Trade Competitions among the Top Exporting Partners in the ASEAN Market: Focusing on Agro-food Commodities

아세안 시장에서 주요 수출국 간 무역 경쟁: 농식품 분야를 중심으로

BY

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DEPARTMENT OF AGRICULTURAL ECONOMICS AND RURAL DEVELOPMENT

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ABSTRACT

Since ASEAN is playing a significant role in the networking of bilateral trade agreements in the East Asia region, Free Trade Agreements (FTAs) become now the most prominent and rapidly expanding feature of the multilateral trading system.

Although ASEAN is a net exporting region for agricultural trade, due to rising per capita income, the diets and preferences of consumers on the different kinds of value added products, the demands of an increasingly concentrated food industry, globalization and the spreading presence of the fast-food industry in developing countries, most of its agriculture and some non-agriculture imports become large and growing during these periods until the total import amount 257,943 million US$ from the world in 2005-2009 periods. Among the top 20 exporters to ASEAN market, USA, China, Australia, India and Japan were five largest trade partners in ASEAN import market.

By using the un-centered correlation distance approach and the concept of competitive threat framework, the results show that USA, Japan and Australia were facing serious competition with China as well as India in ASEAN import market. Japan also faced trade competition with Korea. The relative geographic proximity of China and India to ASEAN markets seems to favor them several advantages in their competitions with other countries.

Among total 323 four-digit HS commodities of ASEAN import, USA's exports (316 commodities), Japan's exports (318 commodities) and Australia's exports (304 commodities) were affected by China's export threat. Among those affected items, USA (63%), Japan (63%) and Australia (63%) were subjected to "Direct threat and Partial

threat" of China's exports.

After more detail analysis of six-digit items, China directly threatened to USA and Australia in major edible fruits such as "fresh apples", "fresh and dried grapes", "fresh or dried oranges", "fresh pears and quinces", and "fresh mandarin, clementine & citrus" in ASEAN market. USA and Japan were suffering China's direct threat in some items like "Sauces nes, mixed condiment, mixed seasoning", "Soups and broths and preparations thereof", "Homogenised composite food preparations", "Mustard flour or meal and prepared mustard", "Food preparation nes" and "Tobacco, unmanufactured, stemmed or stripped". Moreover these three countries were subjected to China' direct threat in "Woven cotton nes, >85% <200g/m2, printed", "Woven cotton nes, >85% >200g/m2, dyed, nes", and "Woven cotton nes, >85% <200g/m2, unbleached".

With the relatively higher similarity index, exports of USA, Japan and Australia were subjected to compete with not only China's exports but also India's exports in ASEAN import market. Japan's exports 243 items, USA's export 225 items and Australia's exports 218 items were directly or partially challenged by India's exports. The major agriculture export commodities directly affected by India's export were "Maize except seed corn", "Maize (corn) seed", Millet, Canary seed, "Ground-nuts shelled, not roasted or cooked", "Sesamum seeds", "Plants & parts, pharmacy, perfume, insecticide use nes", "Seed, fruits and spores for sowing, nes", "Seed, forage plants, for sowing nes", "Seed, vegetable, nes for sowing", "Vegetable products nes for human consumption" and "different kinds of Cotton" for both USA and Australia. Moreover Australia's "Dairy products" and USA's "Residues and waste from the food industries" were also threatened by India's exports.

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Japan's major products like "Sauces nes, mixed condiments, mixed seasoning", "Soups and broths and preparations thereof", "Homogenised composite food preparations", "Adhesives based on rubber or plastic, package >1 kg", "Glues or adhesives, prepared nes, package > 1kg", "Enzymes nes, prepared enzymes nes, except rennet", "Dextrins and other modified starches" and "major cotton products" were subjected to Direct Threat by India's export products. In addition to, Japan's major products directly threatened by Korea were "Flour or meal, pellet, fish, etc., for animal feed", "Animal feed preparations nes", "Plain weave cotton, >85% >200g/m2, unbleached", "Woven cotton nes, >85% <200g/m2, unbleached", "Woven cotton nes, >85% <200g/m2, dyed" and "other different kinds of cotton" in ASEAN import market.

For non-agriculture products, Herbicides, Insecticides, Pesticides, "Finishing agents, dye carriers" , "Activated carbon", "prepared rubber accelerators", Isocyanates, Ethylene, Antibiotics, Organo-sulphur compounds, Heterocyclic compounds, and "Penicillins and their derivatives" of USA, Japan and Australia were subjected to Direct Threat of each reference country in all trade competitions in ASEAN market.

By applying gravity model, the effect of "the importers' GDP", "the importers' GDP per capita" and "exporters' GDP" shows positive and highly significant. It means that trade rises with GDP of importers, GDP per capita of importers and GDP of exporters in ASEAN import market. The significant coefficient of dummy variable, FTA_{ijt} is (2.39) and the intra-ASEAN Free Trade Agreement increased trade between its members by 991%. Therefore, Free Trade Agreements play an important role in the trade of top exporters in ASEAN import market.

Even import amounts and value of the major crops increased significantly, increasing of import did not effect on their domestic productions of ASEAN countries. Importing products or commodities could be used for domestic consumption as complementary goods and could be also used as raw materials from value-added industries for domestic consumption as well as export in ASEAN countries.

Key words: trade competition, ASEAN import market, Free Trade Agreement (FTA), gravity model, agriculture products

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List of the Acronyms

ACFTA: ASAEN China Free Trade Agreement

ACIA: ASEAN Comprehensive Investment Agreement

AEC: ASEAN Economic Community

AIBC: ASEAN-India Business Council

AIBF: ASEAN-India Business Fair

AIFTA: ASAEN India Free Trade Agreement

AJCEP: ASEAN-Japan Comprehensive Economic Partnership

AJFTA: ASAEN Japan Free Trade Agreement

AKFTA: ASAEN Korea Free Trade Agreement

APEC: Asia-Pacific Economic Cooperation

ARF: ASEAN Regional Forum

ASEAN: Association of South East Asian Nations

ATIGA: ASEAN Trade in Goods Agreement

Cif: Cost, Insurance and Freight

CLMV: Cambodia, Laos, Myanmar and Vietnam

EAFTA: East Asia Free Trade Area Agreement

EPAs: Economic Partnership Agreements

FDI: Foreign Direct Investment

GDP: Gross Domestic Product

OECD: The Organization for Economic Co-operation and Development

SMEs: Small and Medium Enterprises

I. INTRODUCTION

1.1 Background of the study

The East Asian economies have been very active over the last decade by proposing to establish the East Asia Free Trade Area Agreement (EAFTA), which ideally would include all of ASEAN (the Association of Southeast Asian Nations), China, Japan and Korea. The Association of Southeast Asian Nations (ASEAN) is a geopolitical and economic organization spread over a wide and diverse region with a population of approximately 600 million.

Covering a total population of 1.7 billion people and a combined GDP of about US$2 trillion, ASEAN-China Free Trade Area (ACFTA), implemented in 2005, is billed as the largest free-trade zone by population (nearly 1.9 billion) and the third largest by volume (US$ 192 billion in 2008) in the world. China's emergence as an avid pursuer of FTAs happened in spite of its latecomer status. China did not begin its premarket economic reform until 1978 and did not join the World Trade Organization (WTO) until the middle of 2001.

In the case of Southeast Asia, China's FTA with the ASEAN is driven by a political logic that responds to challenges posed by competitive regionalisms in the world economy, to cement growing economic ties with Southeast Asian nations, to secure raw materials crucial to China's economic development, and to ensure a peaceful and stable environment close to home. ASEAN nations are attracted by the

opportunities brought about by China's economic expansion and trade liberalization; they also seek to leverage their FTA with China to additional FTAs with important trading partners within (e.g. Japan) or outside (e.g. the United States) the region.

Although there are economic benefits for pursuing FTAs, nations often pursue them for non-economic reasons. Regionalism (and FTAs in particular) plays a critical role in China's current grand strategy - "peaceful rise." The policy of "peaceful rise" is based on an embrace of globalization as part of the solution to China's growth imperatives. It relies both on China's domestic economy and the international marketplace to sustain and fuel economic growth. China's economic diplomacy has presented opportunities and challenges for East Asia.

On the one hand, China has tried to "bind" ASEAN nations through regional institutions, such as ACFTA, ASEAN plus Three (APT), East Asia Summit (EAS) and ARF (Asian Regional Forum). Indeed, China's FTA activism has spurred measures by Japan and India to strengthen their own economic diplomacy in Southeast Asia. For instance, since the ACFTA was enacted, Japan has signed FTAs with Singapore, Malaysia, Indonesia, Thailand, and the Philippines. In contrast, the interest of the United States in the region, as shown through the lens of economic diplomacy, pales in comparison. Since 2004, China has replaced the United States as the largest trading partner of Japan, South Korea, Taiwan, India, Australia, Brazil, and Chile. Admittedly this is mainly due to the rise of China as a world trader, but it is also an indicator of America's relative declining influence. The United States has only signed FTAs with Singapore and South Korea. The United States' hope of engaging in a FTA with the entire membership of APEC

(Asia-Pacific Economic Cooperation) also looks less appealing or feasible than China's bilateral FTAs, especially against the backdrop of the failed Doha Round of WTO multilateral talk.

The new ASEAN FTAs were most likely to affect U.S. exports of processed agricultural products, especially in the subcategory labeled in the trade data as "food preparations: composite mixtures"—a diverse category of products such as beverage bases, some snack foods, some fruit juice preparations, coffee whiteners, herbal tea mixes, and some gelatin preparations. U.S. exports of fruit and vegetables to ASEAN members and to China were projected to fall by over US$50 million per year and by about US$30 million per year, respectively. U.S. fresh and processed fruit exports, in particular, face considerable competition in the region.

Both United States and China export high volumes of fresh fruits. In the past, Chinese fresh fruit could not compete with that of the United States in global markets. This was mostly because of the poor quality of Chinese fruit, as scarce cold storage and poor rural infrastructure in China took its toll on perishable products traveling long distances for export. As China becomes better able to supply high-quality fruit at a low cost to nearby Asian markets, competition with the United States could intensify . The United States and China both export large quantities of apples to several Asian markets, including Indonesia, Malaysia, and India. Chinese apple exports to Vietnam, a low-cost apple market, averaged $53 million between 2008 and 2010, far outpacing average U.S. apple exports of $8 million to Vietnam during the same period . Both China and the United States also export large quantities of fresh and frozen vegetables. For onions and shallots,

Japan is the only market where competition takes place, with China exporting $117 million in 2010 and the United States $35 million . Competition is generally greater in frozen vegetables, which can be transported across long distances with little loss in quality.

China benefited from a competitive advantage relative to the United States in its proximity to ASEAN market, its lower labor and production costs, and its undervalued Yuan relative to the U.S. dollar. China also benefits from globalization and changing production pattern where production and assembly of higher valued-added products were moved from the United States and other developed countries to China .

Laos, Myanmar and Vietnam have long border area with China. Moreover, it is a fundamental fact of geography that India is in the immediate neighborhood of ASEAN. Both countries share land and maritime borders with Myanmar, Indonesia and Thailand. The vital commercial sea lanes between West Asia and South East Asia straddle the Indian mainland and its island territories.

Since, for both economic benefits and non-economic reasons, ASEAN and their dialog partners as well as top trading partners like China, India, Japan and Korea have done Free Trade Agreements (FTA), there would be some competitions among the top trading partners (FTA members and non-FTA members) as well as between FTA member countries in ASEAN market. Trade competition intensity may depend upon the structure and pattern of trade of emerging countries and declining countries. By doing Free Trade Agreements (FTA), it may lose or gain to their member countries.

1.2 Significance of the study

ASEAN did not attempt any significant economic cooperation initiatives until the new international political environment emerged at the end of the 1980s. Its first major initiative was ASEAN Free Trade Area (AFTA), which was established in 1992. At the 2002 ASEAN Summit in Phnom Penh, it was proposed that the region should consider the possibility of creating an ASEAN Economic Community (AEC) by 2020. In the 2007 "Cebu Declaration" the ASEAN leaders not only formalized this commitment but also actually pushed up the deadline to 2015. The primary goal of economic integration in ASEAN is to reduce transactions costs associated with economic interchange and to make the region more attractive to multinational corporations wishing to take advantage of its diversity and openness in rationalizing production networks.

One of the main factors that contributed to the development of ASEAN was the geographical proximity of its member states. The region has great geographical variations, as it located between India and China. Agricultural trade is of large importance to ASEAN, as it has a large agricultural foundation and arable land mass encompassing over 60 million hectares. Within the last decade, ASEAN countries have rapidly increased production and consumption of agricultural products. Agriculture and food imports provide food security, which is also a high priority for ASEAN countries .

The Asian Financial Crisis of the late 1990s caused several countries in the ASEAN region to experience economic volatility. Since then, the affected ASEAN

members have made enormous progress towards economic integration and currency stabilization. One possible channel for reviving the region's economic dynamism in the world economy is to invigorate intra-regional trade. Sound domestic demand and intra-regional trade will continue to be strong drivers for regional growth through the next couple of years with India and China propelling the region. While ASEAN is collectively sizable, it is dwarfed by the Big Three of East Asia—China, Japan, and the Republic of Korea. Therefore, an attractive strategic option for ASEAN is to expand trade with the Big Three. Since well before the global financial crisis, ASEAN countries have sought to promote trade with each other and with the Big Three. The primary motivation for such efforts lay in seeking new sources of dynamism and growth after the 1997/98 Asian financial crisis deprived the region of its momentum and self-confidence. Finally, the 1997/98 Asian crisis served as a catalyst for regional cooperation and integration in East Asia. The broader consequence was a generalized trend toward deeper integration of the regional economies. ASEAN countries have concluded recent bilateral agreements with two large emerging markets in the region, China and India. ASEAN countries trade more in agricultural goods with China and India than do other countries as a percentage of their total trade in agriculture .

According to official 2010 US trade statistics, ASEAN is ranked as the United States' fourth-largest export market and fifth-largest supplier of imports. U.S. exports of fruits and vegetables to the ASEAN countries are decreasing by over $50 million per year. The pattern of US trade deficits with most individual ASEAN members has remained steady. For each year from 2001 to 2010, the United States

had trade deficits with at least seven of the ten ASEAN countries . The economic cooperation between ASEAN countries and Japan has been concentrated on trade, investment and official development assistance for several years. The relation with Japan has come to spectacular after the emergence of the People Republic of China as competitor and market destination of ASEAN. The triangle relationship has changed. Japan has diverted her investment from ASEAN towards China in order to restore her competitiveness of labor intensive industries.

The China–ASEAN Free Trade Area (ACFTA) is one of the largest free trade areas in terms of population, gross economic outputs and trade volume. China's motivations in offering ACFTA are both political and economic. Politically, China wishes to remain on friendly terms with its neighbors on its southern front. ACFTA is part of confidence building that includes China's participation in the ASEAN Regional Forum and China's accession to the ASEAN Treaty of Amity. China is also eyeing the ASEAN region for its various natural resources, especially oil and its market of 560 million consumers. Closer economic relations with ASEAN will enable China to build its geopolitical clout in Southeast Asia and counterbalance the influences of Japan and US. The swift progress of ACFTA has hastened Japan as well as the US, South Korea and India to propose economic cooperation arrangements with ASEAN as well ASEAN governments welcomed the China initiative for a number of reasons. China and ASEAN will be able to go further than the WTO in liberalizing agricultural trade, as China's temperate agriculture and ASEAN's tropical agriculture are complementary in many product areas .

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Consistent with its natural resource endowments of abundant rural labor and limited agricultural land on a per capita basis, China's agricultural exports are concentrated in labor-intensive products (compared with the United States and its other main trading partners), such as fresh and processed fruits and vegetables. If a comparison is made between labor/land resources and capital, China certainly has comparative advantages in agriculture. ASEAN is the only region that has a balanced agricultural trade with China. These two regions do not differ distinctly in relative factor endowments. Rather, climate makes a difference in determining bilateral agricultural trade patterns. China exports temperate horticultural products and grains (except rice), soya and cotton to ASEAN, and imports mostly tropical products and rice from ASEAN .

As Japanese market is not fully liberalized for primary industry especially agriculture and food processing products, Japan-ASEAN trade arrangement (FTA), if initiated, may aggravate trade deficit with Japan for most of members, except only the case of Singapore . The ASEAN-Japan Comprehensive Economic Partnership (AJCEP) will help continue the momentum for further invigoration of trade and investment in the region. ASEAN and Japan are important trading partners. After a decline of 25% in 2009 due to the global economic and financial crisis, total trade between ASEAN and Japan increased by 32.0 per cent in 2010, amounting to US$103.1billion from, US$78.1 billion in 2009. Total trade grew by 26.7 per cent, amounting to US$203.9 billion in 2010. Japan is ASEAN's third largest trading partner in 2010 with 10.0 per cent share of ASEAN's total trade.

India has a large and diverse agriculture and is one of the world's leading producers. India is the third largest economy in Asia after Japan and China, as measured in terms of its Gross Domestic Product (GDP) and it is continuing to grow rapidly. India became a sectoral dialogue partner of ASEAN in 1992. Mutual interest in wider engagement led ASEAN to invite India to become a full dialogue partner of ASEAN during the Fifth ASEAN Summit in 1995 (ASEAN-Secretariat, 1995) and a member of the ASEAN Regional Forum (ARF) in July 1996. The ASEAN-India FTA is expected to encompass a strategic and political partnership, thus going well beyond a traditional FTA agreement . As a reflection of the interest of ASEAN and India to intensify their engagement, the ASEAN-India Partnership for Peace, Progress and Shared Prosperity, was signed at the 3rd ASEAN-India Summit on 30 November 2004. A Plan of Action (2004-2010) was also developed to implement the Partnership. Subsequently, the new ASEAN-India Plan of Action for 2010-2015 was developed and adopted by the Leaders at the 8th ASEAN-India Summit in October 2010.

India's merchandise exports to ASEAN have more than tripled from about US$ 1.0 billion in 1991-92 (5.7 % of its world exports) to US$ 3.4 billion in 2001-02 (7.7 % of its world exports). The overall trend has been upwards, except during the East Asian crisis period of 1997-99 . The agricultural trade flows between India and ASEAN increased from US $19.8 billion in 2000 to US $75.5 billion in 2008. Bilaterally, there was more than two fold trade expansion for both India and ASEAN between 2000 and 2008. As a share of India's total agricultural exports, ASEAN which accounted for 9.7 percent in 2000 increased to 15.2 percent in 2008

(Raju, 2010). The ASEAN-India Trade in Goods (AITIG) Agreement was signed on 13 August 2009. The entry into force of the Agreement starting 1 January 2010 paves the way for the creation of one of the world's largest free trade areas - a market comprising 1.8 billion people with a combined gross domestic product of approximately US$2.74 trillion as of 2009. In 2010, the total trade between ASEAN and India was US$ 55.4 billion, a growth of 41.8 % from US$39.1 billion in 2009. This accounted for 2.7% of the total ASEAN trade in 2010. Despite impact of the global financial/economic crisis, India remained the seventh largest trading partner of ASEAN and the sixth largest investor in ASEAN in 2009. At the 8[th] ASEAN-India Summit in October 2010, the Leaders reaffirmed their commitment to achieve bilateral trade target of US$ 70 billion by 2012.

Australia was a net exporter to ASEAN in 1997, but by 2005 imports from ASEAN exceeded exports by over 50 per cent. Over the past decade, Australian exports to ASEAN grew on average by 3 per cent per year. The 1997 Asian financial crisis pulled down growth rates briefly but had only a marginally dampening effect on long-term rates of growth in Australia's ASEAN-bound exports. Australia's export growth rates to ASEAN were influenced by other longer term trends, including the growth of Australia's exports to China and other regions (Nandan, 2006b).

There had been a significant expansion of trade between ASEAN-6 and Korea. The bilateral trade between ASEAN-6 and Korea increased more than seven-fold during 1989-2006, from less than $8 billion in 1989 to over $56 billion in 2006. Even though trade volume declined during 1997-98 when both parties were

battered by the Asian financial crisis, it recovered after 1999. Its bilateral trade rebounded to nearly $25 billion at the end of 1999 and expanded to over $33 billion in 2001, higher than the pre-crisis level. Korea had recorded a consistent trade surplus during 1989-2006, with the exception of 2001-2005 periods.

The dramatic expansion of Korea-ASEAN trade in components was largely an intra-industry trade in Machinery and Transport Equipment. Korea exports to ASEAN are the products for which Korea has comparative advantage and vice versa. The Republic of Korea (Korea) is the second dialogue partner with whom ASEAN has forged a free trade agreement. In 2005, ASEAN and Korea signed the Framework Agreement on Comprehensive Economic Cooperation (Framework Agreement), and subsequently, signed four more agreements that form the legal instruments for establishing the ASEAN-Korea Free Trade Area (AKFTA).

The top 20 partner countries of ASEAN import market for all types of commodities in 2009 were China, Japan, USA, South Korea, Germany, Saudi Arabia, France, Australia, United Arab Emirate, India, Hong Kong, Great Britain, Taiwan, Qatar, Italy, Switzerland, Netherlands, Russia, Kuwait and Brazil (ASEAN statistics, 2010). The top 10 commodities imported from ASEAN in 2009 were "Electric machinery, equipment and parts; sound equipment; television equipment", "Mineral fuels, mineral oils & products of their distillation; bitumen substances; mineral wax", "Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof", "Iron and steel", "Vehicles, (not railway, tramway, rolling stock); parts and accessories", "Plastics and articles thereof", "Articles of iron or steel", "Optical, photographic, cinematographic, measuring, checking, precision, medical

or surgical instruments/ apparatus; parts & accessories", "Organic chemicals" and "Natural or cultured pearls, precious or semiprecious stones, precious metals and metals clad therewith and articles thereof; imitation jewelry; coin" (ASEAN statistics, 2008). Since ASEAN is a net exporting region for agricultural trade, it is important to know the agriculture products which will play as the major commodities in each trade competition country pair in ASEAN import market. In this regards, the present study will provide top partners in ASEAN agricultural import market and the major agricultural commodities which would play as major crops in their trade competitions.

1.3 Objectives of the study

The specific objectives of the study are:

(1) To find out the top 20 partners of agriculture and non-agriculture import products in the ASEAN import market,

(2) To investigate the nature and extend of competition among the major exporters in the ASEAN import market,

(3) To know the pattern of competitive threat from one specific country to other exporters

(4) To identify the nature of trade substitution among the major trading partners, with insights on the factors contributing to competitiveness,

(5) To find major products which play significant role in trade competitions in ASEAN import market, and

(6) To analyze the effect of ASEAN Free Trade Agreement (AFTA) on ASEAN import market.

1.4 Organization of the study

The first chapter of the study gives introduction to the present investigation. A brief review of the pertinent literature concerning the problem under investigation has been presented in the second chapter. The description of the study area has been given in the third chapter. The fourth chapter deals with the methodology and analytical framework used in the study. Besides, this chapter also describes the data requirements to achieve the intended objectives. The results of the empirical analysis are presented and discussed in the fifth chapter. In the sixth chapter, conclusion has been presented along with appropriate policy implications.

II. LITERATURE REVIEWS

2.1 ASEAN Regional Trade

Consequences of the ASEAN Economic Community (AEC) were investigated using a dynamic computable general equilibrium (CGE) model. When the removal of trade barriers were combined with reductions in administrative and technical barriers and lowering the trade and transport margins under the assumption of endogenously determined productivity, the estimated welfare gains for the year of 2015 range from 1.1% in Indonesia to 9.4% in Thailand. The results suggested that streamlining customs procedures and other reductions in administrative and technical barriers, as well as increased competition and improvements in infrastructure, were significant in enlarging the benefits of the AEC (Hiro Lee , *et al.* 2011).

Minda C. mangabat and Antonette P. Natividad (2007) highlighted that ASEAN's stated goal is economic integration, with more prosperous, more efficient and highly competitive economies, making ASEAN a single market and production base of the world market with free flow of goods, services, investment and freer flow of capital. This in itself was a big challenge for ASEAN that requires. Another challenge that faces ASEAN was the expansion of its realm by including Japan, South Korea, and China to increase complementarity and make the region a more potential and stronger force in international trade .

Schwarz and Villinger (2004) studied that ASEAN was aware of the need to further diversify its engines of growth from the traditional growth engines of the US, Japan and more recently, China, to India as well. Diversification of growth engines and greater integration among the members are imperative if the region is to reduce its susceptibility to boom and bust cycles that it has faced since the mid-1990s.

David Arase (2010) has explained why, for reasons specific to China and ASEAN, they consider non-traditional security (NTS) to be a critical concern. China-ASEAN NTS cooperation defends exclusive state sovereignty, and shared norms govern an institutionalized process of regularized consultation leading flexibly to various formal agreements. Viewed alone, NTS cooperation creates political partnership and a sub-regional security complex. When viewed in tandem with ACFTA, the NTS cooperation process might be seen as part of the most advanced and comprehensive working model of regionalism in East Asia. In comparative perspective, it embodied an approach to security that, compared to the West, was functionally distinct, institutionalized in process more than in form, and reflective of the norms of authoritarian developmentalism.

Yao Chao Cheng (2005) highlighted that Asian economic unification was indeed taking shape. In the course of the process of unification, there would inevitably be disputes and conflicts with clashing economic interests amongst Asian nations. The regional economic unification process in Asia as part of economic globalization should no doubt produce a pan-Asian economic community. Asians should have their own unified currency in the future, perhaps in 50 years' time or

even longer, as experienced by the Europeans. Of course, China's role in the process of Asian economic unification could never be neglected. Not only would it greatly influence the unification process, but it would also exert a significant influence on the nature of the world in the 21st century. The largest impact of a rising China on Asia and the world should finally lie in the outcomes of the country's internal reforms .

2.2 ASEAN Free Trade Agreements

Gemma Estrada *et al.* (2011) indicated that the natural policy implication for ASEAN policymakers is to concentrate their efforts on bilateral FTAs. They have already made a lot of progress in this regard, having concluded bilateral FTAs with the PRC and the Republic of Korea. Since AJFTA will deliver substantial benefits for ASEAN, policymakers should also prioritize AJFTA. AJFTA was also beneficial to Japan which was conducive for ASEAN's pursuit of AJFTA. Finally, their analysis of ASEAN's FTAs with the Big Three were predicated on the premise that ASEAN's pursuit of closer trade links with its large neighbors should not compromise its vital trade links with the outside world.

Sunitha Raju (2010) presented that the bilateral trade flows between India & ASEAN have expanded by fivefold during 2000 and 2008. The proposed India-ASEAN FTA has aimed at enhancing these trade gains and provides potential trade opportunities for both India and ASEAN. With respect to agricultural trade balance, ASEAN has maintained a trade surplus which has increased until 2006 and

then declined over the last few years. India's concern, in this regard, would be to examine if this trend entails a severe import threat under a lower tariff regime. The structure of agricultural trade between India and ASEAN is skewed. ASEAN has emerged as an important trading partner for India in agricultural products.

Kenichi Kawasaki (2003) discussed a quantitative simulation analysis on the impact of Japan's FTAs in Asia using a CGE model of global trade. It has been argued that a regional FTA would be a step toward global trade liberalization rather than a final goal. In fact, it was shown that changes in sectoral trade balance and production would vary according to the partners in Japan's FTAs in Asia deviating from those expected in global trade liberalization. Moreover, the terms of trade effects would be relatively significant in determining the overall welfare impacts in partial trade liberalization. On the other hand, capital formation mechanisms were shown to be particularly important for macroeconomic gains in several ASEAN countries. It was suggested that liberalization and facilitation of not just the trade of goods but also investment would be essential for economic partnerships in Asia .

Scott Mcdonald *et al.* (2008) has considered the empirical implications, particularly for developing countries, of the continuation of two strong trends in the global economy: (1) the continued integration of the E&SE (East and South East) Asia trading bloc, and (2) the continued rapid growth of important countries in Asia, with increasing pressure on world markets for manufactures and primary commodities. The results for the integration scenarios indicated that a) an effective E&SE Asia FTA would increase welfare in the region and generate small losses for countries outside the bloc; b) an effective E&SE Asia and India FTA would lead to

welfare gains for India, while generating substantial additional gains for the E&SE Asia members; and c) continued integration involves significant changes in the structure of production in, and trade by, the E&SE Asia and India bloc while Advanced Asian regions redirect exports from the European Union and the United States toward countries within the bloc, while other members increase their exports to the European Union and United States .

