
	w	3969	113.8	313.0	4391	888.1	3.306	7.252	5.269
Aluminium and articles thereof	x	0.013	0.003	0.010	0.014	0.001	0.104	0.158	0.087
	m	0.168	0.226	0.157	0.078	0.397	0.248	0.203	0.322
	w	0.081	0.013	0.063	0.188	0.005	0.418	0.779	0.273
Cotton	x	0.073	0.007	0.071	0.030	0.001	0.048	0.010	0.080
	m	6.978	5.450	5.215	3.150	1.903	0.385	0.781	0.437
	w	0.010	0.001	0.013	0.009	7E-5	0.125	0.012	0.182
Manmade staple fibres	x	0.797	0.263	0.285	0.024	0.002	0.000	0.001	0.100
	m	0.641	0.488	0.444	0.118	0.096	0.695	1.387	1.281
	w	1.243	0.540	0.642	0.207	0.027	0.000	0.001	0.078
Optical, photo, technical, medical	x	0.002	0.002	0.002	0.023	0.011	0.022	0.013	0.009
	m	0.385	0.493	0.385	0.422	0.483	0.546	0.609	0.371
	w	0.005	0.003	0.005	0.054	0.022	0.040	0.022	0.025
Salt, sulphur, earth, stone, plaster and lime	x	13.04	9.913	9.398	9.114	9.656	11.17	12.40	10.98
	m	2.761	2.805	2.924	3.440	3.722	2.915	3.242	3.212
	w	4.723	3.534	3.213	2.649	2.594	3.832	3.825	3.420
Lead and articles thereof	x	5.766	6.935	0.652	1.198	0.529	0.000	0.143	0.393
	m	0.160	0.416	0.736	0.066	0.001	0.062	0.011	0.004
	w	36.02	16.63	0.885	18.05	576.7	0.000	13.05	82.81
Plastics and articles thereof	x	0.016	0.035	0.032	0.032	0.021	0.018	0.030	0.039
	m	0.427	0.327	0.391	0.421	0.549	0.678	0.749	0.697
	w	0.037	0.108	0.082	0.077	0.039	0.027	0.041	0.056
Residues, wastes of food industry, animal fodder	x	0.004	0.000	0.075	0.020	0.009	0.000	0.002	0.045
	m	0.062	0.052	0.128	0.167	0.194	0.193	0.177	0.196
	w	0.070	0.000	0.586	0.122	0.049	0.000	0.011	0.231
Oil seed, oleagic fruits, grain, seed, fruit	x	0.093	0.043	0.069	0.602	0.443	0.115	0.438	0.033
	m	0.091	0.166	0.153	0.068	0.100	0.057	0.233	0.053
	w	1.019	0.259	0.456	8.801	4.430	2.001	1.878	0.631

Appendix 2. Calculation of RCA for industrial products of producer (continued)

Products		2003	2004	2005	2006	2007	2008	2009	2010
Inorganic chemicals, precious metal	x	0.000	0.000	0.000	0.000	0.096	0.565	0.196	0.017
	m	1.068	0.740	0.665	0.660	0.616	0.472	0.537	0.429
	w	0.000	0.000	0.000	0.000	0.156	1.196	0.366	0.041
Wood and articles of wood, wood charcoal	x	0.083	0.133	0.116	0.134	0.067	0.077	0.055	0.013
	m	0.505	0.398	0.446	0.496	0.616	0.394	0.631	0.585
	w	0.164	0.334	0.259	0.271	0.109	0.196	0.087	0.023
Pulp of wood, fibrous cellulosic material, waste	x	0.015	0.036	0.052	0.025	0.029	0.054	0.003	0.024
	m	0.032	0.037	0.028	0.036	0.040	0.001	0.000	0.002
	w	0.478	0.977	1.842	0.706	0.722	118.9	0.000	9.339
Knitted or crocheted fabric	x	0.001	0.003	0.036	0.001	0.000	0.006	0.002	0.031
	m	6.924	4.833	4.757	2.696	1.649	0.747	0.140	0.028
	w	9E-5	0.001	0.007	0.001	0.000	0.008	0.016	1.108
Miscellaneous chemical products	x	0.011	0.000	0.001	0.001	0.000	0.002	0.002	0.002
	m	0.397	0.325	0.460	0.497	0.619	0.463	0.636	0.485
	w	0.028	0.000	0.001	0.001	0.000	0.005	0.004	0.004
Miscellaneous articles of base metal	x	0.001	0.001	0.001	0.002	0.001	0.002	0.005	0.000
	m	0.847	0.700	0.925	1.105	1.016	0.720	1.075	0.900
	w	0.001	0.001	0.001	0.002	0.001	0.003	0.005	0.000
Organic chemicals	x	0.001	0.000	0.000	7E-5	8E-5	0.001	0.001	0.001
	m	0.156	0.114	0.100	0.134	0.123	0.097	0.084	0.058
	w	0.003	0.000	0.000	0.001	0.001	0.011	0.001	0.014
Stone, plaster, cement, asbestos, mica, etc articles	x	0.003	0.001	0.001	0.001	0.001	0.001	0.019	0.003
	m	3.784	3.147	2.640	2.614	3.355	3.707	2.941	1.573
	w	0.001	0.001	0.001	0.001	0.001	0.001	0.006	0.002
Iron and steel	x	0.294	0.331	0.239	0.131	0.052	5E-5	0.111	0.001
	m	0.387	0.459	0.535	0.617	0.595	0.349	0.260	0.414
	w	0.760	0.720	0.447	0.213	0.088	0.001	0.429	0.001
Wadding, felt, nonwovens, yarns, twine	x	0.004	0.612	0.045	0.027	0.004	0.006	0.015	0.002
	m	2.124	2.285	2.352	1.564	0.977	1.134	1.067	0.732
	w	0.002	0.268	0.019	0.017	0.004	0.005	0.014	0.002
Animal,vegetable fats and oils, cleavage products	x	0.020	0.010	0.038	0.006	0.008	0.012	0.000	0.001
	m	3.010	2.286	2.939	2.134	1.927	1.059	1.249	1.264
	w	0.006	0.004	0.013	0.003	0.004	0.011	0.000	9E-5