Hiro Lee *et al.* (2004) observed China's accelerated global emergence has changed trade patterns in the Asia-Pacific region and exerted important influence on its trilateral relationship with Japan and the United States. They evaluated the effects of multilateral and regional trade policy scenarios that are particularly relevant to China, Japan, and the United States using a dynamic global computable general equilibrium (CGE) model. The results suggested that the three countries would gain substantially from a trilateral free trade agreement and could realize large fractions of the residual gains from global trade liberalization. They contrasted this with prospective free trade agreements (FTAs) in East Asia, and they found that these FTAs largely benefit smaller member economies (e.g., ASEAN countries) .

2.2.1 Effect of Free Trade Agreements (FTA)

Konstantinos Kepaptsoglou *et al.* (2010) found that the gravity model has been extensively used in international trade research for the last 40 years because of its considerable empirical robustness and explanatory power. They critically reviewed and analyzed recent empirical studies exploiting the gravity model in trade

flow. Based on its robust performance, the gravity model has been particularly successful and popular among researchers, despite past criticism on its theoretical background. Over 75 papers in the last decade have either used it for analyzing trade policies and their implications or improved its performance; most of the policies examined focused on the effects of FTA agreements .

Matthieu Bussiere and Bernd Schnatz (2006) analysed the rapid trade integration that took place in the past decade between China and the rest of the world. It is argued that the rise in trade flows between China and its trading partners should not, per se, come as a surprise, but rather reflects China's shift towards more marketed policies together with robust economic growth. They used a gravity model, which captures well the evolution of trade flows over time and across countries, to develop and quantify a new benchmark for trade intensity .

Innwon Park (2000) found that AFTA will enhance intra-ASEAN trade and accelerate the economic growth of ASEAN member nations. The author concluded that economies with higher pre-FTA tariff barriers and larger intra-regional trade volume such as Philippines and Thailand share larger gains from freer trade .

Ismail *et al.* (2007) found that GDP, population, relative endowment, distance and common language are the main determinants of bilateral trade in ASEAN. The ASEAN dummies used to measure the intra ASEAN trade prove that there was trade creation among the five ASEAN members .

Ce` line Carre`re (2004) used a gravity model to assess ex-post regional trade agreements. The model includes 130 countries and is estimated with panel data over the period 1962–1996. The introduction of the correct number of dummy

variables allows for identification of Vinerian trade creation and trade diversion effects, while the estimation method takes into account the unobservable characteristics of each pairs of trade partner countries, the endogeneity of some of the explanatory variables as well as a potential selection bias. In contrast to previous estimates, results show that regional agreements have generated a significant increase in trade between members, often at the expense of the rest of the world .

Bhavish Jugurnath *et al* (2007) used a gravity model to examine bilateral trade involving five trading blocs, with data from 26 countries from 1980 to 2000. The estimated coefficients from the basic gravity model show that GDP, population, distance between trading partners, as well as cultural similarity (a common language) and physical area explain much cross country trade .

2.3 Trade Competitions

2.3.1 Trade Competition between China and USA

Alston and Bird LLP (2011) observed that as the third-largest buyer and the fastest- growing export market for U.S. exports, China would remain at the center of the discussions in international trade. The Obama administration and U.S. businesses will continue to push for a more balanced trade relationship with China. In this regard, the administration plans to pursue a multilateral approach, which, at best, appears to be without a central mission or vision. With this backdrop, it was

unlikely that the United States can convince China to make major commitments towards creating a more balanced trade relationship .

John Wainio *et al.* (2011) found that U.S exports of dairy and poultry products to ASEAN, especially to the Philippines, were projected to decline an estimated $43 million per year, while wheat exports to ASEAN could drop by about 6 percent or $40 million annually. Total U.S. agricultural exports to ASEAN members were projected to fall by almost $350 million, or 5 to 6 percent of actual 2009 exports to the region. Globally, U.S. agricultural exports were projected to decline by $170 million after implementation of the ASEAN FTAs. The strong competitive position of the United States and relatively low tariffs facing U.S. exports in the two ASEAN FTAs reduced the adverse impact of these agreements on U.S. agricultural sales in the world marketplace.

Chuanmin Shuai (2011) found that China should adopt positive measures to further increase the international competitiveness of its agricultural products. Despite the fact that China's agri-exports have grown faster than ever after its WTO accession, the international competitiveness of the China's exporting agricultural products is on a downward trend. Therefore, China should continue to expand its agri-exports on the one hand, and take positive measures to enhance the international competitiveness of its agri-exports on the other. These measures include: continuing to strengthen the support for agriculture, encouraging agri-exports by adopting export facilitating policies, strengthening agri-product quality supervision from the field to the table, fostering brands for export products, and

advocating intensive agri-business on a moderate scale to achieve the economy of scale in agricultural production, processing and trade .

Hanho Kim *et al.* (2008) employed the un-centered correlation distance method to investigate the similarities in the export structure of major exporters to the Korean market. Results showed that the similar export structures of China and the United States have made the latter vulnerable to competition. The concept of competitive threat is used to determine which country faces a possible decline in food exports to Korea. They found that China posed a threat to the United States in virtually every agricultural product exported to Korea.

William Greene (2006) studied that China has made tremendous strides in gaining market share in India's import market in commoditized -mass produced products, the United States continued to command a presence in those areas demanding innovation and those incorporating the newest features or the latest technologies. Although the United States and China competed head-to-head in a variety of industry segments, competition was most intense in high value-added technology market that includes machinery, electrical machinery, computers, and telecommunications equipment. China leapfrogged the United States in a number of product areas particularly computers and components and various telecommunications equipment segments. By the end of 2004 China surpassed the United States as India most important single import source and in its importance in the India computer and telecommunications equipment markets .

Hu Xiaoping *et al.* (2004) presented that with the progress of reform in taxes and charges in rural area of China, the non-cost expenses paid by peasant

would decrease gradually to a low level and thus Chinese wheat would become more competitive compared with the USA. In the situation that USA has no obvious advantage in wheat production costs over China, it was difficult for its wheat to enter the Chinese market with a Competitive price unless the U.S. government gives the farmers an export subsidy. Although the wheat production cost in China was a bit lower than that in the USA, it was impossible for China to grow more wheat to compete in the international market because of the limitation of its shortage of arable land. It would still be difficult for foreign wheat to enter the Chinese market in the coming three to five years, and this phenomenon did not come from the protection of Chinese government but from the relative competitiveness of Chinese wheat in its domestic market .

John Weiss (2004) examined differences in trade structure between China and its trading partners, finding that China's current structure was closest to that in Korea and Taipei, China in 1990. It also considered changes in market share and found that China exports were eroding the market share of its regional neighbors in the US and Japan, particularly in products in which trading partners were most specialized. There is no evidence of FDI diversion from elsewhere in the region to China. He surveyed the projections of models that demonstrate the gains in greater trade and income for the region from closer trade links with China. The broad conclusion that emerges was that whilst there might be risks to individual sectors in all countries concerned, the pattern of regional trade and investment that is emerging was mutually beneficial, provided enterprises and governments in China's regional partners respond effectively to the adjustments required .

Zhi Wang (2003) explained that the major gains from WTO accession would accrue to China itself, but the rest of the world, especially developed countries and Asian newly industrialized economies, as well as least developed countries, would also benefit due to the expansion of world trade and improvement of their international terms of trade. Only certain developing countries with an endowment structure similar to China, like those in South America and Southeast Asia, may experience keener competition in labor-intensive exports and lower prices for their products .

2.3.2 Trade Competition between China and India

Bottelier (2003) pointed out that in exports of commercial services; India lagged less behind China, being the 19th largest exporter, with a share of 1.5%. Although growth of China's service and merchandise exports far outpace average growth of world exports, its merchandise exports grew much faster than service exports, so that the share of service exports in total exports has fallen to one of the lowest such ratios for any major country. He noted that, in contrast, India's service exports were growing at about double the rate of its merchandise exports, and if current trends continue, the share of service exports in total exports would exceed 50% in a decade .

Betina Dimaranan (2007) presented that there was scope for China and India to strengthen their trade ties and expand their exports and imports significantly without hurting each other's development prospects or those of other

economies. However, improved growth in China and India would intensify competition in global markets for manufactures, and the manufacturing industries in many countries would be affected negatively. Improvement in the range and quality of exports from both countries had the potential to create substantial welfare benefits to the world, and to each other, and to act as a powerful offset to the terms-of-trade losses otherwise associated with rapid export growth .

Inferences from the trade indices computed for understanding the trade structure between India and ASEAN revealed that there were complementary sectors and products available for enhancing trade cooperation between the trading partners. While India can export food grains to small and developed countries of ASEAN, it could import edible and other agricultural products from other ASEAN countries. India enjoyed advantage in minerals whereas they could import crude oil from ASEAN. India had advantage in some manufactured items like chemicals, Iron and Steel, Gems and Jewellery and could export them to many ASEAN countries. ASEAN has comparative advantage in Electrical and Electronic components and India can import them from ASEAN (Chandran, 2010).

Tang Yihong and Wang Weiwei (2006) analyzed trade potential between China and ASEAN within China-ASEAN Free Trade Area. It was undeniable that there exists uncertain factors weakening the trade effect on China of China-ASEAN FTA such as barriers except for tariff; competition in the substitutes between China and ASEAN members, competition from other countries signing FTA agreements with ASEAN members in ASEAN market. The uncertain factors should not be ignored. They calculated the export similarity index of competitors in ASEAN

market, concluded that there exists fierce competition in ASEAN market for China either on gross trade volume level or on product level, China should optimize its export structure so as not to lose existing market share in ASEAN market .

Smitha Francis (2011) argued that the recent trends in India's export and import structures pointed to its increasing participation in FDI-driven production networks centered on ASEAN. The implications of India's tariff reduction commitments under the AIFTA for India's agricultural and non-agricultural sectors were analyzed against this backdrop. It was established that ASEAN countries would gain significantly increased market access in India in several semi-processed or processed agricultural products. Both the reduced demand for local agricultural products because of this and the increased imports of close substitutes could lead to a fall in the prices of local crops and thus adversely affecting the domestic agricultural sector. India would also be competing with China and South Korea in the ASEAN market, which have already signed FTAs with ASEAN. Thus Indian SMEs would find it difficult to compete with these countries in such sectors.

2.3.3 Trade Competition between China and Japan

Chia Siow Yue (2003) investigated that the future of ASEAN-Japan economic relations needs to be assessed in the context of three factors. First, one should consider the background of how economic relations have developed between Japan and ASEAN countries since the 1960s in the areas of trade in goods and services, FDI, and the development of production networks, and technical and

development assistance in broad-ranging areas. Second, one should look at the current challenges posed by the economic rise of China. Competition from China was a growing reality for Japan and ASEAN. Unbridled economic rivalry would be disastrous for regional peace, stability, and prosperity, so Japan and ASEAN would have to manage their economic relations and competitiveness vis-á-vis China in such a way as will result in a win-win outcome. Third, future ASEAN-Japan economic relations should have to be considered in the context of East Asian regionalism. The rise of East Asian economic regionalism was both an opportunity and a challenge for ASEAN. In terms of opportunity, ASEAN countries would belong to a larger economic grouping and enjoy not only wider market access, but greater international clout, as well as greater regional peace and order.

Kitti Limskul (2004) discussed that trade creation of Intra-ASEAN was becoming significant. Nevertheless, the skewed trade relationship between ASEAN and Japan has caused trade deficit for ASEAN. This cannot be solved simply relying on FDI. The bilateral trade arrangement or FTA could not solve problem at hand as Japan was reluctant to open its market for agriculture product and processed food from ASEAN. The 'multi-functionality of agriculture' was key excuse for protection. The international trade and investment relationship has changed since the emergence of China. The trade creation of trade in Japan-ASEAN-China was sufficient condition of welfare optimization, adding on top of the flow of FDI and ODA as necessary condition. The 'Initiative for Japan-ASEAN Comprehensive Economic Partnership' could be materialized only if the trade creation could be

significantly achieved among Japan-ASEAN-China, step-by-step along every stage of comparative advantage.

Jacob Townsend and Amy King (2007) examined Sino-Japanese competition for influence in Central Asia. Both countries view the region as an important source of energy reserves and have used trade, foreign aid, and diplomacy and security cooperation to exert their influence over the Central Asian republics. The article analyzed the parallel strategies undertaken by Japan and China in Central Asia. It demonstrated that, compared with China, Japan's relationship with the region was both superficial and declining. As a result of China's deep and growing economic, political and military ties, this article concluded that Japan is losing the Central Asian "game" and that China will have far greater success in obtaining Central Asian energy resources .

Ji-hyun Park (2002) reviewed that amid changes in trade following China's entry into the WTO, trade of farm products between Korea, China and Japan was expected to raise further, heating up competition between the three countries. Korea was positioned as an importer of farm products from China and exporter to Japan, as the three countries become more dependent on each other for trade. Currently China's export of field-grown vegetables such as onions, carrots and radishes were mostly destined for Japan, but export to Korea was also steadily rising. Korea was increasingly importing more condiment vegetables from China while the export of greenhouse vegetables such as tomatoes, cucumbers and eggplants was mostly concentrated on Japan, and was expected to further rise with lower production, yet higher demand in Japan. While exporting vegetable seeds to Korea and China,

Japan was increasingly importing more farm products, especially fresh vegetables, from these countries .

Jae Cheol Kim (2009) discussed that China and Japan have displayed severe competition against each other to woo ASEAN countries, which was triggered by what we call the rise of China. It was China that took the initiative to bolster its presence in Southeast Asia by proposing the China-ASEAN FTA in 2000. China believed that building a cooperative relationship with ASEAN would well serve its interest in creating a peaceful environment in the region, which it needed for developing its economy. In early 2002, right after China agreed with ASEAN to build a FTA, then Japanese Prime Minister, put forward the "Koizumi Initiative" and signed a free trade agreement with Singapore, the first bilateral FTA for Japan. Since then, the competition between China and Japan has become intense, the former trying to outmaneuver the latter but only being countered by the latter. China has generally kept ahead of Japan by moving faster in promoting cooperation with ASEAN .

Tan Jing-rong and Wang Zhen-qian (2008) used product similarity index and revealed competitive advantage to calculate the overall relationship of competition, the intensity of competition and the strength of competition of China, Japan and the Republic of Korea. The paper worked out as a result that the three countries have a relatively apparent competitive relationship in the American market, the competitive intensity of some kinds of agricultural products were on a trend of ascending, but the gap of competitive strength was still big .

G. Gaulier *et al.* (2007) found that Asian trade is increasingly driven by the international segmentation of production processes within the region, a trend which has been accelerated by the rise of China as a major partner in production networks. Asian trade is more and more centered on China but the region records growing trade surpluses in final goods with the rest of the world. As China has become an export plate-form for multinational firms, the driving force of Japan's trade shifted from exporting final goods to North America and Europe towards exporting components to China, and from importing final goods from America, Europe and the Dragons towards importing these goods from China. The Dragons' trade also switched away from Japan and NAFTA and towards China. The sourcing strategies of multinational firms have led to a reorganization of production which has weakened trade between the advanced economies but up to now has not severely affected the position of Asian emerging economies (Malaysia, Philippines, and Thailand) in international trade.

2.3.4 Trade Competition between India and USA

Suhail Nathani (2011) studied that overall, India saw some significant developments in the area of foreign trade and aimed to achieve the export target of US$200 billion by the end of the fiscal year 2010 to 2011. However, economists have noted that the global economy ends 2010 more divided than it was at the beginning of the year. On one side, emerging-market countries like India, China, and the south-east Asian economies were experiencing robust growth. On the other

side, Europe and the US face stagnation causing sharp contraction in international trade. The two-track world poses some unusual risks in 2011.

2.3.5 Trade Competition between Korea and Japan

Sun Lin (2008) analyzed the agricultural trade competition degree and its trends between Japan, Korea and China from the angles of product and market by using export similarity index. The results indicate that the market similarity of China and Japan Korea is larger than product similarity in agricultural trade. The difference in agricultural export market structure makes the trade relation between China and Japan Korea is not mainly competition. The cooperation in the field of agriculture between China and Japan Korea is useful for promoting the product difference and reducing the competition degree.

The above reviews indicate that consequences of ASEAN Economic Community (AEC), effect of ASEAN's FTA with big three on outside world, effects of multilateral and regional trade policy scenario relevant to China, Japan and USA, effect of AFTA on ASEAN member countries' total trade volume, and trade creation of intra-ASEAN.

Then some reviews investigate –trade competition of China and USA for a variety of industry segments such as machinery, electrical machinery, computer and telecommunication equipment, -trade competition between China and USA in Korean food market, - trade competition of China and India in services, manufactures and manufacturing industries, - trade competition of China, Japan and

ASEAN in goods and services and FDI, and - competition of China and Japan for influence in central Asia especially for energy resources.

They did not provide specific trade competition for ASEAN's major agriculture and non-agriculture product in ASEAN's import market and effect of FTA members and non-members on that import market.

In this regard, the present study would provide top 20 partners (FTA and non-FTA members) of agriculture and non-agriculture products (four-digits 323 items) in ASEAN import market, and nature and extend of competition among them, Moreover it would provide the pattern of competitive threat in each pair of trade competitive countries and also would provide the commodities which would play as major crops in each respective trade competition pair in ASEAN import market. In addition to "effect of FTA member and non-member countries on ASEAN import market" and "effect of trade competitions in ASEAN import market on production and export of ASEAN would also be provided.

III. DESCRIPTION OF THE STUDY AREA

3.1 Association of South East Asian Nations (ASEAN)

ASEAN was created in 1967 in Bangkok, Thailand, with the signing of the ASEAN Declaration. The original founding members of ASEAN include Indonesia, Malaysia, the Philippines, Singapore and Thailand. ASEAN has since expanded its membership to include Brunei Darussalam (1984), Vietnam (1995), Laos (1997), Myanmar (1997) and Cambodia (1999).

Figure 1 Association of South East Asian Nations (ASEAN) Plus 3

As set out in the ASEAN Declaration, the aims and purposes of ASEAN are:

1. To accelerate the economic growth, social progress and cultural development in the region through joint endeavors in the spirit of equality and partnership in order to strengthen the foundation for a prosperous and peaceful community of Southeast Asian Nations;

2. To promote regional peace and stability through abiding respect for justice and the rule of law in the relationship among countries of the region and adherence to the principles of the United Nations Charter;

3. To promote active collaboration and mutual assistance on matters of common interest in the economic, social, cultural, technical, scientific and administrative fields;

4. To provide assistance to each other in the form of training and research facilities in the educational, professional, technical and administrative spheres;

5. To collaborate more effectively for the greater utilization of their agriculture and industries, the expansion of their trade, including the study of the problems of international commodity trade, the improvement of their transportation and communications facilities and the raising of the living standards of their peoples;

6. To promote Southeast Asian studies; and

7. To maintain close and beneficial cooperation with existing international and regional organizations with similar aims and purposes, and explore all avenues for even closer cooperation among themselves.

In their relations with one another, the ASEAN Member States have adopted the following fundamental principles, as contained in the Treaty of Amity and Cooperation in Southeast Asia (TAC) of 1976:

1. Mutual respect for the independence, sovereignty, equality, territorial integrity, and national identity of all nations;

2. The right of every State to lead its national existence free from external interference, subversion or coercion;

3. Non-interference in the internal affairs of one another;

4. Settlement of differences or disputes by peaceful manner;

5. Renunciation of the threat or use of force; and

6. Effective cooperation among themselves.

The Association of Southeast Asian Nations (ASEAN) is the most advanced institution of regional cooperation in Asia and one of the oldest. At first, its goals were mainly political in nature. In particular, it sought to promote peace in what was at that time a volatile region.

The macroeconomic factors of ten ASEAN countries in 2009 are presented in Table-1. Indonesia is the largest country (1,860,360 km^2) and Singapore is the smallest country (710 km^2). Total ASEAN's area is 4,435,670 km^2 and total population is 590 million. GDP per capita of ASEAN is 2,534 US$. Total trade values of ASEAN reached 1,536,843 mil US$ in 2009 and total export values are larger than total import values.

Table 1 Macro economic factors of ASEAN countries (2009)

Country	Total land area	Total population	Population density	Annual population growth	GDP at current price	GDP per capita at current price		International merchandise trade (mil US$)		
	(km^2)	thousand	persons per km^2	%	mil US$	US$	US$ PPP	Exports	Imports	Total trade
Brunei Darussalam	5,765	406	70	2.1	14,147	34,827	49,267	7,169	2,400	9,568
Cambodia	181,035	14,958	83	2.1	10,368	693	1,802	4,986	3,901	8,887
Indonesia	1,860,360	231,370	124	1.2	546,527	2,362	4,175	116,510	96,829	213,339
Lao PDR	236,800	5,922	25	2.8	5,579	942	2,431	1,237	1,725	2,962
Malaysia	330,252	28,307	86	2.1	193,108	6,822	13,594	156,891	123,331	280,221
Myanmar	676,577	59,534	88	1.8	24,973	420	1,093	6,342	3,850	10,191
Philippines	300,000	92,227	307	2	161,358	1,750	3,525	38,335	45,534	83,869
Singapore	710	4,988	7,022	3.1	182,702	36,631	49,766	269,833	245,785	515,617
Thailand	513,120	66,903	130	0.6	264,323	3,951	8,072	152,497	133,770	286,267
Viet Nam	331,051	86,025	260	1.2	96,317	1,104	3,068	56,691	69,231	125,922
ASEAN	**4,435,670**	**590,638**	**133**	**1.4**	**1,499,401**	**2,534**	**4,829**	**810,489**	**726,354**	**1,536,843**

Source: ASEAN Statistical Year Book, ASEAN Finance and Macro-economic Surveillance Unit Database, ASEAN Merchandise Trade Statistics Database

Table 2 GDP share of major groups of economic sectors

Country	2007				2008			
	Agricu -lture	Indu -stry	Serv -ices	A+I+S	Agricu -lture	Indu -stry	Serv -ices	A+I+S
Brunei Darussalam	1.1	57	42	100	-	-	-	-
Cambodia	29	30	41	100	28	33	40	100
Indonesia	14	43	43	100	14	42	44	100
Lao PDR	-	-	-	-	-	-	-	-
Malaysia	7.4	41	52	100	7.4	39	54	100
Myanmar	-	-	-	-	-	-	-	-
Philippines	17	33	50	100	18	33	49	100
Singapore	0.1	33	67	100	0.1	32	68	100
Thailand	8.8	48	44	100	8.9	48	43	100
Viet Nam	18	42	40	100	18	42	41	100

Source: ASEAN Statistical Yearbook, 2008

Brunei Darussalam: Oil-rich Brunei Darussalam is a high income country (Table-1). Brunei Darussalam's GDP is dependent on oil and natural gas. The other sectors of Brunei Darussalam's economy – agriculture, forestry and fisheries and light, unskilled labor-intensive manufacturers have not developed rapidly. Oil and natural gas also account for almost all exports. Brunei Darussalam's average applied tariff for all goods is relatively low but there are peaks of up to 200 per cent and tariff escalation. A number of imports and exports are subject to prohibitions, restrictions, and licensing requirements. Products subject to restrictions include a number of agricultural products including rice, sugar, salt, beef, poultry and alcoholic beverages and also manufactures such as telecommunications equipment, medical products and chemicals. There are no mandatory standards in Brunei Darussalam.

Procurement is open to foreign suppliers, although there is a 15 per cent price preference margin for local suppliers.

Cambodia: Cambodia's growth accelerated late in the 1980s, taking off from the low rates experienced through most of that decade. Before Cambodia could adopt the kinds of policies found in the advanced ASEAN countries, it had to build a market economy from first principles. It faltered in its economic management in the late 1990s but has since regained some momentum. Cambodia became a member of the WTO in 2004.

Cambodia has tariff peaks in areas such as agriculture and food, clothing and photographic equipment. Cambodia also has non-tariff measures. It applies no quantitative restrictions on imports but it has import licensing, customs valuation practices and other formalities, fees for imports and exports, prohibited items (narcotics, poisons, certain pesticides) and technical barriers. Cambodia's 1994 law on investment established an open and liberal foreign investment regime. Foreign investors are allowed to participate in most sectors and receive national treatment. There are a few sectors subject to conditions, local equity participation or prior authorization from relevant authorities. The low level of economic development is the most severe hindrance to the growth of closer trade and investment ties with other countries.

The agricultural sector provides 27.5 per cent of GDP and manufacturing production has expanded to 32.6 per cent of GDP . This production includes resource-intensive products such as processed foods and labor-intensive products such as textiles and clothing.

Indonesia: Indonesia is a market economy in which the government plays a significant role, owning numerous enterprises and administering prices on several basic goods. Most analysts assess Indonesia as a newly industrializing economy and emerging major market.

In the early 1990s, Indonesia began a series of deregulation packages designed to lower applied tariffs, convert non-tariff barriers into tariffs and remove restrictions on foreign investment. The IMF Structural Adjustment Program, which was agreed with the Indonesian Government in 1998, significantly accelerated trade and FDI liberalization and domestic regulatory reform in goods and services sectors. However, there are still some high tariffs and tariff escalation, particularly in agriculture. Indonesia raised some tariffs while reducing others in 2005 as part of its tariff harmonization program. There is also recent evidence of creeping protectionism through non-tariff barriers, particularly in agriculture, textiles and steel. Reforms to government procurement in 2004 were aimed at simplifying procedures and increasing efficiency and transparency in the procurement process.

Decentralization has complicated government efforts to improve Indonesia's investment climate and reduce burdensome bureaucratic procedures and other requirements on foreign investors. Indonesia is a lower middle-income country (Table-1). It has abundant agriculture and natural resources. Agriculture accounted for 13.7 per cent of output, with industry and services around 42.1 per cent and 44.3 per cent respectively in 2008 (Table-2). Indonesia's manufacturing base is highly diversified; much of it made up of small scale and cottage industries mainly producing consumer goods for the large domestic market. In recent years a

growing number of medium and large scale enterprises have emerged. Main merchandise exports include unskilled labor-intensive manufactures.

Laos: Following its accession to power in 1975 the Laotian Government imposed a command economy system. Within a few years the government realized that this policy was holding back progress rather than stimulating growth and development. Substantive reforms were introduced in 1986, when the government announced its 'new economic mechanism'. Initially timid, the mechanism was expanded to include a range of reforms designed to create conditions conducive to private sector activity. Prices set by market forces replaced government-determined prices. Trade barriers were reduced. In 1989 additional reforms targeted macroeconomic policy. However, overall the pace of structural reform has remained slow and Laos has only made modest progress in shifting away from a centrally planned economy to an emerging market economy. Laos has made some progress in liberalizing its trade regime. Quota restrictions on imports have been abolished but it still has import licensing, which although streamlined in recent years, still involves complicated procedures. Other non-tariff barriers include state-trading, customs procedures, government procurement procedures and import prohibitions. There are a range of restrictions to services trade. Laos is moving slowly ahead with its accession negotiations to the WTO, which should further reduce barriers. Laos maintains an extensive investment licensing process.

Malaysia: Malaysia is an export oriented market economy with a strong government presence. Malaysia has continued efforts to liberalize its trade and investment regime. Malaysia has significant tariff peaks, tariff escalation and assorted non-tariff measures in politically sensitive goods sectors such as automotive, steel and sugar, and its services sector remains highly protected. Apart from import prohibitions implemented for national security, religious, and environmental reasons, various non-tariff border measures are used.

Although imports and domestically produced goods are generally treated in the same way as regards excise duty, an exception for national car manufactures amounts to a substantial non-tariff barrier. Around 27 per cent of tariff lines are subject to import licensing, most of which is non-automatic. This would seem to provide the authorities with scope to encourage or discourage certain types of activities. Equity holdings in all new manufacturing projects have been fully liberalized; foreign investors can now hold 100 per cent equity in all investments in new projects as well as expansion/diversification projects.

Malaysia is an upper middle-income economy (Table-1). With abundant resources, at independence in 1957 Malaysia relied on tin, rubber and palm oil for foreign exchange earnings. From the 1980s, the share of manufacturing grew and diversified rapidly at the expense of agriculture and mining. It was 39.1 per cent of GDP in 2008 while agriculture was 7.4 per cent (Table-2). While palm oil remains significant in exports -Malaysia is the largest exporter of palm oil in the world – elaborately transformed manufactures in the form of electronics and electrical products dominate.

Myanmar: Myanmar is very low income country (Table-1). However Myanmar is endowed with rich natural resources and favorable land-man ratio. Out of a total surface of 676,577 km^2(67.7 mil hectares), Myanmar enjoys 34.4 million hectares of forest that produce yearly around 40 million cubic meters of wood – of which 35 per cent are teak. Natural tropical forest covers 13 million hectares, of which three quarters are specified for production.

The Union of Myanmar's rulers depend on sales of precious stones such as sapphires, pearls and jade to fund their regime. Rubies are the biggest earner; 90% of the world's rubies come from the country, whose red stones are prized for their purity and hue .

Myanmar Oil and Gas Enterprise have 46 onshore and 25 offshore oil and gas fields. More recently, the "Shwe" gas reserves have been discovered near Sittwe. During 2008, Myanmar's total trade in goods and services grew by 12.6 percent in nominal U.S. dollar terms. Natural gas exports (which make up about 40 percent of total exports) increased in the first half of 2008 as prices rose, but world energy prices fell in the second half of 2008, and have since leveled off. This contributed to an increase in exports of 2.7 percent in 2008 in nominal U.S. dollars. During the fourth quarter of 2008, however, exports more than doubled (increasing by 104.3 percent) over the fourth quarter of 2007. Other major exports include agricultural products (18 percent), precious and semi-precious stones (12 percent), and timber and forest products (8 percent).

Myanmar has a relatively less restrictive trade regime than its East Asia and Pacific (EAP) or low-income group counterparts. The simple average of the MFN

(Most Favored Nation) applied tariff rate has remained almost constant since 2001 and was 5.6 percent as of 2007, significantly lower than the averages for both the EAP region and low-income countries (9.6 and 12.5 percent, respectively). Based on the MFN applied tariff, Myanmar ranks 58th out of 181 countries (where 1st is least restrictive). Since 2005, Myanmar has had a maximum tariff on all goods (excluding alcohol and tobacco) of 37.8 percent. The trade policy space, as measured by the wedge between bound and applied tariffs (the overhang), has remained constant over the past several years and was 76 percent in 2007. In addition, only 17 percent of all tariff lines are bound. Regarding the extent of its commitment to trade liberalization in services, Myanmar ranked 121st out of 148 countries on the GATS Commitment Index.

Myanmar's external sector has improved since 2000 largely because of the emergence of new export commodities, namely garments and natural gas. Foreign direct investments in Myanmar significantly contributed to the exploration and development of new gas fields. As trade volume grew, Myanmar strengthened its trade relations with neighboring countries such as China, Thailand and India. Although the development of external trade and foreign investment inflows exerted a considerable impact on the Myanmar economy, the external sector has not yet begun to function as a vigorous engine for broad-based and sustainable development.

In 2011, when new President Government came to power, Myanmar embarked on a major policy of reforms including anti-corruption, currency exchange rate, foreign investment laws and taxation. The enactment of the new

special economic zone law came 23 years after Myanmar promulgated its first foreign investment law in late 1988. Foreign investments increased from US$300 million in 2009-10 to a US$20 billion in 2010-11 by about 667%. Large inflow of capital results in stronger Myanmar currency, kyat by about 25%. In response, the government relaxes import restrictions and abolishes export taxes. Despite current currency problems, Myanmar economy is expected to grow by about 8.8% in 2011.The foreign investment coming from 430 enterprises of 31 countries and region were respectively injected into 12 economic sectors which are oil and gas, electric power, manufacturing, real estate, hotels and tourism, mining, transport and communications, livestock breeding and fisheries, industry, construction, agriculture and services sector After the completion of 58-billion dollar "Dawei" deep seaport, Myanmar is expected be at the hub of trade connecting Southeast Asia and the South China Sea, via the Andaman Sea, to the Indian Ocean receiving goods from countries in the Middle East, Europe and Africa, and spurring growth in the ASEAN region.

Philippines: The Philippines' economy has had a mixed history of growth and development and its economic growth has lagged behind the fast-growing economies in Asia in the past 30 years. The Philippines began to undertake political and economic reforms in the late 1980s and early 1990s, including accelerating the deregulation and opening of its economy. Growth started to pick up in 1995 but fell again with the Asian financial crisis in 1997. Overall, its growth rate in the decade

prior to the Asian financial crisis was just over 3 per cent per annum. Macroeconomic stabilization and increasing productivity remain key challenges.

The Philippines made progress in tariff liberalization through a series of reform programs beginning in 1995. However, many tariffs that had previously been lowered were raised, especially from late 2003. The simple average most favored nation tariff fell from 9.7 per cent in 1999 to 5.8 per cent in 2003 but rose to 7.5 per cent in 2005. The average applied tariff is relatively low by developing country standards but coexists with tariff peaks and escalation in so-called sensitive sectors, particularly agriculture. In response to the 1997 Asian financial crisis the Philippines opened retail trade and distribution business to foreign equity investment. In addition, the Philippines have opened private construction in the domestic market to foreign companies. Since then, the Philippines investment regime has not changed substantially. It uses a negative list of areas where FDI is restricted by the Philippines Constitution or restricted on grounds of national security, defense, public health, safety, and morals and to protect local small and medium enterprises.

The Philippines is a lower middle-income country (Table-1). It is a resource-rich country in which agriculture's share of national output continues to decline but is larger, at 15 per cent of the economy, than in Singapore, Malaysia or Thailand. The share of the industrial sector has fallen slightly since 1987 to 32.7 per cent of output, while the share of manufactures has stayed at around 32.7 per cent of output. The services sector has increased to about 49.2 per cent of GDP in 2008 (Table-2).

Singapore: Singapore has a liberal trade policy in goods with virtually no tariffs (only six tariff lines are subject to specific rates of duty). Singapore also has very few other border measures; most of which are maintained for health, security and environmental reasons, with the exception of rice which is subject to import licensing for reasons of maintaining food security and price stability. Singapore has restrictions in trade and foreign investment in services but has begun liberalizing several service sectors, including business, financial, telecommunications, construction, tourism and travel related services. Singapore has a relatively open foreign investment regime for manufactured goods.

Singapore is a small, high-income (Table-1), highly developed economy with a skilled population and a strategic port which makes it competitive to carry out entre-pot activities. It has few natural resources. In 2008, industry sector especially manufactures have provided above one quarter of total output (Table-2). The services sector has increased to about 68 per cent of GDP in 2008. The product mix in manufactures has advanced from less skilled labor-intensive products such as textiles and clothing to more technologically advanced products. Value-added has increased in response to pressures from other regional manufacturers who have lower costs, especially labor costs. Electronics and electrical products and chemicals are the main manufactures. Main merchandise exports include electronics and electrical products (office machines and telecommunications) and petroleum.

Thailand: Thailand is an export-oriented free market economy. Thailand has a higher average tariff, greater tariff dispersion and greater tariff escalation than the

rest of the ASEAN-6 economies (Singapore, Malaysia, Indonesia, Philippines, and Brunei Darussalam). It also maintains tariff rate quotas. In 2005 Thailand reviewed its tariff structure and it is expecting to complete tariff restructuring by the end of 2006. Non-tariff barriers are significant including requirements for licensing for certain categories of imports.

Thailand maintains three negative lists restricting foreign investment in certain activities, but it has been reducing the size of these lists. The first list includes businesses not permitted to foreigners for "special reasons". The nine areas in this list vary widely from media to Thai medicinal herbs to land trading. The second list includes businesses related to national safety or security, or affecting the arts and culture, tradition, folk handicraft or natural resources and the environment. The third list includes businesses in which Thai nationals are not yet considered ready to compete with foreigners. They include natural resource processing activities and many service areas. There are also other sectors subject to foreign ownership restrictions under sector-specific laws, including banking, insurance, aviation, transportation, commodity export, and mining. All other activities are open to FDI. This includes most of the manufacturing sector.

Thailand is a lower middle-income economy (Table-1) and one of ASEAN's larger economies. It is resource-rich. From being an agriculture-based economy, Thailand has transformed into one of the most diverse economies in ASEAN. The share of industry, particularly manufactures, has grown at the expense of agriculture and mining.

Vietnam: Vietnam's liberalization, including trade liberalization, has picked up since 2000. Domestic trading rights have been liberalized extensively; quantitative restrictions and other non-tariff barriers have been reduced; and the average nominal tariff has fallen, although the tariff structure still contains high tariffs on many products including dairy, sugar, wine, clothing, and cars, and high tariff dispersion. Services remain highly protected.

Overall, Vietnamese protection in terms of tariffs, non-tariff barriers and FDI restrictions remains much higher than it is in the older ASEAN members and also China, particularly given the latter's huge external and internal liberalization measures before and after WTO accession. When Vietnam becomes a WTO member, there will be reductions in at least some tariffs. There should also be improvements in access for foreign providers of cross-border services.

Vietnam is a low-income country, rich in resources and with a relatively literate population. It has been industrializing for well over a decade – agriculture's share of the economy had declined to 17.5 per cent of GDP in 2008 and manufactures had risen to 41.8 per cent (Table-2). Labor-intensive agricultural and manufactured products, particularly seafood, rice, coffee, shoes, clothing and textiles are some of Vietnam's most successful exports (Nandan, 2006a).

The first major initiative of ASEAN was ASEAN Free Trade Area (AFTA), which was established in 1992 and originally only covered trade in manufactured goods to be liberalized over a 15-year period. However, ASEAN subsequently broadened the scope and shortened the implementation period of AFTA so that it was technically in full effect at the beginning of 2004 for the original ASEAN

countries and Brunei Darussalam ("ASEAN-6"), although there are transitional periods for products on the temporary exclusion lists, including some agricultural and food products and automobiles. The primary goal of economic integration in ASEAN is to reduce transactions costs associated with economic interchange and to make the region more attractive to multinational corporations. In this sense, it is both determining and determined by the new wave of outward-oriented regionalism in Asia.

ASEAN strengthens its ties with its external partners in the areas of political, security, economic, socio-cultural and development cooperation. ASEAN cooperation with its Northeast Asian neighbors (China, Japan and the Republic of Korea) within the framework of the ASEAN plus Three processes has intensified, especially in economic and financial cooperation. ASEAN's relationship with India has deepened as efforts towards comprehensive economic cooperation continue. Contacts with other inter-governmental and international organizations increased. Strengthening linkages with the outside world is in line with ASEAN's outward-looking orientation in this age of globalization. These linkages also reflect ASEAN's continued relevance and value to its international partners.

3.2 Economic Situation of ASEAN

The Association of Southeast Asian Nations (ASEAN) represents one of the fastest growing regions with a population of approximately 600 million in the developing world. As of 2009, ASEAN's collective GDP nearly equaled $1.5

trillion. ASEAN is far from monolithic and there is a great deal of heterogeneity within the group in terms of income and development level.

The Association is making progress towards building greater economic integration through the ASEAN Economic Community which will help foster economic growth in the ASEAN countries with lower levels of development. In 1997 the ASEAN leaders agreed upon the ASEAN Vision 2020. Its goal is to create a stable, prosperous and highly competitive ASEAN economic region in which there is a free flow of goods, services, investment and a freer flow of capital, equitable economic development and reduced poverty and socio-economic disparities in year 2020. Nevertheless, the region as a whole has grown rapidly on a basis for decades.

While there are a number of reasons for ASEAN's success, one central element has been a high-degree of openness to trade. Although the region is relatively poor by Western standards, ASEAN member states demonstrate strong GDP growth. The region did well during the global economic recession, with Brunei Darussalam, Cambodia, Malaysia, Singapore and Thailand seeing slightly negative GDP growth, while Indonesia, Laos, Myanmar, the Philippines and Vietnam showed positive growth. All countries retained positive growth rates in 2010, a trend which is expected to continue through 2015.

With regards to the global financial crisis of the late 2000s, the GDP per capita of several ASEAN member states decreased. However, the countries recovered quickly, and GDP per capitals were once again on the rise. This trend is expected to continue for the majority of ASEAN member states. The ASEAN

economy is characterized by a stop and start cycle of demand, making the economy somewhat tumultuous. However, increasing affluence in these countries has led to slower population growth and a more stable economy .

The region is further connected by a collection of large river basins sloping south and east, a number of peninsulas and archipelagos, and seas that exist between islands and are connected by straits of various widths. The members range in physical size from the 2 million sq. km of Indonesia to the 710.3 sq. km of Singapore. Natural resources found within the region include offshore oil and gas deposits, natural gas, water, fish, timber, coal, iron ore, tin, zinc, copper, lead, manganese, phosphate, gemstones and precious stones.

Agriculture is an important and dominant sector in ASEAN countries, contributing heavily to GDP and employment. The region has a large agricultural foundation and over 60 million hectares of arable land with the largest agricultural land holders being Indonesia and Thailand. Agricultural and food trade is considered vital for ASEAN countries as many see the expansion of agricultural production and trade as essential to reducing rural poverty. Several ASEAN countries have been able to almost double their share of global agri-food trade during the past decade. Food safety, both for domestic and export markets, is an increasingly important issue among ASEAN countries. For an open market like Singapore, agricultural and food trade provides inputs for food processing industries or other value-added opportunities for export to ASEAN markets (" Agri-Food Regional Profile ASEAN ", 2011).

3.3 ASEAN Free Trade Agreements

One possible channel for reviving the region's economic dynamism and enhancing the region's competitive position in the world economy is to invigorate intra-regional trade. In fact, ASEAN countries have forcefully been promoting trade with each other for quite some time. Although ASEAN economies are individually small, collectively they form the world's ninth largest economy, which implies substantial gains from trade. The primary institutional framework for intra-ASEAN trade liberalization is the ASEAN Free Trade Area (AFTA). The AFTA laid out a comprehensive program of regional tariff reduction, to be carried out in phases through the year 2008. The requirements of the AFTA and bilateral trade agreements have contributed to lower tariffs and greater trade in the region. As of January 2005, tariffs on almost 99% of the products in the Inclusion List of the ASEAN-6 (Brunei, Indonesia, Malaysia, the Philippines, Singapore and Thailand) member countries had been reduced to no more than 5% with more than 60% of these products having zero tariffs. The average tariff for ASEAN-6 has been brought down from more than 12% when AFTA started, to 2% today.

The Common Effective Preferential Tariff (CEPT) Agreement for AFTA requires that tariff rates levied on a wide range of products traded within the region are reduced to 0-5%. For the newer member countries, namely, Cambodia, Laos and Vietnam, tariffs on about 81% of their Inclusion List have been brought down to within the 0-5% range. The ASEAN leaders have agreed to eliminate all import duties by 2010 for the six original members of ASEAN and by 2015 for the new

members. Products that remain out of the CEPT-AFTA scheme are those in the Highly Sensitive List (i.e. rice) and the General Exception List. On May 17, 2010, the ASEAN Trade in Goods Agreement (ATIGA) entered into force. The ATIGA is an enhanced version of the CEPT-AFTA aimed at creating a more comprehensive legal instrument. ASEAN recognizes the potential benefits of furthering co-operation amongst its trading partners and is currently working to advance its free trade arrangements with a number of them. The main objectives of these agreements are to strengthen and enhance economic, trade and investment co-operation between the parties. The ASEAN–China Free Trade Area (ACFTA) and the ASEAN–Republic of Korea Free Trade Area (AKFTA) were already established in 2010. There has been less progress on the ASEAN–Japan Free Trade Area (AJFTA) and the ASEAN+3 Free Trade Area (A+3FTA), which would bring together ASEAN and the Big Three, but both remain plausible and realistic avenues for intra-regional trade liberalization (Gemma Estra, 2011). Other important agreements that came into effect in 2010 were the ASEAN-Australia-New Zealand Free Trade Area (AANZFTA), the ASEAN-India Trade in Goods Agreement and the ASEAN-China Investment. ASEAN's major trading partners in 2009 were China, representing 12.1% of total ASEAN trade, the European Union (11.6%), Japan (10.8%) and the United States (10.1%) .

Since well before the global financial crisis, ASEAN countries have sought to promote trade with each other and with the Big Three. The contributory factors were concerns that the region was heading toward a middle-income trap between a fast rising China and the technologically-more-advanced Japan and NIEs. In

addition, the lack of progress at the multilateral Doha Round of World Trade Organization (WTO) talks drove countries around the world to pursue bilateral and regional FTAs. ASEAN was no exception to this global trend. Finally, the 1997/98 Asian crisis served as a catalyst for regional cooperation and integration in East Asia. There was a widespread perception that the IMF mishandled this crisis and, more fundamentally, served the interests of industrialized countries outside the region. The immediate consequence was the Chiang Mai Initiative, which sought to pool the foreign exchange reserves of countries in the region in order to protect the region from a currency crisis.

ASEAN's experience during the global crisis highlights the risks of excessive dependence on extra-regional demand for exports and growth. The global crisis did nothing to invalidate ASEAN's outward-looking, export-oriented growth strategy, which has delivered rapid sustained growth and substantial poverty reduction. As such, the region should continue to maintain and nurture its vital trade links with the industrialized countries and the rest of the world. At the same time, however, the transformation of East Asia from a stagnant, low-income region to a dynamic middle-income region—and, in fact, one of the three centers of gravity of the world economy, along with the US and the EU—suggests that intra-East Asian trade offers the promise of a new, additional engine of demand and growth. Strengthening intra-regional trade will enable the region's economies to exploit potentially large but hitherto under-realized gains of trade . A complementary strategy is for each country to rebalance growth toward domestic demand .

AFTA represents the most advanced of regional trade agreements, in which the members of the trade agreement have an intraregional agreement, but have also been able to negotiate bilateral trade agreements between the ASEAN and individual countries. Intra-ASEAN merchandise trade is around a quarter of all ASEAN trade, this represents an increase of 4.8 percentage points in intra-ASEAN exports and an increase of 8.7 percentage points for intra-ASEAN imports between 1990 (two years prior to establishment of AFTA) and 2009 .

Tariff reductions within the FTA with China started in 2005; the Regional Trade Agreement (RTA) with India is to start in 2007. ASEAN countries trade more in agricultural goods with China and India than do other countries as a percentage of their total trade in agriculture. Nine per cent of AFTA countries' agricultural trade was with China in 2005, compared with China's share in world agricultural trade of 3%. Trade with India is also higher than the world average. India accounts for 4% of ASEAN trade in agriculture, while accounting for only 1% of world trade (Jane Korinek,2009).

3.4 ASEAN Relation with Top Trading Partners

3.4.1 ASEAN relation with USA

Since 2001, the United States has concluded negotiations with 13 countries, resulting in eight trade agreements (TAs). Three additional agreements with the Republic of Korea, Colombia, and Panama have been negotiated. Other countries

have become increasingly active in negotiating their own trade pacts. This proliferation of TAs between key U.S. trading partners and competitors may have raised concerns among U.S. exporters, whose share in established markets could be eroded by such deals . For many reasons, the World Trade Organization (WTO) Doha round of multilateral trade negotiations has not yielded timely results. The lack of progress by the WTO and the rush to sign free trade agreements (FTAs) may actually have become mutually supporting, with one feeding off the other. Certainly, FTAs are now the most prominent and rapidly expanding feature of the multilateral trading system. The number of FTAs, as well as the share of world trade that takes place among FTA partners, has steadily increased—from fewer than 25 FTAs in 1990 to 290 in 2010—a trend likely to be strengthened by the many FTAs currently under negotiation. In 2009, trade between FTA partners accounted for an estimated 45 percent of global nonagricultural trade and 54 percent of global agricultural trade. For the United States, these proportions were 33 percent and 41 percent, respectively, which demonstrates that, despite early U.S. efforts to negotiate TAs with trading partners, these agreements still account for a smaller portion of U.S. trade than for world trade as a whole (M. G. John Waino, John Dyck, 2011).

U.S. exports of products in the "food preparations: composite mixtures" category accounted for a total yearly average of about $190 million to the four ASEAN countries. Other important commodities exported to all four countries include fresh apples, fresh grapes, and frozen potatoes. U.S. exports of these products averaged between $8.6 million per year to Malaysia, $48.2 million to Indonesia and totaling over $100 million per year to the four ASEAN countries. The

average margins of preference for these commodities range from 5 to 6 percent for most products in Indonesia to 30 percent or higher for some fruits and nuts in Thailand. U.S. exports of fruits and vegetables to the ASEAN countries decreasing by over $50 million per year.

Products in a number of important tariff lines (in terms of export value) identified as vulnerable are primarily exported by the United States to only one or two countries, including wheat and frozen poultry to the Philippines; powdered and condensed milk to Indonesia; pet food, hides and skins, and dairy products to Thailand; and unmanufactured tobacco and cocoa products to Malaysia. Among these products, U.S. poultry exports to the Philippines are particularly vulnerable, with projected losses of almost $40 million per year. U.S. wheat exports to the Philippines averaged almost $350 million per year, representing the largest traded item. Of the Philippines' total wheat imports, the United States had an average market share of 70 percent versus only 5 percent each for Australia and China, and the majority of these exports entered at the most-favored-nation (MFN) applied rate of only 3 percent, so the vulnerability of U.S. wheat exports is borderline according to our criteria. U.S. tobacco and tobacco product exports to Malaysia appear vulnerable given the rather large margins of preference provided by the FTAs. As a large competing exporter in both these markets, China could capture market share from the United States. Exports are very important to U.S. agriculture .

According to official 2010 US trade statistics, ASEAN is ranked as the United States' fourth-largest export market and fifth-largest supplier of imports. Based on US International Trade Commission categories, nearly half of all US

exports to ASEAN in 2010 fell into two broad groups: electronic products and transportation equipment. Other leading US exports were chemicals and related product, agricultural products, and machinery-good that the United States has historically exported to the region. The pattern of US trade deficits with most individual ASEAN members has remained steady. For each year from 2001 to 2010, the United States had trade deficits with at least seven of the ten ASEAN countries. In 2010, its largest trade deficits were with Thailand ($14 billion), Malaysia ($14 billion), Vietnam ($11 billion), and Indonesia ($10 billion) .

3.4.2 ASEAN relation with China

China has been advocating and playing active roles in both multilateral and bilateral free trade area development. Before the 1990s, there was no official relationship between the ASEAN as a grouping and China. In 1991, China founded or recovered its diplomatic relations with all ASEAN members. In 1996, China was upgraded as a dialogue partner of ASEAN. In 2001, China formally put forward the proposal to establish Free Trade Area (FTA) with ASEAN and got an active response. So, bilateral trade between China and the Association of South-East Asian Nations (ASEAN) has expanded very quickly since 2001. In November 2002, China and ASEAN signed Framework Agreement on China-ASEAN Comprehensive Economic Cooperation at the Sixth China-ASEAN Summit in Cambodia. This Agreement provided the legal basis for ASEAN and China to negotiate enabling

agreements that have led to the creation of the ASEAN-China Free Trade Area (ACFTA).

China signed an agreement on Trading in Goods of the Framework Agreement on Comprehensive Economic Cooperation with ASEAN on 29 November 2004. The agreement is set to reduce and eliminate tariffs on trade in goods between the parties, and establish a mechanism to adjudicate ASEAN-China trade disputes. China-ASEAN Free Trade Area reduced the tariff rate. Tariff cuts started 1 July 2005, and will aim to axe duties on some 4000 types of goods to between zero and five percent by 2010 for the six most advanced ASEAN members, i.e., Brunei and five original member nations. The four less advanced member states – Laos, Vietnam, Cambodia, and Myanmar (Burma) – will have to comply until 2015. The China-ASEAN FTA will allow all members to enjoy the benefits from trade effects, that is, enjoy more favorable trade and investment treatment than the World Trade Organization can offer (Tang Yihong, 2006). Subsequently, the Economic Ministers from ASEAN and China at their 10th ASEAN Economic Ministers and the Minister of Commerce (AEM-MOFCOM) Consultations in August 2011 in Manado, Indonesia, endorsed the establishment of the ASEAN-China FTA Joint Committee. The Joint Committee's main tasks will include overseeing, supervising, coordinating and reviewing the implementation of the Agreement.

The China–ASEAN Free Trade Area (ACFTA) is one of the largest free trade areas in terms of population, gross economic outputs and trade volume. By the end of 2005, the GDP of ACFTA reached US$2971.1bn and the total value of

imports and exports reached US$1394.8bn. The development and maturation of this free trade area will have significant impacts on the Chinese and the ASEAN economies, as well as far-reaching implications for the economy and trade structure of the whole world . China's motivations in offering ACFTA are both political and economic. ACFTA is part of confidence building that includes China's participation in the ASEAN Regional Forum and China's accession to the ASEAN Treaty of Amity. ACFTA is to allay ASEAN concerns that China poses a threat with its economic ascendency by providing preferential access to its rapidly growing domestic market.

China is also eyeing the ASEAN region for its various natural resources, especially oil and its market of 560 million consumers. Closer economic relations with ASEAN will enable China to build its geopolitical clout in Southeast Asia and counterbalance the influences of Japan and US. The swift progress of ACFTA has hastened Japan as well as the US, South Korea and India to propose economic cooperation arrangements with ASEAN as well ASEAN governments welcomed the China initiative for a number of reasons. China is a huge and dynamic economy and its growing demand for ASEAN goods and services could serve as a new engine of growth. Chinese tourists are already a key factor in the growth of tourism in the region. ASEAN also looks to more Chinese investments as well. China's WTO entry will also mean a trading partnership based on international rules and discipline. Closer ASEAN-China economic ties will also enable ASEAN to reduce dependence on the US, EU and Japan. China's offer of special treatment and development assistance for the CLMV (Cambodia, Lao PDR, Myanmar and Viet

Nam) group as well as the extension of WTO most-favored-nation benefits to the non-WTO members of ASEAN have helped them to accept the China initiative more readily. China and ASEAN will be able to go further than the WTO in liberalizing agricultural trade, as China's temperate agriculture and ASEAN's tropical agriculture are complementary in many product areas. Nonetheless there are continuing concerns over the impact of preferential opening of ASEAN markets, as many ASEAN labour intensive manufactures will not be able to compete with China on price (Yue, 2004).

China is the world's largest agricultural economy. It is the leading producer of many agricultural commodities, supplying more than half of the world's pork; one-third of the world's horticultural products, rice, and cotton; and close to 20 percent of the world's wheat, corn, and poultry. With about one-fifth of the world's population, China is also the largest consumer of many agricultural products; its current share of global pork consumption is 50 percent, 40 percent for cotton, 30 percent for rice, and more than 25 percent for soybeans and soybean oil. While China generally has been successful in meeting its rapidly rising demand for food and fiber by increasing domestic production, it has emerged as a leading global importer of several agricultural commodities, including cotton, soybeans, vegetable oils, and animal hides. As its domestic agricultural production has grown, China has also become the largest exporter in global markets for several horticultural products, including mandarin oranges, apples, apple juice, and garlic and other vegetables (USITC, 2011).

After the introduction of market-based reforms in 1978, Chinese agricultural output grew significantly. Consistent with its natural resource endowments of abundant rural labor and limited agricultural land on a per capita basis, China's agricultural exports are concentrated in labor-intensive products (compared with the United States and its other main trading partners), such as fresh and processed fruits and vegetables. In 2009, China was the fourth leading global agricultural exporting country (behind the United States, Brazil, and Canada) (USITC, 2011).

Exports of agricultural products from China to ASEAN fluctuated slightly during 1992–2001 and increased continuously after 2001. China's agricultural exports to ASEAN are concentrated mainly in three groups of commodities: vegetables and fruits, processed food, and fish. The combined share of the three commodity groups accounted for 77 per cent of total agricultural exports to ASEAN. Vegetables and fruits are the largest export commodity group, accounting for 40 per cent. Vegetables and fruits became the largest group of agricultural exports from China to ASEAN in 2002 and its status has been strengthened by strong export growth since then. The remarkable improvement might have resulted from the Early Harvest Program (EHP) tariff-reduction program launched between China and ASEAN in 2004. China's exports of labor-intensive agricultural commodities to ASEAN increased between 1992 and 1995 and then declined to the 1992 level between 1996 and 2000. Exports of these kinds of commodities began to increase strongly after 2000, achieving an annual growth rate of 21.2 percent between 2001 and 2005. As the growth rate of exports was higher than that of imports after 2000,

the net export value of labor-intensive agricultural commodities increased and the trade surplus reached US$0.67 billion in 2005 (Chunlai Chen, 2008).