Appendix 2. Calculation of RCA for industrial products of producer (continued)

Products		2003	2004	2005	2006	2007	2008	2009	2010
Milling products, malt, starches, inulin	x	0.000	0.000	0.001	0.000	0.000	0.199	0.027	0.001
	m	16.62	19.72	22.25	20.47	14.96	17.66	12.94	5.879
	w	0.000	0.000	5E-5	0.000	0.000	0.011	0.002	6E-5
Cork and articles of cork	x	0.000	0.000	0.000	0.008	0.000	0.003	0.000	0.000
	m	0.005	0.000	0.009	0.055	0.000	0.000	0.000	0.000
	w	0.000	0.000	0.000	0.153	0.000	0.000	0.000	0.000
Impregnated, coated or laminated textile fabric	x	0.001	0.000	0.001	0.001	0.001	0.002	0.001	0.000
	m	0.320	0.175	0.207	0.289	0.299	0.314	0.585	0.451
	w	0.002	0.000	0.005	0.001	0.001	0.006	0.001	0.000
Silk	x	0.016	0.003	0.000	0.000	0.002	0.000	0.000	0.000
	m	0.104	0.783	0.150	0.024	0.153	0.008	0.009	0.000
	w	0.156	0.004	0.000	0.000	0.014	0.000	0.000	0.000
Bird skin, feathers, artificial flowers	x	0.000	0.000	0.000	0.346	0.000	0.000	0.000	0.000
	m	0.006	0.046	0.010	0.009	0.039	0.003	2.306	5.984
	w	0.000	0.000	0.000	37.63	0.000	0.000	0.000	0.000
Nickel and articles thereof	x	0.002	0.000	0.000	0.001	0.000	0.000	0.000	0.000
	m	0.290	0.518	0.089	0.075	0.122	0.001	0.016	0.004
	w	0.007	0.000	0.000	0.014	0.000	0.000	0.000	0.000
Zinc and articles thereof	x	0.071	2.505	0.313	0.000	0.000	0.000	0.000	0.000
	m	0.240	0.097	0.052	0.050	0.070	0.013	0.002	0.019
	w	0.297	25.66	5.947	0.000	0.000	0.000	0.000	0.000
Other base metals, cermets, articles thereof	x	0.001	0.000	0.175	0.000	0.001	0.002	0.000	0.000
	m	0.012	0.001	0.000	0.000	0.006	0.095	0.002	0.123
	w	0.139	0.000	0.000	0.000	0.128	0.026	0.000	0.000
Fertilizers	x	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	m	0.654	0.981	0.766	1.061	0.642	0.520	0.954	0.841
	w	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Tin and articles thereof	x	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	m	0.036	0.002	0.002	0.074	0.003	0.003	0.006	0.006
	w	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Vegetable textile fibres nes, woven fabric	x	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	m	0.483	0.389	1.377	1.423	1.621	0.433	0.255	0.187
	w	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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