Chinese agricultural trade relations can be easily understood in terms of resource endowments in China and those other countries. China has abundant labor but is land-scarce relative to North America and Latin America. If a comparison is made between labor/land resources and capital, China certainly has comparative advantages in agriculture. China exports temperate horticultural products and grains (except rice), soya and cotton to ASEAN, and imports mostly tropical products and rice from ASEAN. The swift FTA deal between China and ASEAN benefits from the fact that the two regions have quite similar economic structures. Both are emerging markets with a significant agricultural sector and a mostly labor-intensive manufacturing sector. Therefore, politically sensitive products were very few and the FTA negotiations encountered little domestic opposition (AID, 2007).

In 2010, trade between ASEAN and China showed a sharp rebound from the decline in 2009 following the global financial crisis. ASEAN's exports to China increased by 39.1%, from US$81.6 billion in 2009 to US$113.5 billion in 2010, moving up a notch to be ASEAN's second largest export destination. Imports rose by 21.8% from US$96.6 billion in 2009 to US$117.7 billion in 2010. China maintained its position as ASEAN's largest trading partner accounting for 11.3% of ASEAN's total trade. ASEAN was China's 4th largest trading partner accounting for 9.8% of China's total trade. For the first half of 2011, ASEAN became China's 3rd largest trading partner. According to ASEAN statistics, the foreign direct investment flow from China to ASEAN declined by 32.0% from US$3.9 billion in

2009 to US$2.7 billion in 2010. According to Chinese statistics, China's direct investment in ASEAN has accumulatively reached US $12.5 billion, nearly half of which was realized in the past two years. During the global financial crisis in 2009, China established a US$15 billion loan to ASEAN Member States for economic development. The loan has been mainly used for construction activities related to connectivity (ASEAN-Secretariat, 2011).

3.4.3 ASEAN relation with Japan

The Japanese economic cooperation strategy has contributed to the economic prosperity of the Southeast Asian economies for the last decades. ASEAN and Japan first established informal dialogue relations in 1973, which was later formalized in March 1977 with the convening of the ASEAN-Japan Forum. Since then, significant progress has been made in ASEAN-Japan relations and cooperation spanning from the areas of political-security, economic-financial, to socio-cultural. At the same time, Japan has also used ASEAN economies as destination of her industrial relocations. Immediately after signing the Japan Singapore Economics Partnership Agreements (JSEPA) in Singapore in January 2002, Japanese Prime Minister Koizumi proposed that an ASEAN-Japan Comprehensive Economic Partnership (AJCEP) be set up. At the ASEAN-Japan Summit held in Phnom Penh in November 2002, Koizumi indicated that Japan would adopt a two-track approach, involving a comprehensive economic partnership agreement with ASEAN as a group, and bilateral pacts with individual ASEAN countries. The ASEAN Japan

Framework Agreement for Comprehensive Economic Partnership was signed at the ASEAN-Japan Summit. This is parallel to ongoing bilateral negotiations on economic partnership agreements (EPAs) between Japan and Thailand, Malaysia, and the Philippines .

The ASEAN-Japan Comprehensive Economic Partnership (AJCEP) Agreement signed in April 2008 and entered into force in December 2008 is comprehensive in scope, covering such fields as trade in goods, trade in services, investment, and economic cooperation. ASEAN and Japan have a combined gross domestic product of US$6.4 trillion in 2008. The total bilateral trade between ASEAN and Japan has reached US$211.7 billion, making Japan as ASEAN's top trading partner in 2008.The implementation of the AJCEP will allow more goods and services to reach ASEAN and Japanese consumers at lower prices through reduced or zero tariffs, which contributes to their improved standards of living.

The signing of the "Tokyo Declaration for the Dynamic and Enduring ASEAN-Japan Partnership in the New Millennium" together with the "ASEAN-Japan Plan of Action" in 2003 further enhanced the relations between the two sides. Subsequently, the adoption of the Joint Statement of the Ninth ASEAN-Japan Summit on the Deepening and Broadening of ASEAN-Japan Strategic Partnership in December 2005 in Kuala Lumpur further contributed to this deepening of ties. Seven years after the 2003 Tokyo Declaration was signed, the 13th ASEAN-Japan Summit on 29 October 2010 in Ha Noi decided to commence the process of its review, and of the forging of a new Declaration. This new Declaration and its

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corresponding Plan of Action are aimed to be signed at the 14th ASEAN-Japan Summit to be held in 2011 in Indonesia.

ASEAN is Japan's second largest trading partner after China. Foreign direct investment from Japan to ASEAN increased significantly by 124.3 per cent from US$3.8 billion in 2009 to US$8.4 billion in 2010. Japan remained an important source of foreign direct investment with a share of 11.4 per cent of total inward investment to ASEAN in 2010 (ASEAN-Secretariat, 2011).

3.4.4 ASEAN relation with India

India is one of the fastest growing economies of the world and is currently the focus of a great deal of international attention. It is the seventh largest country in the world in terms of its geographical size. India has a large and diverse agriculture and is one of the world's leading producers. India is the third largest economy in Asia after Japan and China, as measured in terms of its Gross Domestic Product (GDP) and it is continuing to grow rapidly. The Indian economy has seen high growth rates of more than 8% since 2003. In 2005 and 2006 GDP grew at a rate of over 9%. Globally India's growth is surpassed only by that of China (Map, 2007).

Following the initiation of economic reforms in India in 1991, India's annual growth rate has averaged 5.9 % during the 1992-93 to 2002-03 periods. India's domestic-led development is considered to be sustainable, spawning several globally competitive firms (Khanna, 2003). A consequence of India's liberalization and rapid growth is the growing involvement of Indian companies abroad . This has

expanded India's capacity to pursue its "Look East" Policy initiated in the early 1990s with vigor . Until the early 2000s, India and the Southeast Asian countries were not significant trade partners for each other except for Singapore. This has been fundamentally due to the fact that all the bigger Southeast Asian economies had been following a foreign direct investment (FDI)-driven export-led growth strategy since the mid-1980s .

The scope and density of relations between India and the ten member ASEAN (Association of Southeast Asian Nations) has been steadily rising. India became a sectoral dialogue partner of ASEAN in 1992. The ASEAN-India cooperation covers a wide area which includes Trade in goods, Trade & Investment, Science & Technology, Tourism, Human Resource Development, Transport & Infrastructure and Health & Pharmaceuticals. The negotiation also covered Rules of Origin; treatment of out-of-quota rates; modifications to be taken up as per WTO Agreements and NTBs. The Framework Agreement for trade in goods, which was the basis of trade negotiations, envisaged a substantial reduction in applied tariff rates and non-tariff barriers. Mutual interest in wider engagement led ASEAN to invite India to become a full dialogue partner of ASEAN in 1995 and a member of the ASEAN Regional Forum (ARF) in July 1996.

The recent bilateral and sub-regional efforts to strengthen economic relations are being complemented through an effort by India to intensify its economic relations with ASEAN as an overall regional grouping. Thus, a Framework Agreement on establishing a Free Trade Area (FTA) between ASEAN

and India was signed in October 2003. India's economic relations with the member countries of the Association of Southeast Asian Nations (ASEAN) are set to undergo major changes as the ASEAN-India Free Trade Agreement (AIFTA) has come into force since 1 January 2010.

The rising trend of merchandise exports from India to ASEAN has been accompanied by a shift in the share of individual countries in India's total exports to ASEAN during this period. With the exception of Singapore, the share of all other ASEAN member countries in India's exports rose during the 1991-02 period, with a five-fold increase in the share of India's exports to Vietnam. However, Singapore has continued to remain the largest market in ASEAN for India's merchandise exports, followed by Malaysia, Thailand, Indonesia, and the Philippines .

Even though ASEAN has maintained a trade surplus with India until 2006, the same has turned negative in 2008. The trade balance which was 4.6 US billion in 2000 decreased to 1.5 billion in 2006. At the same time, India's trade deficit with ASEAN also reduced during this period. Thus, the terms of trade improved for India as is reflected in the export/import ratio. In terms of bilateral trade flows of ASEAN member countries, the countries that have trade surplus with India are: Indonesia, Malaysia and Singapore. And, countries that have a trade deficit with India are: Vietnam, Philippines and Thailand. As a share of India's total agricultural exports, ASEAN which accounted for 9.7 percent in 2000 increased to 15.2 percent in 2008. Similarly, ASEAN's share has also been rising in India's agricultural imports – from 11.2 percent in 2000 to 37.9 percent in 2008. Thus, ASEAN has emerged as an important trading partner for India in agricultural products. But from ASEAN's

perspective, India is not an important export market. India's share in ASEAN's agricultural exports and imports was about 5 percent in 2008 (Raju,2010).

ASEAN-India trade totaled US$39.1 billion in 2009. The Trade in Goods (TIG) provides for a progressive tariff reduction and/or elimination of originating goods (subject to compliance with the rules of origin) traded for the ten ASEAN Member States and India. Under the Normal Track, tariffs imposed by Brunei Darussalam, Indonesia, Malaysia, Singapore and Thailand and India will be eliminated by 2016. Tariffs imposed between the Philippines and India under the Normal Track will only be eliminated by 2019. Meanwhile, a longer time frame is given for Cambodia, Lao PDR, Myanmar and Viet Nam (CLMV) to eliminate tariffs of goods under the Normal Track .

ASEAN and India are also working on enhancing private sector engagement, including the re-activation of the ASEAN-India Business Council (AIBC), the holding of the first ASEAN-India Business Summit (AIBS) and an ASEAN-India Business Fair (AIBF) held in New Delhi on 2-6 March 2011. The events were part of the efforts to stimulate trade and business-to-business interaction.

3.4.5 ASEAN relation with Australia

The ASEAN-Australia Dialogue Relationship has evolved and matured considerably since Australia became ASEAN's very first Dialogue Partner more than three decades ago, in 1974. ASEAN is an important trading partner for

Australia with two-way trade in goods and services in 2005 valued at A$55 billion or around 15 per cent of Australia's total trade. The synergy between the Australia–ASEAN–New Zealand Free Trade Agreement and the creation of an ASEAN Economic Community has the potential to be an important contributor to economic prosperity across the region. ASEAN is a major market for Australian merchandise exports, purchasing about 11 per cent or almost A$16 billion of Australia's total merchandise exports in 2005. These fell by 22 per cent in 1998 in the immediate aftermath of the crisis but recovered quickly to reach record levels by 2000. In most of the principal products that Australia exports to ASEAN, Australia provides a significant share of ASEAN's total imports of those products .

Metals are a more significant component of Australia's exports to ASEAN than they are of its global exports, while minerals are far less prominent. Over the past decade, agriculture and petroleum have risen in share, while minerals and machinery have declined. ASEAN total trade with Australia has grown from USD 41.9 billion in 2007 to USD 52 billion in 2010 (ASEAN-Secretariat, 2011).

The Agreement Establishing the ASEAN-Australia-New Zealand Free Trade Area (AANZFTA) that aims to integrate twelve (12) markets into a market of 616 million people with a combined GDP of US$2.61 trillion (as of 2009) was signed in Thailand on 27 February 2009. The Agreement entered into force on 1 January 2010. The Agreement is the single most comprehensive economic agreement entered into by ASEAN to date. It covers trade in goods and services, investment, electronic commerce, movement of natural persons, intellectual property, competition policy and economic cooperation. It was the first region-to-

region arrangement for ASEAN and the first FTA that Australia and New Zealand have jointly negotiated. Total trade between the regions was US$49.2 billion in 2009.

To support the FTA Negotiations, Australia provided more than A$ 500,000 in supporting ASEAN, especially Cambodia, Laos and Myanmar to attend the Australian-hosted AANZFTA negotiations as well as to augment the ASEAN Secretariat's capacity in assisting the AANZFTA negotiations since 2006. Following the signing of the AANZFTA, the support FTA facility programme was subsequently extended to implement activities to support the AANZFTA Agreement .

3.4.6 ASEAN relation with Korea

ASEAN and the Republic of Korea (Korea) initiated sectoral dialogue relations in November 1989. Korea was accorded a full Dialogue Partner status by ASEAN at the 24th ASEAN Ministerial Meeting (AMM) in July 1991 in Kuala Lumpur. Since the ASEAN- Korea partnership was elevated to a summit level in 1997 in Kuala Lumpur, relations between ASEAN and Korea have broadened and deepened. The relationship reached a new height with the signing of the Joint Declaration on Comprehensive Cooperation Partnership at the 8th ASEAN- Korea Summit on 30 November 2004 in Vientiane and the adoption of the ASEAN- Korea Plan of Action (POA) to implement the Joint Declaration at the 9th ASEAN- Korea

Summit on 13 December 2005 in Kuala Lumpur. ASEAN and Korea made good progress in the implementation of the POA .

The degree of intra-industry trade between Korea and ASEAN in 1990 was much less than that of the year 2006. Despite of the significant expansion of trade between Korea and ASEAN countries, the degree of bilateral trade between them has been less intense and the extent of the regional orientation of both Korea and ASEAN in its counterpart market was less strong in recent years. This can be partly explained by the increase in trade intensity among ASEAN countries and the emergence of China's trade in the Korean and ASEAN markets .

Two-way trade relations between ASEAN and the Republic increased 31.3 per cent from US$74.7 billion in 2009 to US$ 98.1 billion in 2010. Exports grew by 31.2 per cent amounting to US$45.0 billion while imports increased by 31.4 per cent to US$53.1 billion. Korea remains as ASEAN's fifth largest trading partner, while ASEAN was the second largest trading partner of Korea last year.

The ASEAN-Korea Trade in Goods (AK-TIG) Agreement, signed on 24 August 2006, sets out the preferential trade arrangement in goods between the ten ASEAN Member States and Korea, which, principally, involves tariff reduction and elimination for all tariff lines over a transition period. On 1 January 2010, Korea and ASEAN-5 (Brunei Darussalam, Indonesia, Malaysia, the Philippines and Singapore) have eliminated tariffs on almost 90% of products in the Normal Track. For the newer members of ASEAN, namely, Viet Nam, Cambodia, Lao PDR and Myanmar, a longer transition period for tariff reduction and elimination had been agreed in recognition of their development status .

IV. RESEARCH METHODOLOGY

The data, sampling procedure and analytical framework for trade competitions in ASEAN import market and the gravity model used for the analysis of effect of Free Trade Agreements (FTA) are discussed in this chapter.

4.1 Trade Competitions in ASEAN import market

4.1.1 Data and Sampling

Throughout the present study, the following agriculture and non-agriculture products 33 items under the two-digit HS code (Table-3) were the analytical categories. Although the data is available on these products at the four-digit HS code (total 323 items), data on two-digit HS products (total 33 items) were presented in this study due to space limitations. The secondary data of import value from "United Nations Statistics Division, Commodity Trade Database; COMTRADE" was used for analysis. Deflator data were drawn from International Monetary Fund (IMF), World Economic Outlook Database. Twenty years' time series data of 323 commodities from 1990 to 2009 were used in data analysis. Then four sub samples were made according to five years in each sample.

Table 3 Name and code numbers of the ASEAN agriculture and non-agriculture import commodities

No.	HS Code
1	01 - Live animals
2	02 - Meat and edible meat offal
3	04 - Dairy products, eggs, honey, edible animal product nest
4	05 - Products of animal origin,
5	06 - Live trees, plants, bulbs, roots, cut flowers etc
6	07 - Edible vegetables and certain roots and tubers
7	08 - Edible fruit and nuts; peel of citrus fruit or melons
8	09 - Coffee, tea, maté and spices
9	10 - Cereals
10	11 - Products of the milling industry; malt; starches; inulin; wheat gluten
11	12 - Oil seed, oleagic fruits, grain, seed, fruit, etc, nest,
12	13 - Lac; gums, resins and other vegetable saps and extracts
13	14 - Vegetable plaiting materials; vegetable products
14	15 - Animal or vegetable fats and oils and their cleavage products;
15	16 - Meat, fish and seafood food preparations nest
16	17 - Sugars and sugar confectionery
17	18 - Cocoa and cocoa preparations
18	19 - Cereal, flour, starch, milk preparations and products
19	20 - Vegetable, fruit, nut, etc food preparations
20	21 - Miscellaneous edible preparations
21	22 - Beverages, spirits and vinegar
22	23 - Residues and waste from the food industries; prepared animal fodder
23	24 - Tobacco and manufactured tobacco substitutes
24	29 - Organic chemicals
25	33 - Essential oils and resinoids; perfumery, cosmetic or toilet preparations
26	35 - Albuminoidal substances; modified starches; glues; enzymes
27	38 - Miscellaneous chemical products

28	41 - Raw hides and skins (other than furskins) and leather
29	43 - Furskins and artificial fur; manufactures thereof
30	50 - Silk
31	51 - Wool, fine or coarse animal hair; horsehair yarn and woven fabric
32	52 - Cotton
33	53 - Other vegetable textile fibres;

Note: Agriculture commodities include HS-01, HS-02, HS-04, HS-05, HS-06, HS-07, HS-08, HS-09, HS-10, HS-11, HS-12, HS-13, HS-14, HS-15, HS-16, HS-17, HS-18, HS-19, HS-20, HS-21, HS-22, HS-23, HS-24, HS-35, HS-40, HS-43, HS-50, HS-51, HS-52 and HS-53. Non-agriculture commodities include HS-29, HS-33 and HS-38.

4.1.2 Analytical Framework

Few studies have addressed how to measure the degree of competition between two exporters in a third country market (Sanjaya Lall, 2004) . The more similar the exporting structures of two countries, the stronger are their likely competition in the third market. Then quantitative method is used to compare the similarities of the export structure between the respective two exporting countries in the ASEAN market.

Similarity Index of Export Structure

The next step is to measure observed similarities of export structure among the exporters in ASEAN market through quantitative methods. Although several approaches to calculate the relative similarity of export structure between two countries are available, the study draw on the un-centered correlation distance approach of Jaffe's (1986). In the latter study, the technological similarity of firms

is measured by the correlation in their research and development (R&D) portfolios. The researcher has adapted Jaffe's (1986) approach to quantify the similarities of export structure among major foreign suppliers to the ASEAN market.

To illustrate the un-centered correlation distance approach, the study first introduces the commodity composition vector of each exporting country in space $\mathbb{R}^k$:

(1) $\quad X_i = (X_{i1,}, \cdots, X_{ik})$,

Where X_i is country i's export commodity vector in which X_{ik} denotes its export value of commodity k to ASEAN. Equation (1) is rewritten in share form as follows:

(2) $\quad x_i = (x_{i1}, \cdots, x_{ik})$,

Where x_{ik} is the share of k-th commodity in the total ASEAN imports from the i-th country. Note that the shares sum to one, i.e., $\sum x_{ik} = 1$ for each k. With the export share vector in equation (2), the coefficient of un-centered correlation distance (ω_{ij}) can be defined as follows:

(3) $\quad \omega_{ij} = \dfrac{x_i \cdot x_j'}{\|x_i\| \cdot \|x_j\|}$

Where, the term $\|x\|$ indicates the vector norm. When $\omega_{ij} = 1$, the countries are said to coincides on the commodity space. That is, a similar export structure between two countries will result in a value of ω_{ij} near unity. In contrast, ω_{ij} will take value or approach zero if the two countries in comparison have perfectly different

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exporting structures, i.e., export different sets of commodities to ASEAN.

The present study applies the un-centered correlation distance approach to the top 20 exporters to ASEAN during 1990 to 2009. Since the range and scale of items used in the analysis will significantly affect the measurement of the correlation distance, the researcher employed data disaggregated to four-digit HS code in our analysis. Therefore, we have 323 import items, $k = 1,....., 323$, for each of which we have value data and *cif* price in US dollars. Then detail analysis of six digit HS code for major products, which were subjected to Direct Threat of respective reference country, was done.

Index of Specific country's competitive threat to other exporters in the ASEAN market

The next step is to derive index which represents the pattern of competitive threat from the specific country to other exporters based on the relative market share. The analysis of the pattern of the competitive threat after 1990 will follow the conceptual framework of the Lall and Albaladejo (2004). For an in-depth evaluation, the present study has categorized the threat of specific country to other exporters in ASEAN market into 5 types: Direct Threat, Partial Threat, No Threat, and Specific country under threat, Mutual Withdrawal and No export. The definitions of each type are as follows.

- Direct Threat (5): Reference country gains market share while its competing country loses market share in the ASEAN market, implying that reference country's export is a direct substitute for that from its competitor.

- Partial Threat (4): Both reference country and its competitor gain market share, but reference country shows a higher growth rate of exports.

- No Threat (3): Both reference country and its competitor gain market share, but reference country shows lower growth rate.

- Reference country under threat (2): Reference country loses market share, while the competing country shows share growth in the ASEAN market.

- Mutual Withdrawal (1): The competitor and reference country both lose market share, which implies that both countries have lost their competitiveness as a whole in the ASEAN market.

- No export (0): No exports from the competitor to ASEAN market

Threat index calculation

$$a + c - e = 2 \ldots\ldots\ldots\ldots.. \text{(A)}$$

If the result of equation (A) is 2, the competitor country is subjected to direct threat with reference country.

$$a + d - e = 2 \ldots\ldots\ldots\ldots.. \text{(B)}$$

If the result of equation (B) is 2, the competitor country is subjected to partial threat with reference country.

$$d + b - e = 2 \ldots\ldots\ldots\ldots.\text{(C)}$$

If the result of equation (C) is 2, the competitor country is not subjected to any threat with reference country.

$$d + e = 2 \ldots\ldots\ldots\ldots.. (D)$$

If the result of equation (D) is 2, the reference country is under threat with competitor country.

$$c + e = 2 \ldots\ldots\ldots\ldots.. (E)$$

If the result of equation (E) is 2, it will be Mutual Withdrawal between the reference country and competitor country.

Where,

a = if average annual growth rate of competitor country is less than that of reference country, the value will be 1

b = if average annual growth rate of competitor country is greater than that of reference country, the value will be 1

c = if export share changes of competitor country is less than Zero, the value will be 1

d = if export share changes of competitor country is greater than Zero, the value will be 1

e = if reference country's export share change is less than Zero, the value will be 1

4.2 Effect of Free Trade Agreement (FTA) in ASEAN import market

4.2.1 The Gravity Model

Since Tinbergen (1962) and Pöyhönen (1963) it has been well known that the simple gravity equation, in which the volume of trade between two countries is proportional to the product of their masses (GDPs) and inversely related to the distance between them, is empirically highly successful. Recently, with a renewed interest among economists in geography and the impact of distance on international trade, it has again become widely used in the literature.

One of the criticisms of the gravity equation is that it has no theoretical foundation. In fact, there are several theoretical foundations for the gravity equation. For example, Anderson (1979) and Bergstrand (1985, 1989) Using the Armington (1969) assumption that consumers regard goods as being differentiated by location of production, Anderson's and Bergstrand's models have the feature that the value of bilateral trade (imports or exports) is a function of income and transport costs.

Subsequently, it has been recognized that the gravity equation can be derived from different models, including Ricardian, Hecksher-Ohlin, and the monopolistic competition models. Specifically, Helpman and Krugman (1985) have shown that the gravity equation can be derived from the monopolistic competition model with increasing returns to scale.

Deardorff (1998) has shown that a gravity equation can also be derived from a Heckscher-Ohlin model without assuming product differentiation. On the other hand, Eaton and Kortum (2002) have developed a Ricardian model of trade in homogenous goods which generates a gravity-type relationship. Thus, the gravity equation is at the heart of any model of trade. Harrigan (2002) provides a comprehensive review of the theoretical models of the gravity equation.

The gravity model is analogous to Newton's law that relates the gravity between two objectives to their economic sizes (national income) and the distance between them. Tinbergen (1962) and Pöyhönen (1963) first applied the model to international trade flows, Linneman (1966) related trade between country i and country j to the proportion of the product of both countries GDP and to the distance between them as a proxy for transaction cost as follow.

$$(1) \quad T_{ij} = C \frac{Y_i \cdot Y_j}{D_{ij}},$$

Where, C is a constant for proportionality, Y_i is GDP for country i and Y_j is GDP for country j, D_{ij} is the distance between them. Equation (1) means that bilateral trade is positively related to the two countries' incomes and negatively related to the distance between them.

Later on, lots of adjustments and additions have been made to the standard gravity model. Krugman (1991) formalized the role played by geographical proximity in the regionalization process. Romer (1999) proved that countries with cultural links and common languages tend to trade more with each other (J. A. Frankel, 1999). Leamer (1995) claims that they provide some of the clearest and

most robust empirical findings in economics . To investigate the effect of free trade agreement (FTA) in ASEAN import market, based on Linnerman (1966) equation, we prepared a gravity equation in the following.

(2) $\ln\text{Trade}_{ijt} = \theta_0 + \theta_1\ln\text{GDP}_{it} + \theta_2\ln\text{GDP}_{jt} + \theta_3\ln(\text{GDP/POP})_{it} + \theta_4\ln(\text{GDP/POP})_{jt} +$

$$\theta_5\text{Distance}_{ij} + \alpha_1\text{FTA}_{ijt} + \ln\varepsilon_{ij}$$

Where

Trade_{ijt} = the import value of country i from country j in year t,

GDP_{it} = the GDP of country i in year t,

$(\text{GDP/POP})_{it}$ = the GDP per capita of country i in year t,

GDP_{jt} = the GDP of country j in year t,

$(\text{GDP/POP})_{jt}$ = the GDP per capita of country j in year t,

Distance_{ij} = the distance between country i and country j,

FTA_{ijt} = a dummy variable which takes value 1 if importer i and exporter j are

         both in the AFTA in year t,

$\theta_0, \theta_1, \theta_2, \theta_3, \theta_4, \theta_5, \alpha_1$ are respective parameters and ε_{ij} is an error term.

4.2.2 Data and Methodology

       The researcher used import trade value data of our specific agriculture and non-agriculture commodities (from 1990 to 2009), measured in current US$, from UN Commodity Trade Statistics Database. Deflator data were drawn from

International Monetary Fund (IMF), World Economic Outlook Database. We analyzed the trade between ASEAN 8 countries and the top 10 exporting partners to ASEAN market from 1990 to 2009.

The ASEAN member countries (Brunei Darussalam, Cambodia, Indonesia, Malaysia, Singapore, Philippines, Thailand and Vietnam) and their main trading partners, including China, USA, India, Australia, Japan, Korea, France, UK, Germany and Argentina are involved in our analysis. The ASEAN member country, Myanmar imported only in 2001 during our study period. Lao did not import during 1990-2009. So the researcher excluded those two countries for gravity model analysis. "The border area variable" between two countries was not included in the present analysis because there is only one border area between China and Viet Nam. With ten partner countries, where each of them has 80 country-pairs, our sample is of 20 groups and total 1600 observations.

To know the separate FTA effect between ASEAN 8 countries and individual FTA partner country such as China, Japan, India and Korea, the researcher also did gravity analysis between ASEAN 8 countries and each FTA partner country. So, total samples are of 20 groups and 160 observations.

For distance data, the researcher used "the great circle distance between capital cities as proxy of trading costs" from "http://www.timeanddate.com". In the case of the explanatory variables, the GDP data, the GDP per capita data were drawn from the World Economic Outlook database. The dummy variable, F_{ijt} takes the value of one when both countries are AFTA members and zero otherwise.

V. RESULTS AND DISCUSSIONS

This chapter is devoted to presentation and discussion of the empirical findings of the study. It has been divided into (10) sections. Section 5.1 presents ASEAN's agriculture and non-agriculture trade. From section 5.2 to 5.7 cover ASEAN agriculture and non-agriculture trade with USA, China, Japan, India, Australia and Korea respectively. Trade competitions among the emerging markets and declining markets are presented in section 5.8. In section 5.9, there is effect of Free Trade Agreement (FTA) on ASEAN import market. Finally, production, export and import of some major crops in ASEAN are presented in section 5.10.

5.1 ASEAN agriculture and non-agriculture trade with the top partners

Over the course of the past 40 years, the net flow of agricultural commodities, between developed and developing countries has reversed direction. In the early 1960s, developing countries had an overall agricultural trade surplus of almost US$ 7 billion per year. By the end of the 1980s, however, this surplus had disappeared. During most of the 1990s and early 2000s, developing countries were net importers of agricultural products. FAO has projected that this agricultural trade deficit is likely to widen markedly. The change has been even more pronounced for the LDCs, which over the same period have changed from being net exporters to

significant net importers of agricultural commodities. By the end of the 1990s, imports by the LDCs were more than double their exports (FAO,2004).

Table 4 GDP per capita at current market prices in US$, 2000-2008

No.	Country	GDP per capita at current market prices in US$								
		2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
1	Brunei Darussalam	18,469	16,839	17,158	18,708	21,863	25,744	29,922	31,582	35,623
2	Cambodia	288	295	309	349	392	453	515	601	756
3	Indonesia	807	775	932	1,100	1,105	1,295	1,636	1,909	2,237
4	Lao PDR	375	365	369	425	487	539	645	736	918
5	Malaysia	3,844	3,665	3,884	4,152	4,877	5,281	5,902	6,866	7,992
6	Myanmar	192	136	136	221	191	198	233	333	465
7	Philippines	978	916	956	971	1,039	1,158	1,351	1,658	1,844
8	Singapore	23,007	20,670	21,098	11,066	25,791	27,343	30,053	36,440	38,046
9	Thailand	1,976	1,840	2,001	2,233	2,501	2,707	3,151	3,726	4,116
10	Viet Nam	403	415	440	489	555	637	725	833	1,053
	ASEAN	**1,159**	**1,091**	**1,195**	**1,327**	**1,439**	**1,606**	**1,895**	**2,249**	**2,582**

Source: ASEAN Statistical Yearbook, 2008

The economic performance of individual developing countries played an important part in determining how quickly they increased their food imports. Countries that recorded strong overall economic growth, as measured by per capita GDP, increased food imports more quickly.

ASEAN is a net exporting region for agricultural trade. However due to increasing demand, rising per capita income (Table-4) and consumers' preference for different kinds of commodity varieties and value-added food product, most of its agricultural imports and some non-agriculture imports were large and growing during these periods until the total import amount 257,943 million US$ from the world in 2005-2009 (Table-5). Organic chemicals (HS-29) are the largest imported item into the ASEAN market, followed by miscellaneous chemical products (HS-38) and Cereals (HS-10) in the distant third. Cotton (HS-52) and "residues and waste from the food industries; prepared animal fodder" (HS-23) are respectively fourth and fifth largest agricultural import items in terms of value during 1990-2009.

Table 5 ASEAN agriculture and non-agriculture import values

HS code	ASEAN agriculture and non-agriculture import values									
	1990-1994		1995-1999		2000-2004		2005-2009		1990-2009	
	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%
29	38,985	22	49,708	23	43,805	24	62,467	24	194,965	23
38	21,058	12	20,246	9	20,330	11	28,609	11	90,243	11
10	14,227	8	25,137	12	12,603	7	17,938	7	69,907	8
52	22,404	12	19,426	9	13,572	7	12,549	5	67,951	8
23	8,171	5	10,599	5	9,902	5	15,448	6	44,120	5
04	6,268	3	8,781	4	8,946	5	12,163	5	36,157	4
33	5,607	3	7,704	4	8,878	5	13,838	5	36,027	4
24	6,099	3	7,959	4	6,669	4	5,779	2	26,506	3

12	7,004	4	6,768	3	5,810	3	6,702	3	26,284	3
41	7,477	4	6,248	3	5,817	3	6,261	2	25,802	3
15	5,566	3	5,019	2	4,722	3	9,635	4	24,942	3
17	4,185	2	7,496	3	4,246	2	5,983	2	21,910	3
22	3,996	2	4,581	2	4,497	2	8,681	3	21,755	3
21	2,254	1	3,563	2	4,348	2	6,807	3	16,973	2
08	3,552	2	4,061	2	3,656	2	5,311	2	16,580	2
07	3,500	2	4,236	2	3,264	2	4,547	2	15,548	2
02	1,990	1	3,007	1	3,563	2	5,130	2	13,690	2
19	1,876	1	2,981	1	3,417	2	5,216	2	13,490	2
11	1,961	1	2,719	1	2,573	1	3,659	1	10,913	1
18	1,030	1	1,534	1	2,598	1	5,585	2	10,747	1
35	1,951	1	2,519	1	2,596	1	3,472	1	10,538	1
01	2,042	1	3,384	2	1,647	1	1,999	1	9,072	1
09	1,773	1	1,968	1	1,940	1	2,481	1	8,162	1
20	1,522	1	1,696	1	1,800	1	2,442	1	7,460	1
16	1,094	1	1,223	1	1,350	1	1,860	1	5,526	1
51	1,240	1	1,507	1	1,167	1	822	0.3	4,736	1
13	564	0.3	625	0.3	534	0.3	668	0.3	2,392	0.3
50	614	0.3	714	0.3	405	0.2	451	0.2	2,184	0.3
05	422	0.2	408	0.2	498	0.3	510	0.2	1,839	0.2
53	601	0.3	308	0.1	258	0.1	234	0.1	1,402	0.2
06	253	0.1	314	0.1	288	0.2	378	0.1	1,232	0.1
14	216	0.1	205	0.1	121	0.1	190	0.1	731	0.1
43	82	0.0	78	0.0	99	0.1	128	0.0	387	0.0
Total	179,584	100	216,723	100	185,920	100	257,943	100	840,171	100

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

Different countries may have food import dependence for quite different reasons. For many developing countries, their agriculture sectors, despite relatively abundant natural resources, are underdeveloped and unable to satisfy domestic demand for food. Many such countries, especially those at earlier stages of agricultural development, consider it necessary to maintain tariffs and other forms of border protection, which raise domestic agricultural prices and provide incentives for agricultural development.

Table 6 ASEAN countrywide agriculture and non-agriculture import values

No.	ASEAN countries	million US$ (1990-2009)	percentage
1	Indonesia	224,590	26.73
2	Singapore	210,581	25.06
3	Thailand	150,058	17.86
4	Malaysia	147,727	17.58
5	Philippines	63,171	7.52
6	Viet Nam	38,130	4.54
7	Brunei Darussalam	3,243	0.39
8	Cambodia	2,452	0.29
9	Myanmar	218	0.03
10	Lao PDR	0	0
	Grand Total	840,171	100

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

Among the ASEAN countries, Indonesia has imported the highest share percent about 27% and Singapore was the second largest about 25% of total ASEAN import values (1990-2009) (Table-6). Other countries were Thailand (18%), Malaysia (18%), Philippines (8%), Viet Nam (5%), Brunei Darussalam (0.4%), Cambodia (0.3%) and Myanmar (only 0.03%). There was no import from Lao PDR.

The trend of ASEAN top agriculture and non-agriculture import values from the world is presented in Figure-2. Among those products, most products show increasing trend except cereals (HS-10) and cotton (HS-52). In contrary, cereals (HS-10) and cotton (HS-52) were the third (69,907 million US$) and fourth (67,951 million US$) largest import items of ASEAN. While the share of cereal imports has declined, both developed and developing countries are importing greater quantities of higher-value and processed foods, particularly edible oils, livestock products and fruits and vegetables.
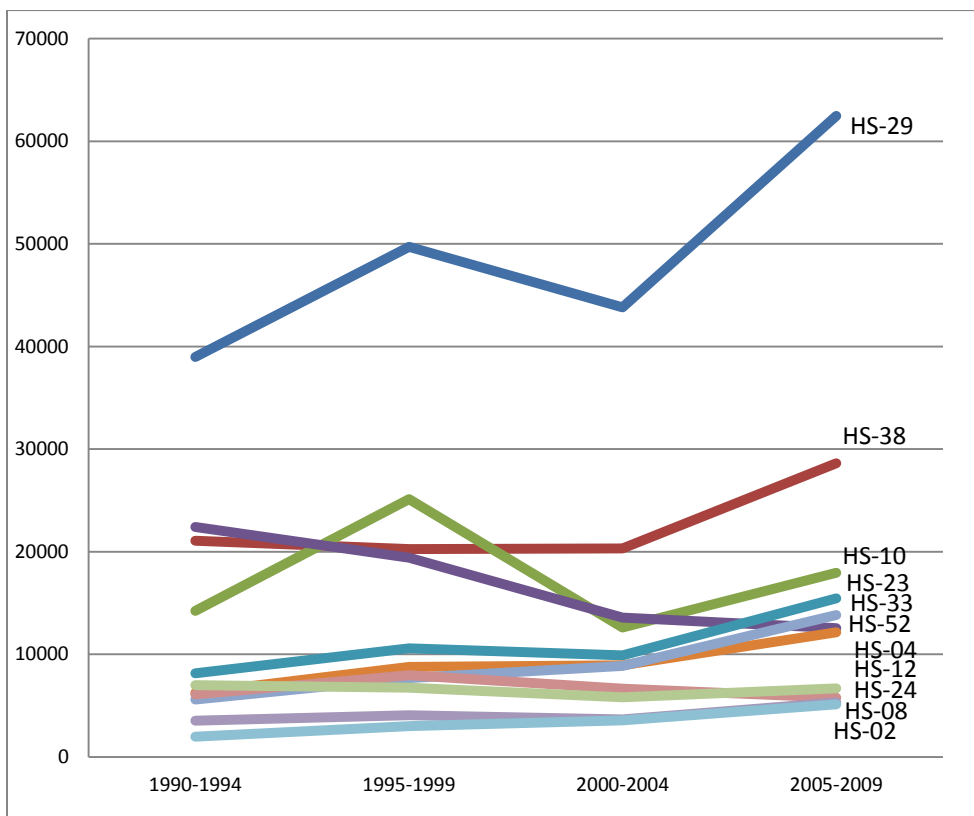
Figure 2 Trend of ASEAN agriculture and non-agriculture import from the world (million US$)

According to both (1990-2009) total import value and (2008-2009) average import value to ASEAN market, USA, China and Australia were first, second and third largest trade partners of ASEAN respectively (Table-7). India became the fourth exporting country to ASEAN market in (2008-2009) average value. Korea is seven largest trading partner of ASEAN in (1990-2009) total value. Brazil and Argentina became seventh and eighth largest trading partner of ASEAN.

Table 7 Top twenty exporters to ASEAN Market

No.	Partners	(2008-2009) average value (US$ million)	No.	Partners	(1990-2009) total value (US$ million)
1	USA	6,804	1	USA	125,292
2	China (ACFTA)	5,559	2	China (ACFTA)	66,758
3	Australia (AANZFTA)	2,915	3	Australia (AANZFTA)	60,767
4	India (AIFTA)	2,814	4	Japan (AJFTA)	59,225
5	Japan (AJFTA)	2,656	5	France	31,208
6	France	2,215	6	India (AIFTA)	31,205
7	Brazil	2,007	7	Korea (AKFTA)	26,274
8	Argentina	1,515	8	UK	24,009
9	Korea (AKFTA)	1,426	9	Germany	20,965
10	New Zealand	1,324	10	Argentina	17,887
11	Germany	1,312	11	New Zealand	17,595
12	UK	1,108	12	Brazil	16,732
13	Netherlands	840	13	Netherlands	16,151
14	Canada	624	14	Canada	12,726
15	Switzerland	537	15	Switzerland	10,037
16	Italy	536	16	Italy	8,758
17	Belgium	453	17	Pakistan	5,486
18	Spain	306	18	Belgium	3,993
19	South Africa	254	19	Spain	3,964
20	Pakistan	184	20	South Africa	2,102

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

The trends of the ASEAN top agriculture and non-agriculture import values from the top exporters are shown in Figure-3. China, India and Brazil show increasing trend from 2001 to 2008 while U. S., Japan and Australia show deeply decreasing trend since 1996.
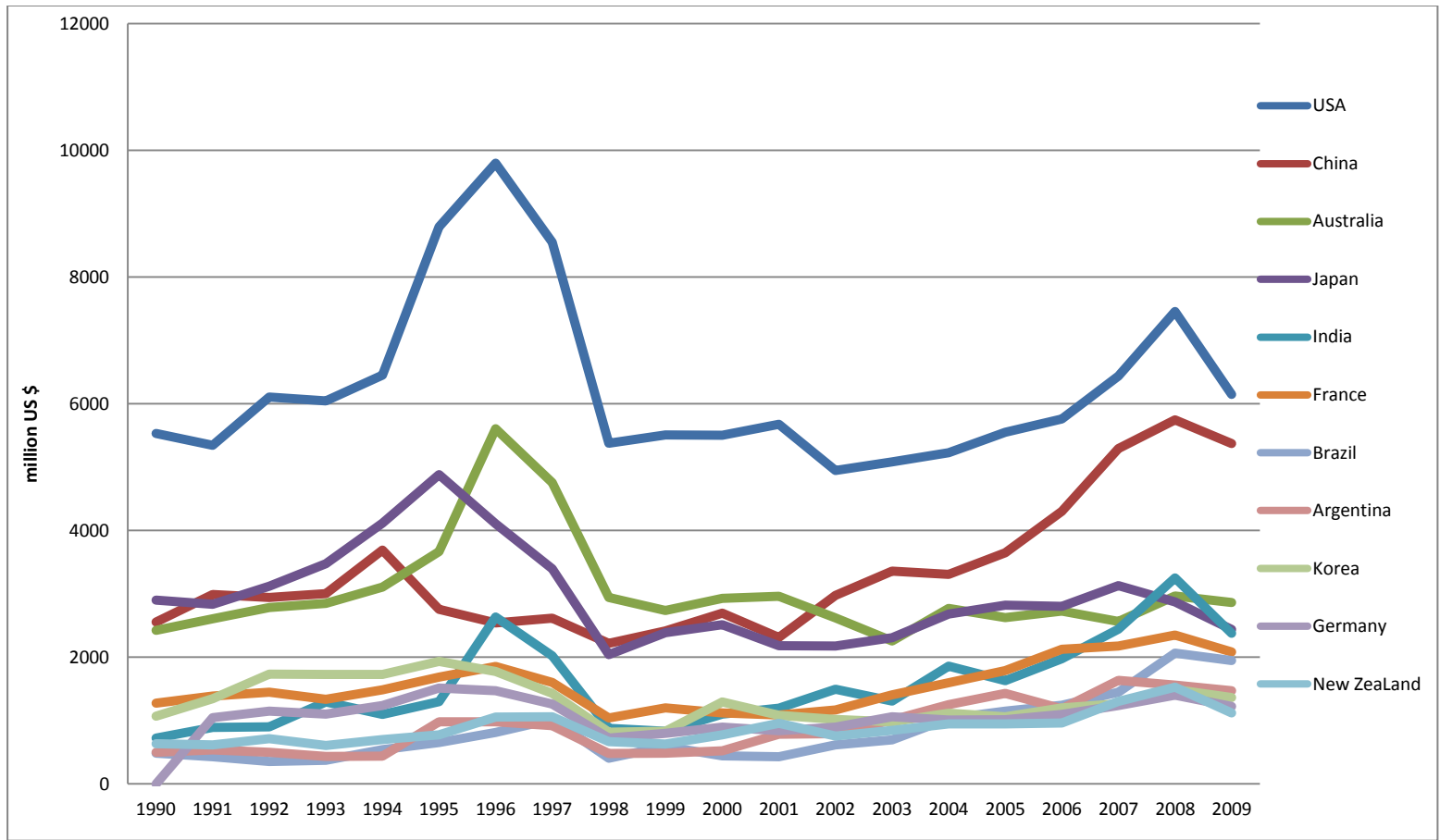
Figure 3 Trend of ASEAN agriculture and non-agriculture import from top trading partners (million US$)
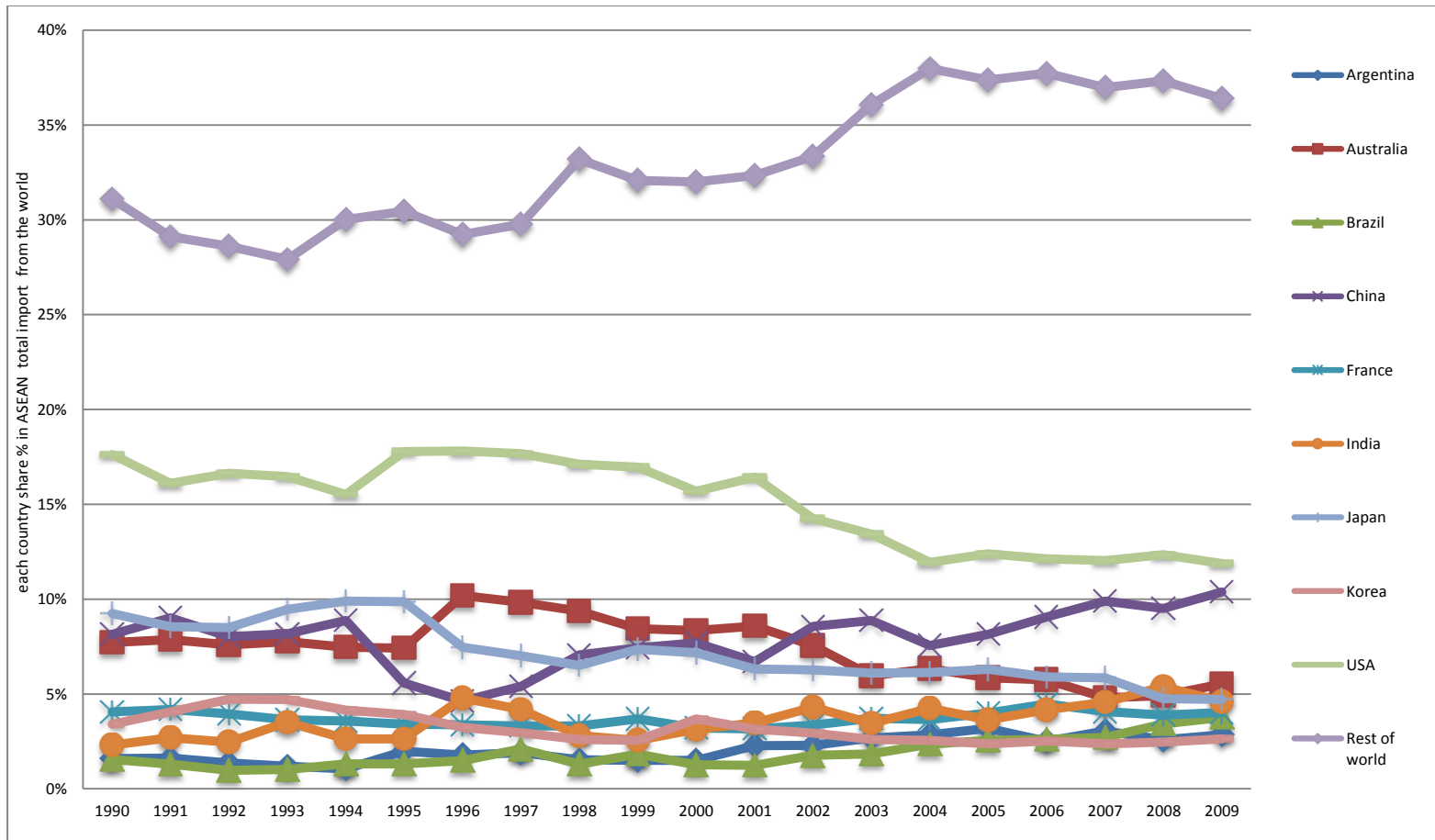
Figure 4 ASEAN's total import share by major exporters during 1990 to 2009
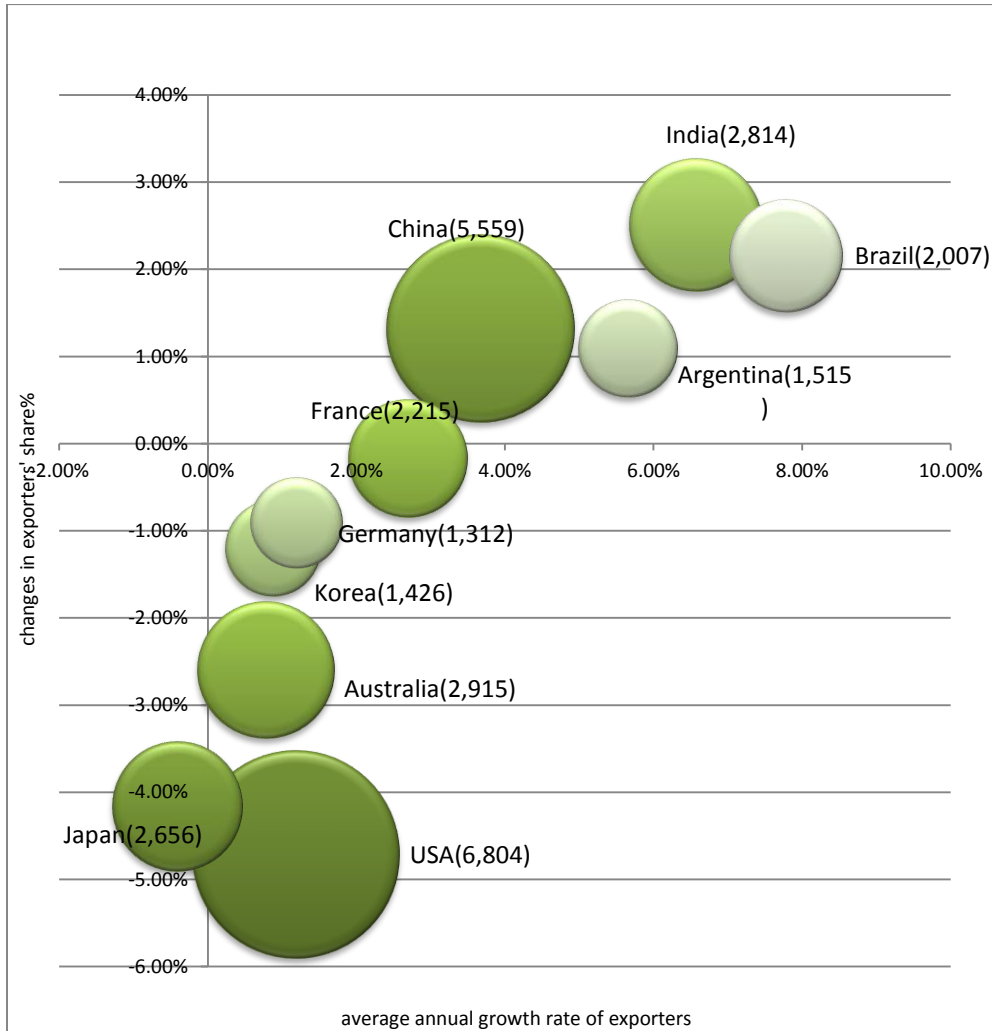
Figure 5 Changes in exporters' share% in ASEAN market

In Figure-5, the vertical axis represents the changes in exporters' share percentage during the 1990-2009, while the horizontal axis denotes the average annual growth rate of exports in the same period for all major exporters to ASEAN market. The radius of each colored circle represents respective country's export volume (2008-2009 average value), i.e., the larger the circle for a country, the larger

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is its export volume to ASEAN. If a country is in the first quadrant, it means that its export has grown on average during 1990-2009 and market share has also increased. On the other hand, if the country is occupied in the third quadrant, its export growth has been negative along with a fall in market shares. China (5,559 million US$), India (2,814 million US$), Brazil (2,007 million US$), and Argentina (1,515 million US$), were found in the first quadrant with large export value amount. So their exports have grown on average during 1990-2009 and market share has also increased.

Although there are four countries in the first quadrant, the researcher has chosen China and India for reference countries because China and India are second and fourth largest partners according to 2008-2009 average value and they are also ASEAN FTA member countries. Since USA, Australia, Germany and Korea export growth has been positive but along with a fall market shares, they occupied in fourth quadrant of the figure. Although Korea occupies in the fourth quadrant, Korea, which is also FTA member, has been selected as a reference country to compare with Japan which occupies in third quadrant and they also have very similar export structure in ASEAN import market. Only one county which was found in third quadrant was Japan. It means that Japan's export growth has been negative along with a fall in market shares.

5.2 ASEAN agriculture and non-agriculture trade with United States

5.2.1 USA agriculture and non-agriculture exports to world

Among the U. S. agriculture and non-agriculture exports products to the world, the four largest global exports are organic chemicals (HS-29), cereals (HS-10), miscellaneous chemical products (HS-38) and oil seeds and oleaginous fruits (HS-12) (Table-8). The edible fruit and nuts (HS-08) is the sixth largest commodity. Although the growth rate of U.S. exports was not as much as that of China, the total value of U. S. exports (2,048,852 million US$) was three times larger than that of China (697,943 million US$).

The increasing trends of most of the top U. S. agriculture and non-agriculture export value to the world can be seen in Figure-6. But cereals (HS-10) product export value showed decreasing trend from 1995-1999 to 2000-2004 and Tobacco and manufactured tobacco substitutes (HS-24) decreasing trend was from 1995-1999 to 2005-2009 periods.

Table 8 USA agriculture and non-agriculture exports to world

HS code	USA agriculture and non-agriculture exports to world									
	1990-1994		1995-1999		2000-2004		2005-2009		1990-2009	
	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%
29	51,969	18	86,113	18	113,253	22	170,261	22	421,596	21
10	42,250	15	63,806	14	53,448	10	92,377	12	251,881	12
38	23,760	8.2	44,513	9.5	54,859	11	87,024	11	210,156	10
12	21,594	7.5	36,762	7.8	39,342	7.7	68,427	8.8	166,125	8.1
02	16,342	5.7	30,850	6.6	31,332	6.1	43,234	5.6	121,759	5.9
08	13,089	4.5	19,667	4.2	22,406	4.4	37,904	4.9	93,067	4.5
33	8,252	2.9	16,522	3.5	23,231	4.5	36,919	4.8	84,923	4.1
24	24,529	8.5	31,427	6.7	17,920	3.5	10,995	1.4	84,872	4.1
52	11,653	4.0	18,856	4.0	23,400	4.6	30,307	3.9	84,216	4.1
23	13,133	4.5	19,383	4.1	18,554	3.6	27,234	3.5	78,303	3.8
21	6,187	2.1	11,415	2.4	14,802	2.9	22,492	2.9	54,897	2.7
41	8,131	2.8	10,889	2.3	12,937	2.5	13,234	1.7	45,191	2.2
15	6,435	2.2	12,181	2.6	9,854	1.9	16,455	2.1	44,926	2.2
20	6,695	2.3	10,583	2.3	10,763	2.1	15,278	2.0	43,319	2.1
07	5,996	2.1	8,821	1.9	9,896	1.9	14,980	1.9	39,693	1.9
22	4,592	1.6	8,637	1.8	9,533	1.9	15,794	2.0	38,556	1.9
19	3,514	1.2	6,056	1.3	7,734	1.5	11,990	1.5	29,295	1.4
35	2,469	0.9	6,133	1.3	8,222	1.6	10,777	1.4	27,601	1.3
04	2,411	0.8	3,470	0.7	4,269	0.8	10,615	1.4	20,765	1.0
16	2,601	0.9	3,923	0.8	4,558	0.9	6,534	0.8	17,616	0.9
17	1,936	0.7	3,123	0.7	3,479	0.7	5,751	0.7	14,290	0.7
01	2,443	0.8	3,114	0.7	3,715	0.7	3,832	0.5	13,104	0.6
18	1,508	0.5	2,331	0.5	3,485	0.7	5,077	0.7	12,401	0.6
11	1,812	0.6	2,494	0.5	2,962	0.6	4,767	0.6	12,036	0.6
05	1,279	0.4	1,984	0.4	2,816	0.5	4,156	0.5	10,234	0.5
09	1,073	0.4	2,130	0.5	1,959	0.4	3,251	0.4	8,412	0.4
06	924	0.3	1,374	0.3	1,440	0.3	1,996	0.3	5,734	0.3
13	704	0.2	1,038	0.2	1,470	0.3	2,111	0.3	5,323	0.3
43	882	0.3	1,333	0.3	1,035	0.2	1,383	0.2	4,633	0.2
51	445	0.2	701	0.1	610	0.1	503	0.1	2,259	0.1
50	99	0.0	129	0.0	140	0.0	200	0.0	568	0.0
14	94	0.0	164	0.0	150	0.0	151	0.0	559	0.0
53	168	0.1	104	0.0	169	0.0	100	0.0	542	0.0
Total	288,973	100	470,027	100	513,742	100	776,110	100	2,048,852	100
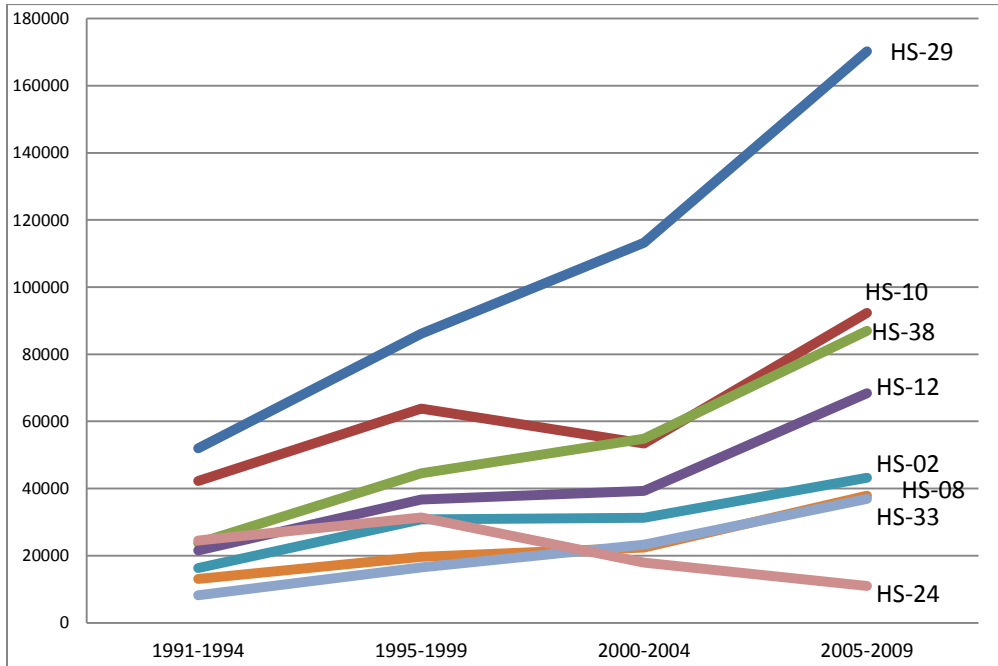
Figure 6 Trend of USA agriculture and non-agriculture export values to world
(million US$)

5.2.2 USA agriculture and non-agriculture exports to ASEAN

Total goods trade between the United States and ten countries of the Association of Southeast Asian Nations (ASEAN) is surprisingly robust. But U. S. agriculture and non-agriculture products exported to ASEAN decreased from 38,025 million US$ in 1995-1999 to 26,431 million US$ in 2000-2004 (Table- 9). Then it was slightly increased to 31,355 million US$ in 2005-2009. The three largest export products to ASEAN were organic chemicals (HS-29), miscellaneous chemical products (HS-38) and cotton (HS-52) as in the case of China. However, the trends of the top agriculture and non- agriculture products of USA were decreasing since 1990 and were the opposite of China's trends (Figure -7).

Table 9 USA agriculture and non-agriculture exports to ASEAN

HS code	USA agriculture and non-agriculture exports to ASEAN									
	1990-1994		1995-1999		2000-2004		2005-2009		1990-2009	
	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%
29	6,315	21.4	7,661	20.1	5,574	21.1	7,311	23.3	26,861	21.4
38	7,330	24.9	5,509	14.5	4,339	16.4	5,608	17.9	22,786	18.2
52	4,654	15.8	3,637	9.57	1,996	7.55	2,077	6.62	12,364	9.87
10	826	2.8	4,270	11.2	2,310	8.74	3,046	9.71	10,452	8.34
12	1,521	5.2	3,214	8.45	2,439	9.23	2,135	6.81	9,308	7.43
23	940	3.2	2,368	6.23	2,156	8.16	2,261	7.21	7,724	6.16
24	2,746	9.3	3,093	8.13	1,251	4.73	440	1.40	7,531	6.01
33	715	2.4	1,274	3.35	1,351	5.11	1,518	4.84	4,859	3.88
08	1,066	3.6	1,186	3.12	693	2.62	787	2.51	3,732	2.98
21	567	1.9	1,014	2.67	833	3.15	1,074	3.42	3,487	2.78
41	565	1.9	849	2.23	467	1.77	560	1.78	2,440	1.95
04	105	0.4	336	0.88	449	1.70	1,285	4.10	2,175	1.74
20	272	0.9	427	1.12	430	1.63	562	1.79	1,691	1.35
35	201	0.7	420	1.10	422	1.60	470	1.50	1,513	1.21
02	387	1.3	376	0.99	241	0.91	424	1.35	1,429	1.14
07	193	0.7	411	1.08	235	0.89	236	0.75	1,075	0.86
19	156	0.5	253	0.66	163	0.62	214	0.68	786	0.63

15	121	0.4	330	0.87	106	0.40	189	0.60	746	0.60
17	40	0.1	150	0.39	138	0.52	261	0.83	589	0.47
22	72	0.2	141	0.37	137	0.52	199	0.63	549	0.44
05	193	0.7	180	0.47	115	0.44	60	0.19	548	0.44
11	78	0.3	260	0.68	92	0.35	98	0.31	529	0.42
18	33	0.1	152	0.40	148	0.56	149	0.47	482	0.38
13	85	0.3	130	0.34	110	0.42	119	0.38	444	0.35
01	160	0.5	135	0.36	57	0.21	80	0.25	432	0.34
16	89	0.3	140	0.37	77	0.29	71	0.23	377	0.30
09	12	0.04	30	0.08	72	0.27	97	0.31	210	0.17
51	17	0.06	49	0.13	12	0.05	5	0.02	84	0.07
14	10	0.03	12	0.03	5	0.02	11	0.03	37	0.03
53	2	0.01	9	0.02	6	0.02	1	0.00	17	0.01
06	5	0.02	4	0.01	2	0.01	4	0.01	15	0.01
50	3	0.01	3	0.01	3	0.01	2	0.01	10	0.01
43	2	0.01	4	0.01	2	0.01	3	0.01	10	0.01
Total	29,480	100	38,025	100	26,431	100	31,355	100	125,292	100
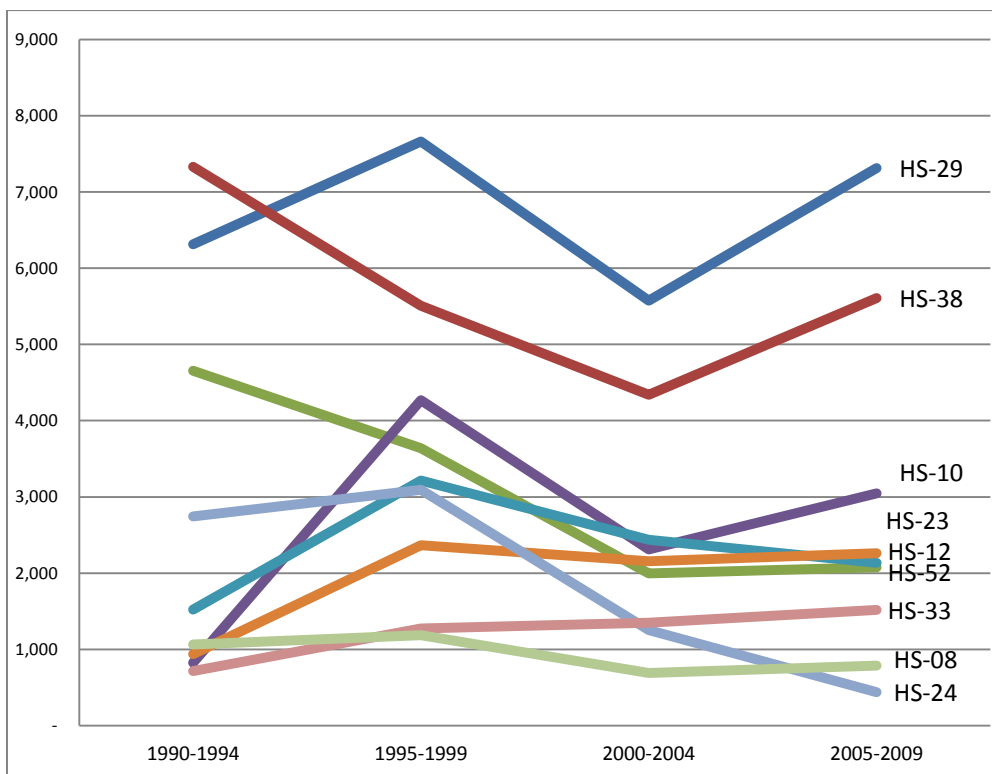
Figure 7 Trend of ASEAN agriculture and non-agriculture import values from USA
    (million US$)

5.3 ASEAN agriculture and non-agriculture trade with China

5.3.1 China agriculture and non-agriculture exports to world

After the introduction of market-based reforms in 1978 that included the elimination of the collective production system and relaxation of government direction over certain farmer production and marketing decisions, Chinese agricultural output grew significantly. For the last two decades, China's rise in international trade has been outstanding.

Table 10 China agriculture and non-agriculture exports to world

HS code	China agriculture and non-agriculture exports to world									
	1990-1994		1995-1999		2000-2004		2005-2009		1990-2009	
	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%
29	5,183	10	16,793	15	30,551	18	101,578	28	154,106	22
52	8,585	16	16,226	14	25,089	15	45,966	13	95,866	14
16	1,780	3	6,582	6	12,424	7	26,300	7	47,086	7
38	1,117	2	4,179	4	8,471	5	28,787	8	42,553	6
07	3,774	7	7,770	7	9,890	6	19,885	5	41,319	6
20	2,187	4	5,331	5	9,315	6	22,903	6	39,737	6
51	2,223	4	4,307	4	6,385	4	9,680	3	22,594	3
10	4,490	8	4,069	4	7,657	5	5,708	2	21,924	3
12	2,927	5	4,655	4	5,048	3	8,222	2	20,852	3
50	2,985	6	4,519	4	4,408	3	6,879	2	18,791	3
08	1,042	2	2,265	2	3,075	2	8,467	2	14,849	2
05	1,297	2	3,337	3	3,774	2	5,669	2	14,078	2
43	1,065	2	1,611	1	4,347	3	6,980	2	14,004	2
02	1,353	3	4,608	4	3,612	2	3,783	1	13,355	2
33	619	1	1,390	1	2,969	2	8,346	2	13,324	2
09	1,382	3	2,520	2	3,088	2	5,723	2	12,713	2
41	642	1	1,771	2	4,963	3	5,143	1	12,519	2
24	1,768	3	3,547	3	2,127	1	3,361	1	10,803	2
22	1,006	2	2,155	2	3,028	2	4,331	1	10,519	2
23	1,388	3	1,363	1	1,840	1	5,379	1	9,970	1
21	393	1	1,437	1	2,377	1	5,268	1	9,475	1
53	1,295	2	1,997	2	2,555	2	3,082	1	8,929	1
19	415	1	1,269	1	2,407	1	4,518	1	8,609	1

01	1,399	3	2,292	2	1,730	1	1,985	1	7,406	1
35	88	0	507	0	1,236	1	5,393	1	7,223	1
17	1,689	3	1,055	1	1,004	1	2,894	1	6,641	1
15	848	2	2,000	2	660	0.4	2,004	1	5,512	1
04	458	1	862	1	1,030	0.6	1,992	1	4,342	1
11	190	0.4	692	1	630	0.4	1,950	1	3,462	0.5
13	96	0.2	256	0.2	337	0.2	1,434	0.4	2,123	0.3
18	117	0.2	230	0.2	217	0.1	711	0.2	1,274	0.2
06	58	0.1	150	0.1	223	0.1	651	0.2	1,082	0.2
14	150	0.3	247	0.2	219	0.1	285	0.1	902	0.1
Total	54,011	100	111,989	100	166,686	100	365,257	100	697,943	100

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

China's share in international trade more than trebled, jumping from less than 2% in 1985 to about 7% in 2005. China has become the third largest exporter in the world in 2004 and is expected to become the first largest by the beginning of the next decade (OECD, 2005). In Table-10, organic chemicals (HS-29), cotton (HS-52), meat, fish and seafood food preparations nes (HS-16) and miscellaneous chemical products (HS-38) were the four largest global export products from China in 1990-2009 periods.
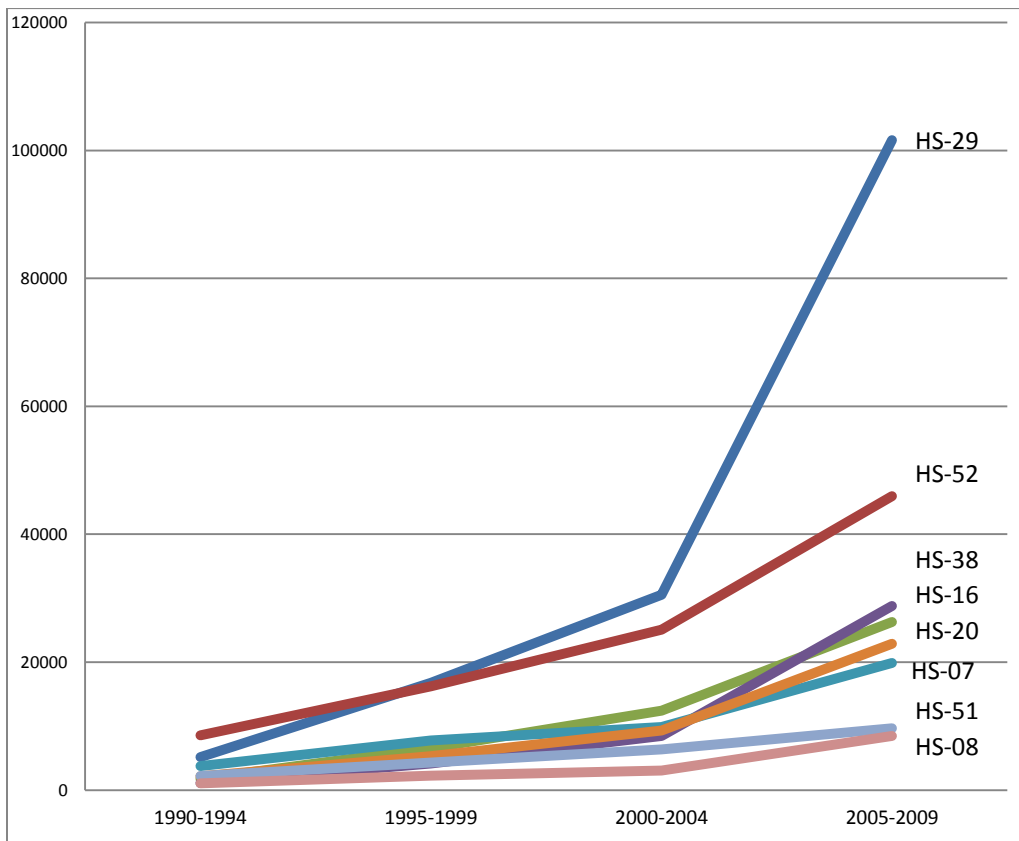
Figure 8 Trend of China agriculture and non-agriculture export values to world
(million US$)

The trend of China's exports to world is presented in Figure-8. All agriculture and non- agriculture products show upward trends significantly. Especially deep slope upward trend can be found from 2000-2004 to 2005-2009 periods.

5.3.2 China agriculture and non-agriculture exports to ASEAN

As its domestic agricultural production has grown, China has also become the largest exporter in global markets for several horticultural products, including mandarin oranges, apples, apple juice, and garlic and other vegetables. In ASEAN market also, "edible vegetables and certain roots and tubers (HS-07)" and "edible fruit and nuts; peel of citrus fruit or melons (HS-08)" were China's third (2,118 million US$) and fourth (1,908 million US$) largest agriculture export products during 2005-2009 period (Table-11). Organic chemicals (HS-29), cotton (HS-52) and cereals (HS-10) are three largest export products from China to ASEAN. Because of Asian financial crisis, total export value during (1995-1999) periods decreased slightly to (12,548 million US $) and then increased to (14,652 million US $) in (2000-2004) periods. However, the value grew up significantly to (24,366 million US $) in (2005-2009) periods as a result of Early Harvest Program (EHP) tariff-reduction program launched between China and ASEAN in 2004. The implementation of the Common effective Preferential Tariff, CEPT-AFTA Scheme was significantly boosted in January 2004. ASEAN member countries have made significant progress in the lowering of intra-regional tariffs through CEPT scheme for AFTA.

Table 11 China agriculture and non-agriculture exports to ASEAN

HS code	China agriculture and non-agriculture exports to ASEAN									
	1990-1994		1995-1999		2000-2004		2005-2009		1990-2009	
	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%
29	1,747	11.5	1,784	14.2	1,992	13.6	5,313	21.8	10,836	16.2
52	2,182	14.4	1,194	9.5	2,057	14.0	2,849	11.7	8,281	12.4
10	1,689	11.1	1,905	15.2	1,886	12.9	678	2.78	6,158	9.22
07	1,214	8.0	1,361	10.85	1,143	7.80	2,118	8.69	5,836	8.74
38	180	1.2	368	2.93	1,198	8.17	3,416	14.0	5,162	7.73
12	2,774	18.3	863	6.88	502	3.43	525	2.16	4,665	6.99
08	468	3.1	686	5.47	1,070	7.30	1,908	7.83	4,132	6.19
24	855	5.6	1,120	8.92	712	4.86	816	3.35	3,503	5.25
23	1,087	7.2	179	1.42	420	2.87	550	2.26	2,237	3.35
41	515	3.4	292	2.32	387	2.64	475	1.95	1,669	2.50
33	133	0.9	185	1.47	342	2.33	901	3.70	1,561	2.34
20	279	1.8	285	2.27	371	2.53	594	2.44	1,528	2.29
09	405	2.7	328	2.61	310	2.12	373	1.53	1,416	2.12
50	371	2.4	471	3.75	190	1.30	236	0.97	1,268	1.90
17	191	1.3	296	2.36	187	1.28	380	1.56	1,054	1.58
16	266	1.8	190	1.51	245	1.67	313	1.28	1,014	1.52
11	119	0.8	119	0.95	219	1.49	445	1.83	902	1.35
21	91	0.6	124	0.99	176	1.20	503	2.06	894	1.34
19	70	0.5	153	1.22	195	1.33	270	1.11	688	1.03
02	68	0.4	130	1.04	213	1.46	163	0.67	574	0.86
51	50	0.3	112	0.89	212	1.45	183	0.75	556	0.83
35	13	0.1	26	0.21	98	0.67	362	1.49	499	0.75
22	65	0.4	74	0.59	94	0.64	225	0.92	458	0.69

15	48	0.3	47	0.38	77	0.52	240	0.98	412	0.62
53	167	1.1	58	0.47	66	0.45	61	0.25	353	0.53
05	43	0.3	68	0.54	96	0.66	93	0.38	300	0.45
13	27	0.18	43	0.34	59	0.40	106	0.43	235	0.35
04	34	0.22	39	0.31	48	0.33	87	0.36	209	0.31
06	3	0.02	7	0.06	33	0.23	80	0.33	124	0.19
14	19	0.13	18	0.14	25	0.17	26	0.11	89	0.13
18	7	0.04	6	0.05	12	0.08	46	0.19	72	0.11
43	1	0.01	1	0.01	10	0.07	26	0.11	39	0.06
01	10	0.06	15	0.12	5	0.04	3	0.01	32	0.05
Total	15,192	100	12,548	100	14,652	100	24,366	100	66,758	100

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011
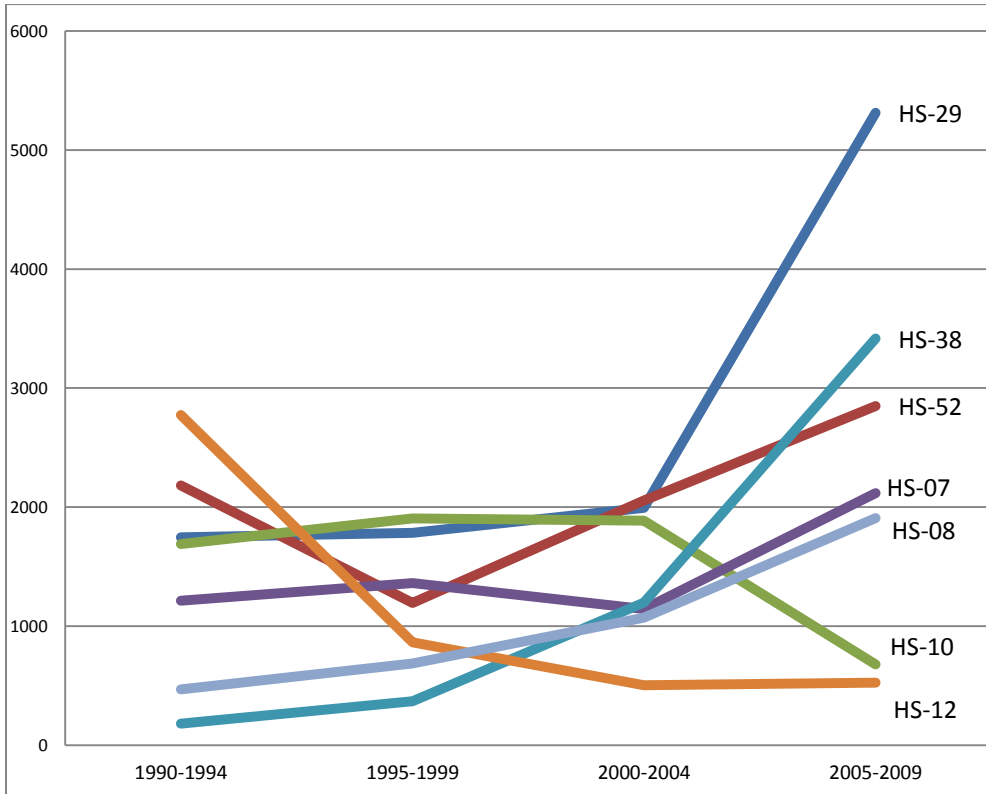
Figure 9 Trend of ASEAN agriculture and non-agriculture import values from China (million US$)

All product trends were upward trends except cereals (HS-10) and Oil seeds, oleagic fruits, grain, seed, fruit, etc, nes, (HS-12) (Figure-9).

5.4 ASEAN agriculture and non-agriculture trade with Japan

5.4.1 Japan agriculture and non-agriculture exports to world

Total value of the Japan's agriculture and non-agriculture exports to the world was increasing slightly from 1990 to 2009 (Table-12). Among those, non-agriculture products such as organic chemicals (HS-29) and miscellaneous chemical products (HS-38) were occupied the first and second largest share valued (56%) and (23%) respectively. Most of the Japan's agriculture and non-agriculture export value trends were seem to be constant except organic chemicals (HS-29) and miscellaneous chemical products (HS-38) which were increasing (Figure 10).

Table 12 Japan agriculture and non-agriculture exports to world

HS code	Japan agriculture and non-agriculture exports to world									
	1990-1994		1995-1999		2000-2004		2005-2009		1990-2009	
	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%
29	36,763	55	55,244	58.3	64,204	55.5	96,444	54.5	252,655	55.5
38	10,255	15	18,073	19.1	26,184	22.6	49,140	27.8	103,652	22.8
52	4,764	7.07	4,134	4.36	5,110	4.41	4,543	2.57	18,551	4.08
33	1,918	2.84	2,734	2.89	3,791	3.27	5,884	3.33	14,327	3.15
35	1,507	2.24	1,836	1.94	2,400	2.07	3,784	2.14	9,527	2.09
21	1,226	1.82	1,550	1.64	2,125	1.84	3,006	1.70	7,908	1.74
51	1,581	2.35	1,838	1.94	2,037	1.76	1,635	0.92	7,092	1.56
16	1,571	2.33	1,345	1.42	1,280	1.11	2,245	1.27	6,441	1.42
24	943	1.40	1,348	1.42	1,116	0.96	1,297	0.73	4,704	1.03
41	1,503	2.23	1,124	1.19	910	0.79	1,118	0.63	4,655	1.02
19	1,021	1.51	775	0.82	850	0.73	1,399	0.79	4,046	0.89
22	432	0.64	800	0.84	759	0.66	1,174	0.66	3,164	0.70
12	610	0.91	545	0.58	562	0.49	650	0.37	2,368	0.52
50	421	0.62	414	0.44	568	0.49	578	0.33	1,981	0.44
15	437	0.65	450	0.47	504	0.44	547	0.31	1,937	0.43

23	576	0.85	426	0.45	381	0.33	357	0.20	1,740	0.38
11	384	0.57	425	0.45	437	0.38	387	0.22	1,633	0.36
10	1	0.00	224	0.24	975	0.84	62	0.03	1,262	0.28
17	249	0.37	293	0.31	286	0.25	376	0.21	1,203	0.26
08	229	0.34	183	0.19	175	0.15	429	0.24	1,017	0.22
20	168	0.25	199	0.21	194	0.17	253	0.14	813	0.18
07	209	0.31	103	0.11	102	0.09	163	0.09	577	0.13
13	114	0.17	140	0.15	121	0.10	176	0.10	550	0.12
18	71	0.11	90	0.09	139	0.12	246	0.14	547	0.12
53	127	0.19	96	0.10	128	0.11	151	0.09	502	0.11
09	39	0.06	78	0.08	109	0.09	216	0.12	442	0.10
05	109	0.16	96	0.10	87	0.07	144	0.08	435	0.10
06	50	0.07	45	0.05	61	0.05	205	0.12	361	0.08
02	44	0.07	47	0.05	34	0.03	151	0.09	276	0.06
01	17	0.02	47	0.05	64	0.06	75	0.04	203	0.04
04	10	0.02	17	0.02	32	0.03	112	0.06	171	0.04
43	41	0.06	18	0.02	12	0.01	7	0.00	78	0.02
14	26	0.04	8	0.01	6	0.00	6	0.00	46	0.01
Total	67,419	100	94,745	100	115,742	100	176,958	100	454,864	100

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

Figure 10 Trend of Japan agriculture and non-agriculture export values to world (million US$)

5.4.2 Japan agriculture and non-agriculture exports to ASEAN

Table-13 shows total value of Japan's agriculture and non-agriculture exports to ASEAN. The total value was decreasing from 16,486 million US$ in 1990-1994 period to 11,861 million US$ in 2000-2004 period and then slightly increased to 14,063 million US$ in 2005-2009 period.

Table 13 Japan agriculture and non-agriculture exports to ASEAN

HS code	Japan agriculture and non-agriculture exports to ASEAN									
	1990-1994		1995-1999		2000-2004		2005-2009		1990-2009	
	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%
29	9,080	55	10,700	64	5,660	48	6,237	44	31,677	53
38	3,396	21	2,801	17	3,290	28	4,770	34	14,257	24
52	1,151	7.0	656	3.9	523	4.4	424	3.0	2,754	4.7
33	531	3.2	452	2.7	467	3.9	796	5.7	2,246	3.8
35	363	2.2	365	2.2	317	2.7	362	2.6	1,407	2.4
21	224	1.4	257	1.5	199	1.7	247	1.8	928	1.6
24	127	0.8	102	0.6	389	3.3	120	0.9	738	1.2
11	180	1.1	152	0.9	145	1.2	153	1.1	630	1.1
23	222	1.3	135	0.8	103	0.9	130	0.9	590	1.0
41	177	1.1	133	0.8	111	0.9	106	0.8	528	0.9
19	264	1.6	105	0.6	69	0.6	88	0.6	527	0.9
15	154	0.9	136	0.8	91	0.8	90	0.6	470	0.8
10	10	0.1	269	1.6	43	0.4	16	0.1	339	0.6
51	59	0.4	122	0.7	87	0.7	55	0.4	323	0.5
22	54	0.3	66	0.4	57	0.5	83	0.6	260	0.4
12	68	0.4	64	0.4	49	0.4	56	0.4	237	0.4
16	91	0.5	38	0.2	33	0.3	36	0.3	197	0.3
17	37	0.2	46	0.3	36	0.3	43	0.3	162	0.3
50	19	0.1	15	0.1	29	0.2	67	0.5	130	0.2

07	45	0.3	34	0.2	20	0.2	26	0.2	125	0.2
08	54	0.3	36	0.2	10	0.1	16	0.1	116	0.2
18	26	0.2	24	0.1	25	0.2	34	0.2	108	0.2
13	39	0.2	24	0.1	18	0.2	16	0.1	97	0.2
20	24	0.1	24	0.1	20	0.2	25	0.2	93	0.2
04	39	0.2	16	0.1	17	0.1	14	0.1	86	0.1
09	7	0.0	12	0.1	20	0.2	31	0.2	71	0.1
53	20	0.12	13	0.08	7	0.06	4	0.03	44	0.07
05	7	0.04	4	0.02	9	0.08	7	0.05	28	0.05
02	5	0.03	5	0.03	2	0.02	3	0.02	15	0.03
43	3	0.02	1	0.00	8	0.07	4	0.03	15	0.03
14	6	0.03	2	0.01	2	0.02	1	0.01	11	0.02
01	2	0.01	3	0.02	1	0.01	3	0.02	9	0.02
06	2	0.01	1	0.01	1	0.005	1	0.01	5	0.01
Total	16,486	100	16,815	100	11,861	100	14,063	100	59,225	100

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

The decreasing trends of almost all Japan's agriculture and non-agriculture export product to ASEAN can be seen in Figure-11. The first largest non- agriculture product, organic chemicals (HS-29) was sharply decreased since 1995-1999 period.
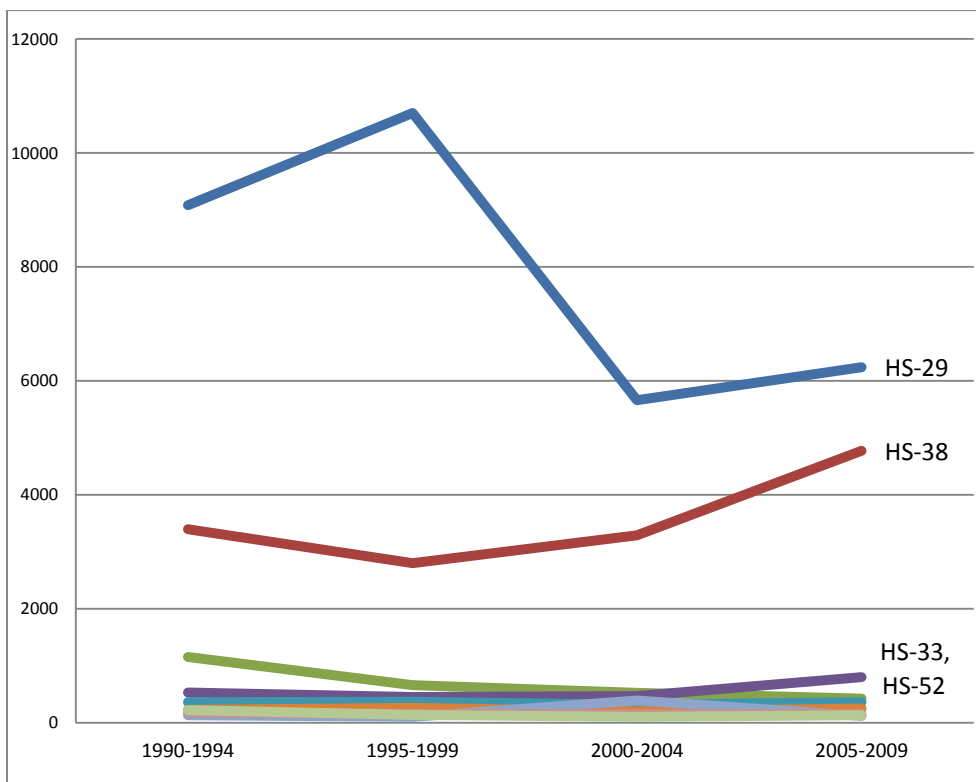
Figure 11 Trend of ASEAN agriculture and non-agriculture import values from
Japan (million US$)

5.5 ASEAN agriculture and non-agriculture trade with India

5.5.1 India agriculture and non-agriculture exports to world

Since India has a large and diverse agriculture and is one of the world's
leading producers, the total value of India's agriculture and non-agriculture export
to the world was increasing significantly from 27,173 million US$ in 1990-1994 to
128,843 million US$ in 2005-2009 (Table-14). Total agriculture product share
occupied 74.7% and non- agriculture products share occupied 25.3% in total export
value of this study.

Table 14 India agriculture and non-agriculture exports to world

HS code	India agriculture and non-agriculture exports to world									
	1990-1994		1995-1999		2000-2004		2005-2009		1990-2009	
	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%
29	1,992	7.33	5,552	11.4	11,024	18.7	31,572	24.5	50,141	19.0
52	6,674	24.6	11,656	23.9	11,217	19.1	18,273	14.2	47,819	18.1
10	1,853	6.82	5,713	11.7	6,326	10.8	13,174	10.2	27,066	10.3
09	3,521	13.0	4,996	10.3	3,770	6.41	6,674	5.18	18,961	7.20
23	2,641	9.72	3,516	7.22	2,707	4.60	8,179	6.35	17,043	6.47
08	1,918	7.06	2,649	5.44	2,948	5.01	4,766	3.70	12,280	4.66
38	500	1.84	1,486	3.05	2,360	4.01	6,531	5.07	10,877	4.13
41	1,709	6.29	1,477	3.03	2,361	4.01	3,580	2.78	9,127	3.46
02	505	1.86	962	1.98	1,561	2.65	4,487	3.48	7,515	2.85
12	651	2.39	1,298	2.67	1,650	2.80	3,326	2.58	6,925	2.63
07	496	1.82	918	1.89	1,401	2.38	3,261	2.53	6,076	2.31
33	622	2.29	765	1.57	1,239	2.11	3,167	2.46	5,792	2.20
17	306	1.13	569	1.17	1,236	2.10	3,481	2.70	5,592	2.12
15	447	1.65	1,122	2.30	1,254	2.13	2,706	2.10	5,529	2.10
24	709	2.61	1,050	2.16	1,050	1.78	2,684	2.08	5,493	2.08
13	459	1.69	1,181	2.43	1,236	2.10	2,033	1.58	4,909	1.86

50	624	2.30	809	1.66	1,462	2.48	1,765	1.37	4,660	1.77
53	513	1.89	573	1.18	630	1.07	853	0.66	2,569	0.97
21	187	0.69	565	1.16	645	1.10	1,124	0.87	2,522	0.96
04	42	0.16	129	0.27	387	0.66	1,293	1.00	1,851	0.70
20	117	0.43	187	0.38	353	0.60	1,060	0.82	1,716	0.65
19	91	0.34	151	0.31	279	0.47	848	0.66	1,369	0.52
51	165	0.61	384	0.79	268	0.46	509	0.39	1,326	0.50
35	20	0.07	93	0.19	312	0.53	895	0.69	1,320	0.50
16	11	0.04	26	0.05	206	0.35	1,008	0.78	1,250	0.47
05	196	0.72	221	0.45	202	0.34	225	0.17	844	0.32
11	11	0.04	298	0.61	299	0.51	234	0.18	841	0.32
06	32	0.12	111	0.23	188	0.32	444	0.34	775	0.29
22	80	0.29	124	0.25	142	0.24	426	0.33	771	0.29
14	72	0.27	76	0.16	89	0.15	153	0.12	390	0.15
18	7	0.03	13	0.03	18	0.03	59	0.05	97	0.04
01	4	0.01	7	0.01	14	0.02	53	0.04	78	0.03
43	0	0.00	0	0.00	2	0.00	1	0.00	4	0.00
Total	27,173	100	48,680	100	58,834	100	128,843	100	263,530	100

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

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Figure 12 Trend of India agriculture and non-agriculture export values to world
(million US$)

Among all commodities, the first three export products were organic chemicals (HS-29), cotton (HS-52) and cereals (HS-10). Their share percent in total product values were 24%, 14% and 10% respectively in 2005-2009 periods. The upward trends of all commodities can be seen in Figure-12.

5.5.2 India agriculture and non-agriculture exports to ASEAN

The important product groups that account for top of the share in India's total exports to ASEAN were: agriculture products namely cereals (HS-10), "Oil seeds, oleagic fruits, grain, seed, fruit, etc, nes, (HS-12)", cotton (HS-52), food residues (HS-23), Meat and edible meat offal (HS-02) and non-agriculture product, organic chemicals (HS-29) (Table-15).

Total India's agriculture and non-agriculture export value significantly increased since 1990-1994. After signing Framework Agreement on establishing FTA between ASEAN and India in 2003, India's export value increased very significantly from 6,959 million US$ to 11,678 million US$ in 2005-2009.

Table 15 India agriculture and non-agriculture exports to ASEAN

HS code	India agriculture and non-agriculture exports to ASEAN									
	1990-1994		1995-1999		2000-2004		2005-2009		1990-2009	
	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%
23	1,826	37	2,153	28	1,271	18	2,505	21	7,755	25
29	498	10	1,028	13	1,703	24	3,134	27	6,363	20
52	1,012	21	886	12	445	6.4	752	6.4	3,095	10
10	202	4.1	944	12	1,011	15	700	6.0	2,856	9.2
02	323	6.6	557	7.3	684	9.8	1,017	8.7	2,582	8.3
12	101	2.1	614	8.0	228	3.3	342	2.9	1,286	4.1
38	49	1.0	151	2.0	364	5.2	714	6.1	1,279	4.1
07	254	5.2	280	3.7	209	3.0	343	2.9	1,086	3.5
09	77	1.6	157	2.0	145	2.1	375	3.2	755	2.4
41	142	2.9	106	1.4	184	2.6	300	2.6	733	2.3
17	127	2.6	301	3.9	123	1.8	181	1.6	732	2.3
33	56	1.1	68	0.9	103	1.5	278	2.4	505	1.6
15	27	0.5	83	1.1	85	1.2	182	1.6	378	1.2
24	20	0.4	41	0.5	47	0.7	258	2.2	366	1.2
08	56	1.1	62	0.8	49	0.7	67	0.6	235	0.8
13	75	1.5	69	0.9	31	0.4	39	0.3	213	0.7
50	12	0.2	39	0.5	75	1.1	48	0.4	174	0.6
21	8	0.2	24	0.3	38	0.5	88	0.8	158	0.5
04	1	0.0	7	0.1	18	0.3	86	0.7	113	0.4

19	5	0.1	9	0.1	15	0.2	55	0.5	84	0.3
11	2	0.0	12	0.2	42	0.6	28	0.2	84	0.3
35	3	0.1	7	0.1	14	0.2	47	0.4	71	0.2
20	12	0.2	15	0.2	15	0.2	23	0.2	65	0.2
22	1	0.0	5	0.1	13	0.2	26	0.2	44	0.1
51	2	0.0	10	0.1	6	0.1	25	0.2	43	0.1
16	2	0.1	5	0.1	15	0.2	19	0.2	41	0.1
53	8	0.2	11	0.1	7	0.1	13	0.1	38	0.1
05	2	0.03	11	0.14	11	0.15	13	0.11	36	0.11
06	0	0.01	3	0.04	5	0.07	5	0.04	14	0.04
14	2	0.04	2	0.02	2	0.03	6	0.05	12	0.04
18	1	0.02	1	0.01	2	0.02	3	0.03	6	0.02
01	0.3	0.01	2.6	0.03	0.4	0.01	0.4	0.003	4	0.01
43	0.2	0.004	0.1	0.001	0.2	0.003	0.3	0.003	1	0.002
Total	4,907	100	7,661	100	6,959	100	11,678	100	31,205	100

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

In Figure-13, food residues (HS-23), cotton (HS-52) and "Oil seeds, oleagic fruits, grain, seed, fruit, etc, nes, (HS-12)" show downward trend only from 1995-1999 period to 2000-2004 period and then increased in 2005-2009 periods.
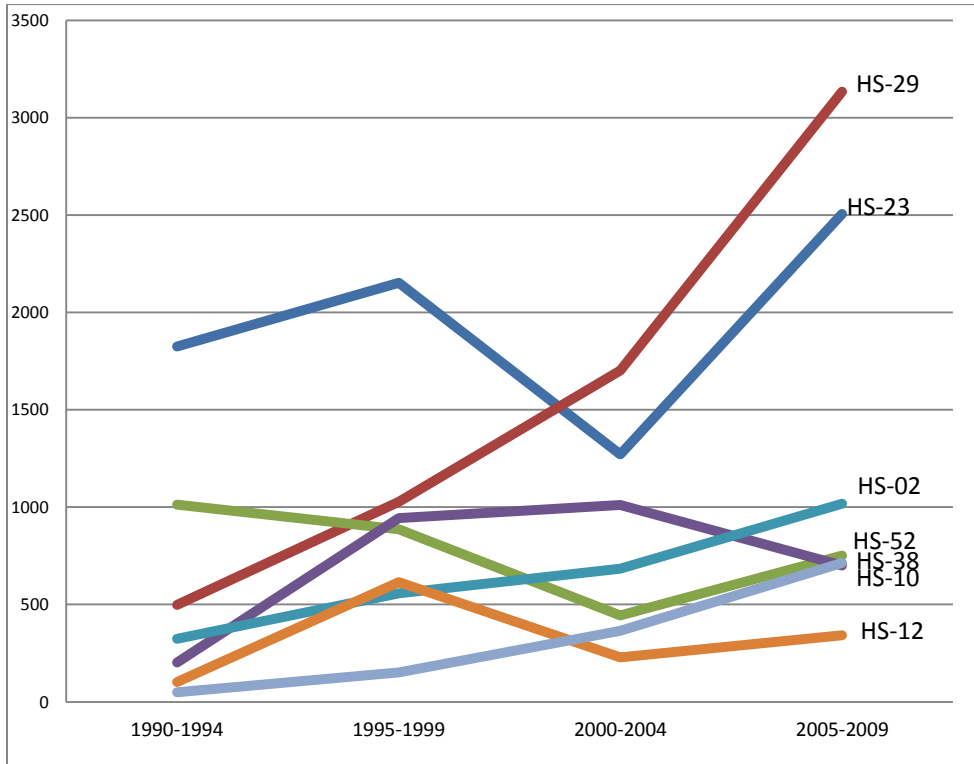
Figure 13 Trend of ASEAN agriculture and non-agriculture import values from India (million US$)

5.6 ASEAN agriculture and non-agriculture trade with Australia

5.6.1 Australia agriculture and non-agriculture exports to world

Australia's agriculture and non-agriculture export values and share percent to world market from 1990 to 2009 are given in Table-16.

Table 16 Australia agriculture and non-agriculture exports to world

| HS code | Australia agriculture and non-agriculture exports to world | | | | | | | | | |
| | 1990-1994 | | 1995-1999 | | 2000-2004 | | 2005-2009 | | 1990-2009 | |
	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%
02	12,938	21.1	12,389	15.5	17,417	20.0	26,953	23.9	69,697	20.5
10	9,661	15.8	15,881	19.8	14,645	16.9	17,386	15.4	57,573	16.9
51	12,566	20.5	11,653	14.6	9,325	10.7	9,256	8.22	42,800	12.6
04	3,688	6.03	6,555	8.19	7,785	8.96	9,598	8.53	27,626	8.11
22	1,412	2.31	3,160	3.95	7,253	8.35	11,164	9.92	22,989	6.75
52	2,976	4.86	4,614	5.76	4,155	4.78	2,919	2.59	14,663	4.30
41	2,470	4.04	3,267	4.08	3,570	4.11	3,957	3.51	13,265	3.89
12	1,024	1.67	2,014	2.51	3,446	3.97	3,765	3.34	10,249	3.01
01	896	1.46	2,302	2.87	2,872	3.30	3,904	3.47	9,974	2.93
17	4,057	6.63	4,047	5.05	506	0.58	811	0.72	9,422	2.76
08	1,143	1.87	1,543	1.93	1,779	2.05	2,499	2.22	6,964	2.04
07	1,074	1.76	1,534	1.92	1,776	2.04	2,201	1.96	6,585	1.93
23	801	1.31	1,366	1.71	1,590	1.83	2,064	1.83	5,822	1.71
11	798	1.31	1,169	1.46	1,354	1.56	2,439	2.17	5,760	1.69
15	772	1.26	1,303	1.63	1,191	1.37	2,037	1.81	5,302	1.56
38	569	0.93	839	1.05	977	1.12	1,499	1.33	3,883	1.14

21	398	0.65	744	0.93	1,123	1.29	1,575	1.40	3,839	1.13
33	407	0.67	757	0.95	939	1.08	1,581	1.40	3,683	1.08
19	460	0.75	744	0.93	803	0.92	1,445	1.28	3,452	1.01
20	632	1.03	799	1.00	787	0.91	981	0.87	3,199	0.94
29	641	1.05	854	1.07	736	0.85	657	0.58	2,888	0.85
16	530	0.87	603	0.75	631	0.73	751	0.67	2,515	0.74
35	214	0.35	379	0.47	591	0.68	1,166	1.04	2,351	0.69
18	322	0.53	491	0.61	657	0.76	771	0.68	2,241	0.66
05	348	0.57	371	0.46	376	0.43	393	0.35	1,488	0.44
24	100	0.16	204	0.25	264	0.30	478	0.42	1,045	0.31
06	102	0.17	121	0.15	115	0.13	113	0.10	450	0.13
09	58	0.09	136	0.17	111	0.13	140	0.12	444	0.13
43	82	0.13	131	0.16	47	0.05	25	0.02	284	0.08
13	35	0.06	70	0.09	68	0.08	48	0.04	221	0.06
53	6	0.01	29	0.04	8	0.01	2	0.00	45	0.01
50	3	0.01	6	0.01	10	0.01	6	0.01	26	0.01
14	1	0.00	2	0.00	5	0.01	1	0.00	10	0.00
Total	61,183	100	80,076	100	86,911	100	112,583	100	340,753	100

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

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Total export values increased from 61,183 million US$ in 1990-1994 to 112,583 million US$ in 2005-2009. Among the top largest export commodities, only Cotton (HS-52) and "Wool, fine or coarse animal hair; horsehair yarn and woven fabric (HS-51)" show slightly negative trend in Figure-14.
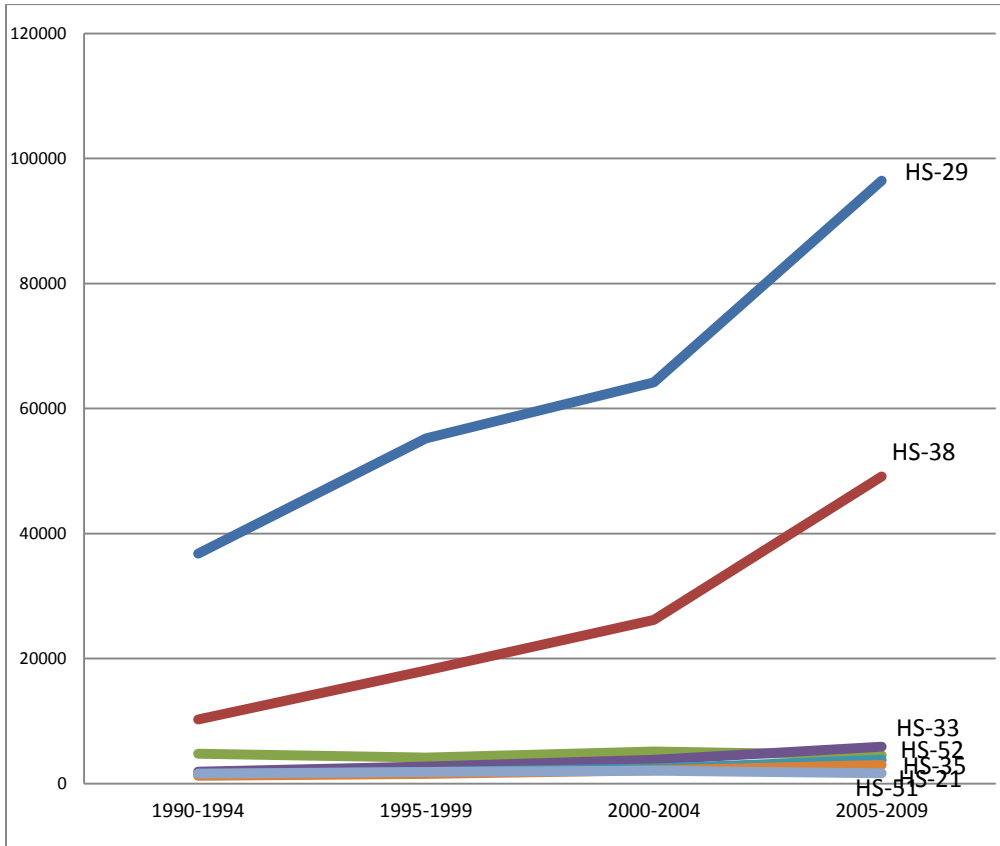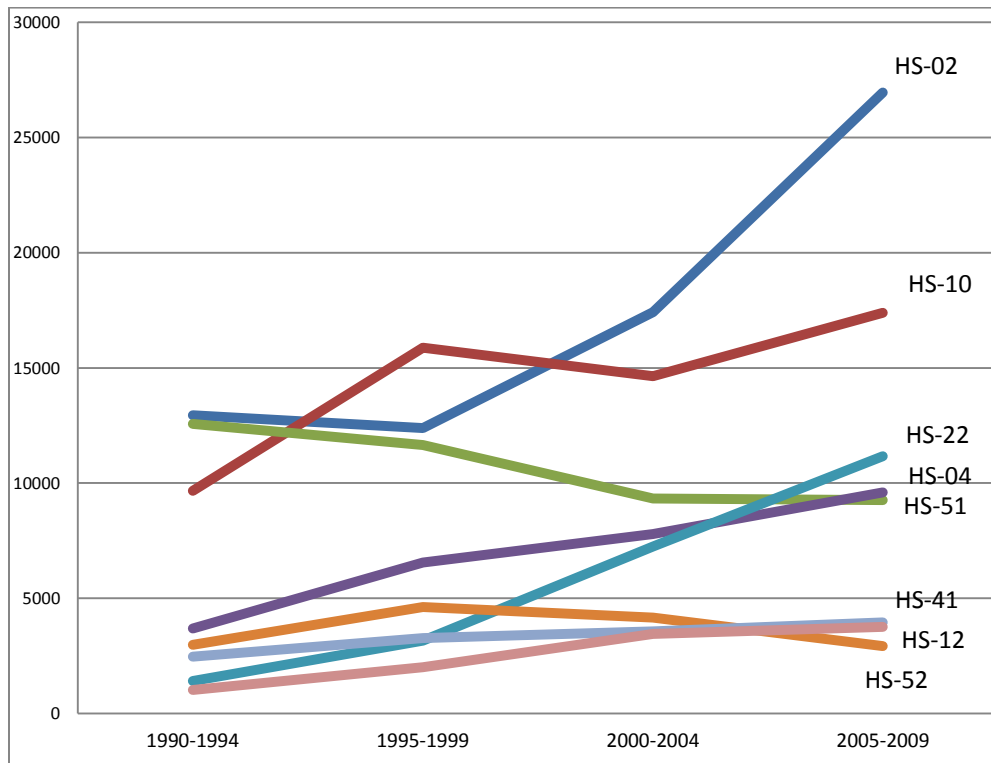

Figure 14 Trend of Australia agriculture and non-agriculture export values to world (million US$)

5.6.2 Australia agriculture and non-agriculture exports to ASEAN

Australia's exports to ASEAN are dominated by rural and resource-based products rather than manufactures. The composition of Australia's exports to ASEAN market was broadly in line with that of Australia's overall exports, but there were some notable differences. The greatest value of Australia's export item to ASEAN market was Cereals (HS-10) which occupied 24% share of grand total value in 1990-2009 periods (Table-17).

The other important export products to ASEAN market were "Dairy products, eggs, honey, edible animal product nes (HS-04), Cotton (HS-52), Sugars and sugar confectionery (HS-17), Live animals (HS-01), Meat and edible meat offal (HS-02) and "edible fruit and nuts; peel of citrus fruit or melons (HS-08)". Before signing of the agreement establishing the ASEAN- Australia-New Zealand Free Trade Agreement (AANZFTA) in 2009, total export values to ASEAN market decreased from 19,709 million US$ in 1995-1999 to 13,747 million US$ in 2005-2009.

Table 17 Australia agriculture and non-agriculture exports to ASEAN

HS code	Australia agriculture and non-agriculture exports to ASEAN									
	1990-1994		1995-1999		2000-2004		2005-2009		1990-2009	
	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%
10	3,637	26	5,122	26	2,705	20	3,303	24	14,767	24
04	1,640	12	2,739	14	2,278	17	2,299	17	8,956	15
52	2,621	19	2,999	15	1,939	14	718	5	8,278	14
17	1,169	8.5	1,591	8.1	935	6.9	1,264	9.2	4,960	8.2
01	487	3.5	1,818	9.2	713	5.3	795	5.8	3,814	6.3
02	393	2.9	782	4.0	895	6.6	1,175	8.5	3,245	5.3
08	621	4.5	613	3.1	360	2.7	333	2.4	1,928	3.2
11	173	1.3	320	1.6	566	4.2	863	6.3	1,922	3.2
51	594	4.3	631	3.2	374	2.8	240	1.7	1,838	3.0
07	382	2.8	587	3.0	390	2.9	236	1.7	1,594	2.6
41	339	2.5	366	1.9	340	2.5	262	1.9	1,308	2.2
23	224	1.6	291	1.5	266	2.0	311	2.3	1,092	1.8
19	108	0.8	277	1.4	288	2.1	316	2.3	989	1.6
38	247	1.8	282	1.4	239	1.8	207	1.5	975	1.6
29	346	2.5	233	1.2	163	1.2	136	1.0	879	1.4
22	77	0.6	109	0.6	196	1.4	349	2.5	732	1.2
33	115	0.8	172	0.9	138	1.0	164	1.2	589	1.0
21	70	0.5	152	0.8	127	0.9	140	1.0	489	0.8
18	106	0.8	121	0.6	139	1.0	113	0.8	478	0.8
15	91	0.7	112	0.6	89	0.7	147	1.1	439	0.7

16	71	0.5	108	0.5	98	0.7	129	0.9	406	0.7
20	71	0.5	91	0.5	100	0.7	70	0.5	332	0.5
12	66	0.5	69	0.4	73	0.5	37	0.3	246	0.4
35	47	0.3	62	0.3	34	0.3	69	0.5	212	0.3
05	22	0.2	14	0.1	32	0.2	38	0.3	105	0.2
24	5	0.0	12	0.1	40	0.3	10	0.1	67	0.1
09	19	0.1	10	0.0	11	0.1	14	0.1	53	0.1
43	16	0.1	13	0.1	1	0.0	1	0.0	31	0.1
13	3	0.02	7	0.04	8	0.06	4	0.03	22	0.04
06	5	0.04	5	0.03	3	0.02	2	0.02	16	0.03
53	1	0.01	0.5	0.00	1	0.01	0.2	0.00	3	0.00
50	1	0.00	0.3	0.00	1	0.01	0.3	0.00	2	0.00
14	0.2	0.00	0.2	0.00	0.1	0.00	0.1	0.00	1	0.00
Total	13,770	100	19,709	100	13,541	100	13,747	100	60,767	100

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011
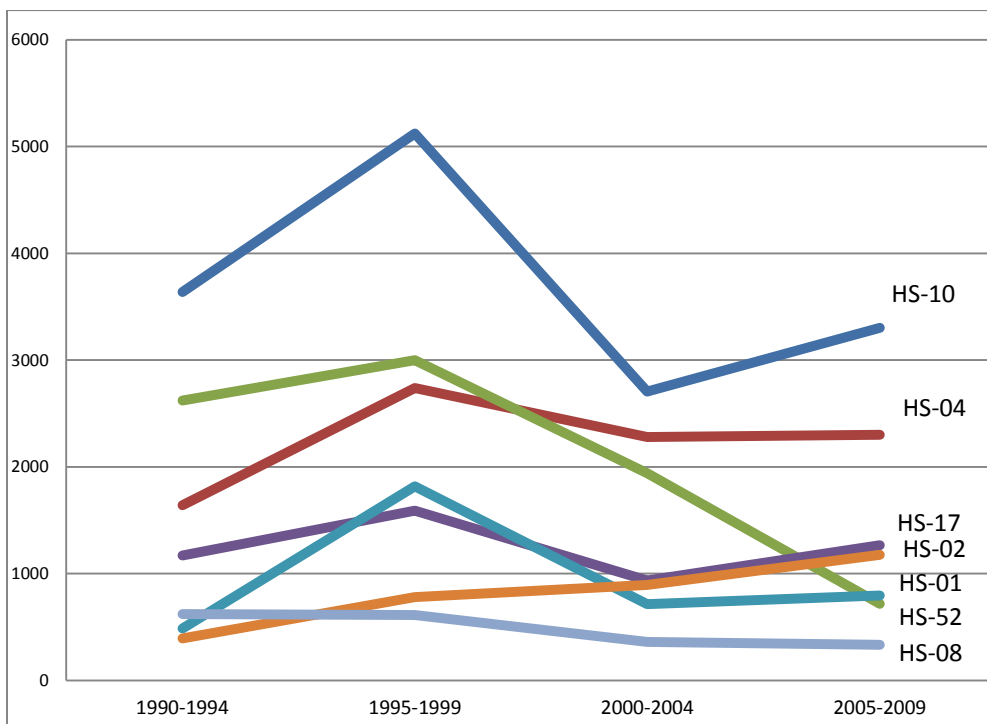
Figure 15 Trend of ASEAN agriculture and non-agriculture import values from Australia (million US$)

In Figure-15, most of the top Australia's export products to ASEAN market shows decreasing trends except Meat and edible meat offal (HS-02).

5.7 ASEAN agriculture and non-agriculture trade with Korea

5.7.1 Korea agriculture and non-agriculture exports to world

The total values of Korea's agriculture and non-agriculture export to world market increased significantly from 25,493 million US$ in 1990-1994 to 101,757 million US$ in 2005-2009 (Table-18).

Table 18 Korea agriculture and non-agriculture exports to world

HS code	Korea agriculture and non-agriculture exports to world									
	1990-1994		1995-1999		2000-2004		2005-2009		1990-2009	
	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%
29	6,807	26.7	16,046	37.7	28,306	51.4	67,314	66.2	118,474	52.7
41	3,878	15.2	7,116	16.7	5,742	10.4	4,090	4.02	20,827	9.26
38	804	3.16	2,169	5.10	3,698	6.71	8,697	8.55	15,369	6.83
52	2,710	10.6	3,464	8.15	3,869	7.02	3,265	3.21	13,307	5.92
16	1,621	6.36	1,823	4.29	1,283	2.33	828	0.81	5,554	2.47
19	576	2.26	1,197	2.82	1,510	2.74	2,000	1.97	5,282	2.35
21	339	1.33	752	1.77	976	1.77	2,199	2.16	4,266	1.90
50	1,674	6.57	1,265	2.98	637	1.16	578	0.57	4,155	1.85
17	794	3.11	1,035	2.44	828	1.50	1,183	1.16	3,840	1.71
12	1,232	4.83	963	2.27	750	1.36	823	0.81	3,768	1.68
24	193	0.76	296	0.70	963	1.75	2,020	1.98	3,471	1.54
22	308	1.21	660	1.55	993	1.80	1,476	1.45	3,437	1.53
33	141	0.55	345	0.81	892	1.62	1,826	1.79	3,204	1.42
51	1,075	4.22	818	1.92	647	1.17	512	0.50	3,052	1.36
35	171	0.67	498	1.17	734	1.33	1,063	1.04	2,465	1.10
08	654	2.56	592	1.39	606	1.10	560	0.55	2,412	1.07
20	283	1.11	365	0.86	541	0.98	754	0.74	1,943	0.86
02	328	1.28	1,222	2.87	182	0.33	122	0.12	1,853	0.82
07	415	1.63	406	0.96	495	0.90	499	0.49	1,815	0.81
13	277	1.09	230	0.54	206	0.37	289	0.28	1,002	0.45
43	420	1.65	269	0.63	144	0.26	67	0.07	899	0.40
23	74	0.29	157	0.37	191	0.35	354	0.35	776	0.34
53	326	1.28	158	0.37	159	0.29	119	0.12	762	0.34
06	19	0.08	58	0.14	198	0.36	314	0.31	589	0.26
18	87	0.34	148	0.35	145	0.26	155	0.15	534	0.24

05	89	0.35	139	0.33	113	0.21	147	0.14	488	0.22
15	28	0.11	135	0.32	96	0.17	175	0.17	433	0.19
11	19	0.08	88	0.21	108	0.20	164	0.16	380	0.17
09	22	0.08	41	0.10	60	0.11	73	0.07	195	0.09
01	93	0.37	31	0.07	6	0.01	11	0.01	141	0.06
04	6	0.03	16	0.04	32	0.06	68	0.07	122	0.05
14	22	0.08	8	0.02	4	0.01	2	0.00	36	0.02
10	6	0.03	3	0.01	4	0.01	11	0.01	24	0.01
Total	25,493	100	42,512	100	55,116	100	101,757	100	224,879	100

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011
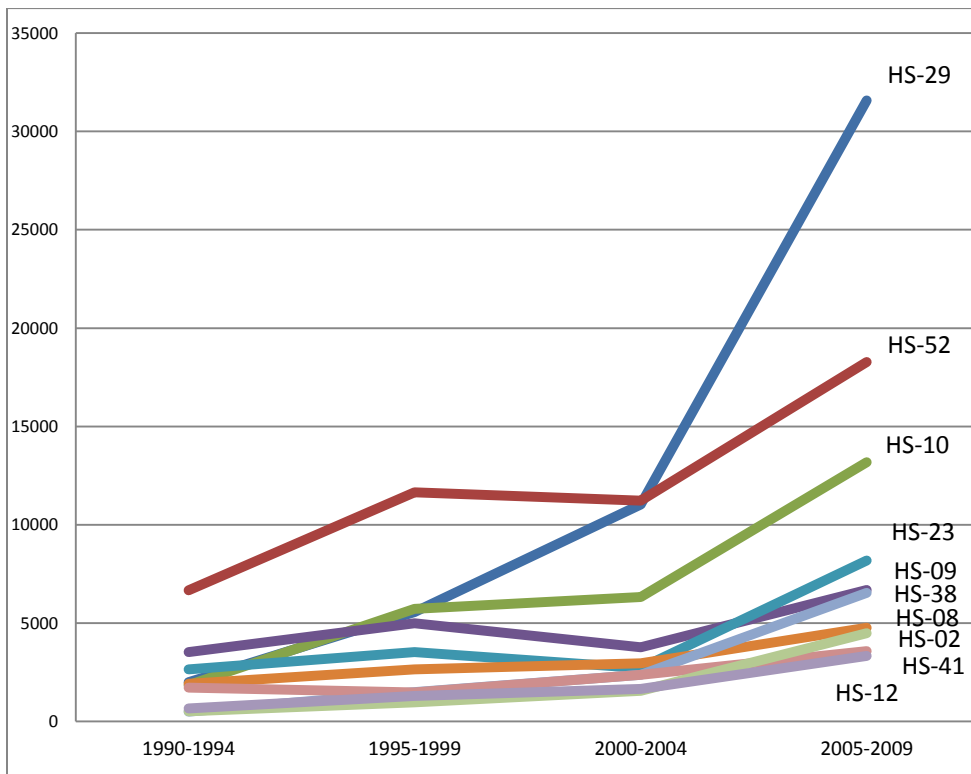
The non-agriculture products, Organic chemicals (HS-29) possess the greatest share (66%) of Korea's global export value to world. Most of the top export products show positive trends except "Raw hides and skins (other than fur skins) and leather (HS-41)" in Figure-16.
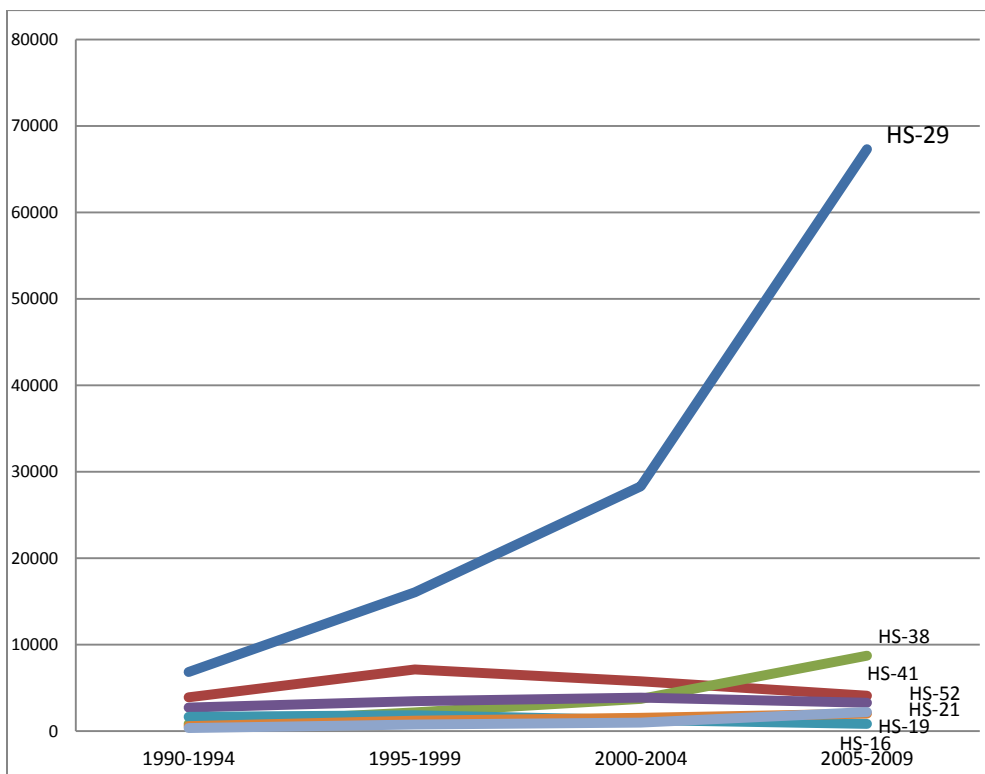
Figure 16 Trend of Korea agriculture and non-agriculture export values to world
(million US$)

5.7.2 Korea agriculture and non-agriculture exports to ASEAN

Although total values of Korea's agriculture and non-agriculture export to
ASEAN market decreased from 7,625 million US$ in 1990-1994 to 5,494 million
US$ in 2000-2004,   again increased to 6,376 million US$ in 2005-2009 after
signing of Framework Agreement on Comprehensive Economic Cooperation in
2005 (Table 19).

Table 19 Korea agriculture and non-agriculture exports to ASEAN

HS code	Korea agriculture and non-agriculture exports to ASEAN									
	1990-1994		1995-1999		2000-2004		2005-2009		1990-2009	
	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%
29	2,079	27	3,111	46	2,654	48	3,398	53	11,241	43
41	3,524	46	1,779	26	809	15	514	8	6,626	25
52	684	9	478	7	644	12	648	10	2,454	9
38	344	5	481	7	556	10	796	12	2,176	8
17	213	3	217	3	109	2	55	1	594	2
35	155	2	162	2	128	2	146	2	591	2
23	55	1	95	1	92	2	140	2	381	1
33	50	1	38	1	62	1	138	2	288	1
21	37	0.5	46	1	72	1	131	2	285	1
51	143	2	70	1	39	1	20	0.3	271	1
11	1	0.0	33	0.5	63	1.1	34	0.5	131	0.5
12	48	0.6	25	0.4	15	0.3	42	0.7	130	0.5
19	25	0.3	14	0.2	31	0.6	55	0.9	124	0.5
50	39	0.5	53	0.8	19	0.3	12	0.2	123	0.5
08	35	0.5	26	0.4	22	0.4	31	0.5	113	0.4
15	7	0.1	27	0.4	20	0.4	35	0.5	88	0.3
22	15	0.2	14	0.2	20	0.4	37	0.6	86	0.3
53	42	0.5	23	0.3	10	0.2	6	0.1	80	0.3
24	10	0.1	13	0.2	18	0.3	26	0.4	68	0.3
13	25	0.3	21	0.3	12	0.2	10	0.2	67	0.3

43	10	0.1	2	0.0	11	0.2	33	0.5	56	0.2
20	17	0.2	14	0.2	8	0.2	14	0.2	54	0.2
02	0	0.0	6	0.1	24	0.4	23	0.4	52	0.2
16	25	0.3	12	0.2	8	0.1	4	0.1	49	0.2
05	17	0.2	9	0.1	10	0.2	10	0.2	46	0.2
07	16	0.2	8	0.1	9	0.2	6	0.1	39	0.1
04	2	0.02	1	0.01	16	0.28	2	0.04	21	0.1
10	2	0.03	1	0.01	8	0.15	1	0.02	13	0.05
18	1	0.01	1	0.02	3	0.06	2	0.04	8	0.03
09	1	0.01	0.4	0.01	2	0.04	3	0.05	7	0.03
01	1	0.01	1	0.02	2	0.03	1	0.01	5	0.02
06	0.2	0.00	1	0.01	1	0.01	2	0.02	3	0.01
14	1	0.01	0.03	0.00	0.32	0.01	0.06	0.00	1	0.01
Total	7,625	100	6,780	100	5,494	100	6,376	100	26,274	100

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

The first four largest export products were Organic chemicals (HS-29), "Raw hides and skins (other than fur skins) and leather (HS-41)", Cotton (HS-52) and Miscellaneous chemical products (HS-38). In Figure-17, most of the top export products to ASEAN market show slightly upward trends but trends of Cotton (HS-52) and Sugars and sugar confectionery (HS-17) fluctuated during the 1990-2009 periods.

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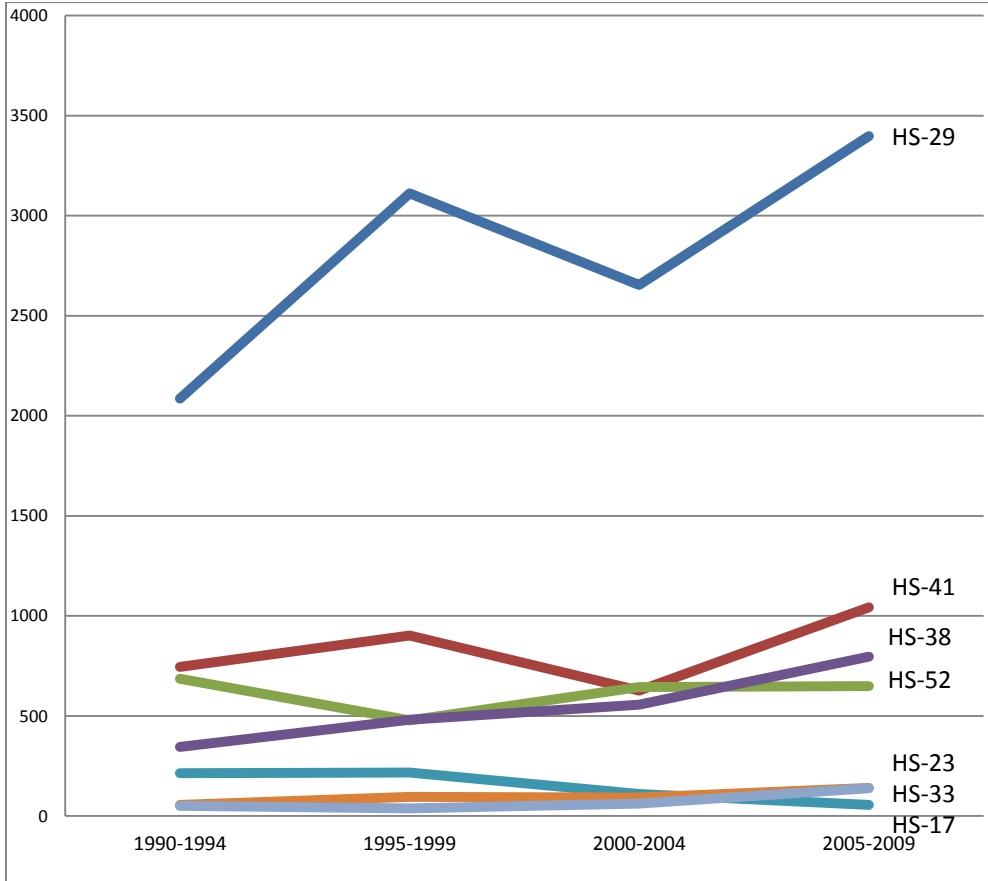
Figure 17 Trend of ASEAN agriculture and non-agriculture import values from Korea (million US$)

5.8 Trade competitions among the emerging markets and declining markets

One of the main factors that contributed to the development of ASEAN was the geographical proximity of its member states. Geographic proximity is naturally an important determinant of trade patterns. Geographical proximity promotes economic integration since it reduces transportation costs in the effective transportation system. Transportation cost can be a major component of total trade costs especially for some bulk commodities, if they can use efficient transportation system in modern globalization.

Table 20 Geographical Proximity (Kilometer, km)

No.	Country	India	PRC	Korea	Japan	Australia	US
1	Brunei Darussalam	4,768	3,877	3,819	4,248	5,741	11,953
2	Cambodia	13,441	3,336	3,629	4,403	7,020	11,962
3	Indonesia	4,987	5,194	5,278	5,772	5,502	13,476
4	Lao PDR	2,859	2,757	3,208	4,125	7,701	11,462
5	Malaysia	3,831	4,335	4,609	5,318	6,607	12,944
6	Myanmar	2,151	2,959	3,580	4,602	8,325	11,618
7	Philippines	4,760	2,840	2,614	2,990	6,249	10,699
8	Singapore	4,162	4,457	4,667	5,313	6,293	12,990
9	Thailand	2,916	3,282	3,719	4,603	7,522	11,997
10	Viet Nam	3,006	2,321	2,739	2,280	7,747	11,012
11	**ASEAN average**	**4,688**	**3,536**	**3,786**	**4,365**	**6,871**	**12,011**
12	India	-	3,784	4,695	5,848	10,414	11,338
13	PRC	3,784	-	962	2,103	8,919	8,710
14	Korea	4,695	962	-	1,153	8,297	8,341
15	Japan	5,848	2,103	1,153	-	7,792	7,713
16	Australia	10,414	8,919	8,297	7,792	-	15,710
17	US	11,338	8,710	8,341	7,713	15,710	-

Source: calculation from http://www.timeanddate.com

The PRC (People's Republic of China), Japan, and the Republic of Korea are geographically much closer to ASEAN than US and Australia (Table-20). The southern parts of the PRC and India are closer to ASEAN than Japan or the Republic of Korea, and they also have some land links to ASEAN. This gives ACFTA and AIFTA a comparative advantage over AJFTA and AKFTA. India is also geographically closer to ASEAN than US and Australia.

The result presented in Table-21 shows that each country share changes (%) and average annual growth rate (%) of top 20 agriculture and non-agriculture exporters in ASEAN market during 1990-2009 period.

5.8.1 Trade competition between China and United States

China and United States are both major agricultural producers and traders in the world, and they are important partners for agricultural trade to each other as well. The Association of Southeast Asian Nations recently implemented a trade agreement with China and another with Australia and New Zealand. These agreements are illustrative of the potential effects on U.S. agriculture of FTAs from agreements that exclude the United States. The ASEAN countries, as well as China, Australia, and New Zealand, are important destinations for U.S. agricultural exports. These countries are both customers and competitors for U.S. agriculture .

In the last five years, the quality of many Chinese horticultural products has greatly improved, and competition with the United States, particularly in Asian

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markets, has grown. The emergence of China as a global production base may reverse the trend towards regionalization of world trade as it threatens the advantages that have been associated with geographic proximity.

During 1990-1994, China's agriculture and non-agriculture export to ASEAN market increased significantly with average annual growth rate of over 9%. But China's market share has grown only at an average 0.14% per year (Table-21). At the same time, United States' export growth to ASEAN market increased only 3.85% per year along with an annual 2.34% rate of decline in its share of ASEAN's total import. On average over 1995-1999, declining of both China and U.S. agricultural export at 8.48% and 3.16% per year respectively could be seen in the light of the East Asian Financial Crisis. However average annual growth rate of China dramatic increased to 6.3% with share changes 3.7% in 2000-2004 periods and 9.7% with share changes 3% in 2005-2009 periods. For United States, export declined with growth rate 1.05% per year along with decreasing share changes 3.57% per year to ASEAN market. Therefore China-U.S. competitive trend can be observed from 1990 to 2009 except 1995-1999 periods.

Table 21 Changes in major exporters' share and average annual growth rate in ASEAN market

No.	Top 20 exporters	Each country Share changes (%)					Average annual growth rate (%)				
		1990-2009	1990-1994	1995-1999	2000-2005	2005-2009	1990-2009	1990-1994	1995-1999	2000-2005	2005-2009
1	USA	-3.88	-2.34	2.06	-3.57	-2.38	0.56	3.85	-3.16	-1.05	3.25
2	Japan	-4.29	-0.45	-1.78	-1.43	-1.07	-0.92	8.72	-10.89	2.33	-1.92
3	China	3.07	0.14	-3.61	3.70	2.99	3.91	9.16	-8.48	6.30	9.70
4	Australia	-2.37	-0.35	2.26	-1.98	-2.65	0.88	6.20	-2.51	0.23	0.67
5	France	1.03	-0.43	-0.55	0.33	1.24	2.59	3.86	-4.30	5.76	5.29
6	India	3.34	0.52	1.23	0.63	1.48	6.26	10.37	-5.58	16.17	4.92
7	UK	-1.50	-0.62	-0.16	-0.54	-0.80	-0.84	3.16	-5.27	1.61	-2.06
8	Korea	-2.05	1.04	-1.48	0.01	-0.58	1.27	11.96	-14.66	5.96	3.96
9	Germany	0.11	3.57	0.26	0.03	-0.18	0.86	5.60	-8.78	4.66	3.87
10	New Zealand	1.04	-0.35	0.21	0.74	0.09	3.01	2.48	-2.07	8.19	3.35
11	Argentina	2.60	-0.41	0.66	1.03	0.91	5.70	-3.30	2.10	18.92	3.28
12	Netherlands	-0.34	-0.27	-0.06	0.34	-0.62	0.74	6.26	-5.78	4.78	-1.20
13	Brazil	3.12	-0.52	0.59	0.33	2.20	7.32	2.81	1.76	11.05	12.76
14	Canada	-0.71	0.67	0.51	-1.11	-0.11	1.73	18.74	-12.57	1.76	2.39
15	Switzerland	-0.29	0.06	0.21	-0.13	-0.37	1.59	11.97	-2.40	-2.55	1.43
16	Italy	0.06	0.25	0.03	-0.05	0.08	3.33	11.30	-7.51	7.63	3.50
17	Pakistan	-1.29	-0.40	-0.60	-0.55	-0.15	-4.91	-15.36	-3.59	-10.93	8.15
18	Belgium	1.27	0	0.20	1.15	-0.08	3.89	0	1946	5.74	2.04
19	Spain	0.36	-0.11	0.00	0.33	0.03	3.28	0.91	2.70	9.01	0.01
20	South Africa	0.73	0	0	0.76	-0.03	6.30	0	0	10.54	2.91

The more similar the exporting structure of the two countries, the stronger is their likely competition in the third market. Firstly, export structure similarities among the nature of competition in the latter were compared graphically in Figure-18. Secondly, a quantitative method was used to compare the similarity of the export structure between China and other significant players in the ASEAN market. The structure of China's agriculture and non-agriculture export to ASEAN market during 1990-2009 is shown in Figure-19.

Value of China's export products namely Organic chemicals (HS-29) and miscellaneous chemical products (HS-38) have significantly increased and remained its two largest non-agriculture products exported to ASEAN in 2005-2009 as shown in Table-11. Furthermore, export share in value term of the fifth largest agriculture export product, "Edible fruit and nuts; peel of citrus fruit or melons (HS-08)" increased largely in Figure-18.
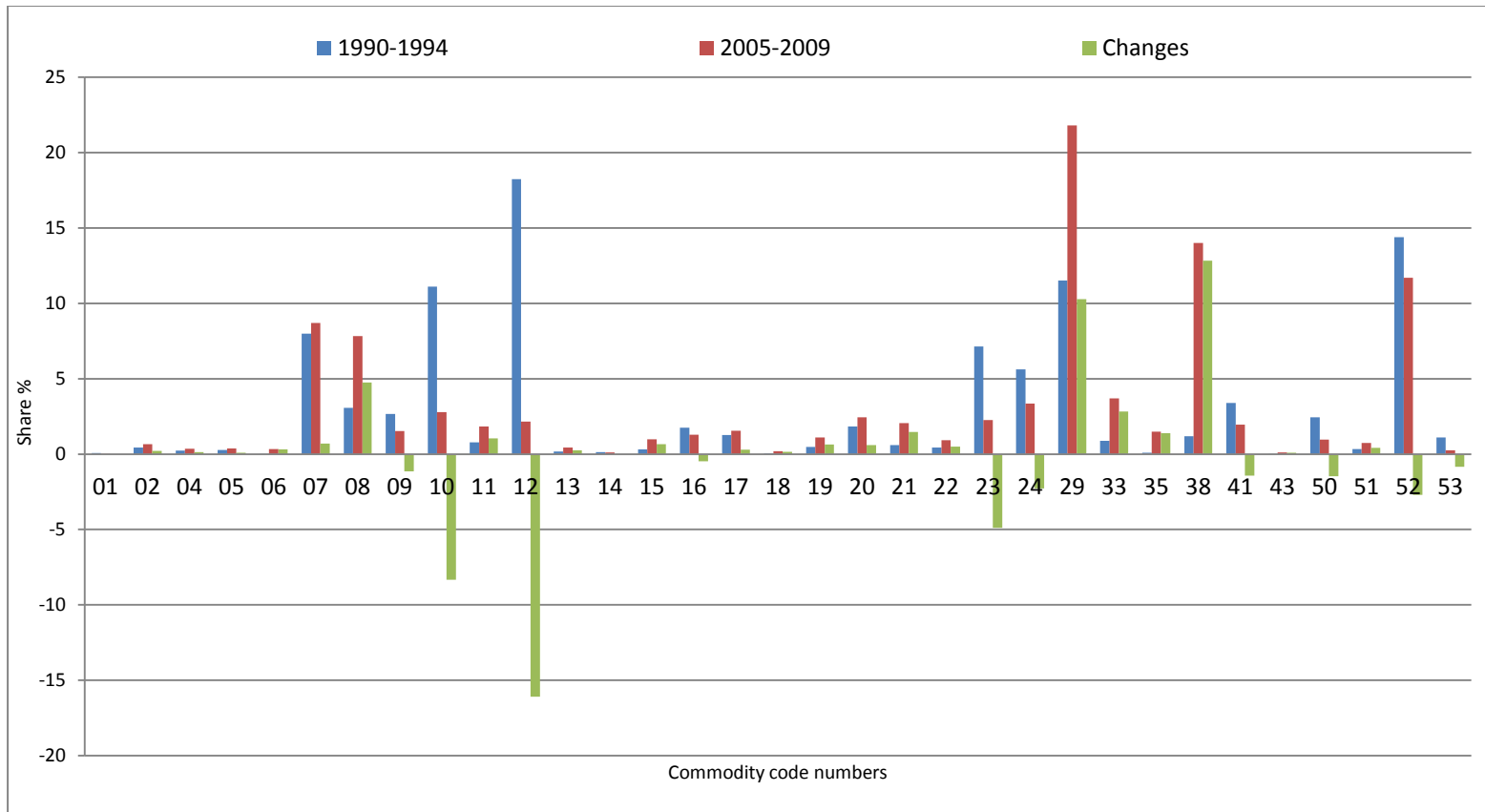
Figure 18 Structure of China's agriculture and non-agriculture export items in ASEAN market
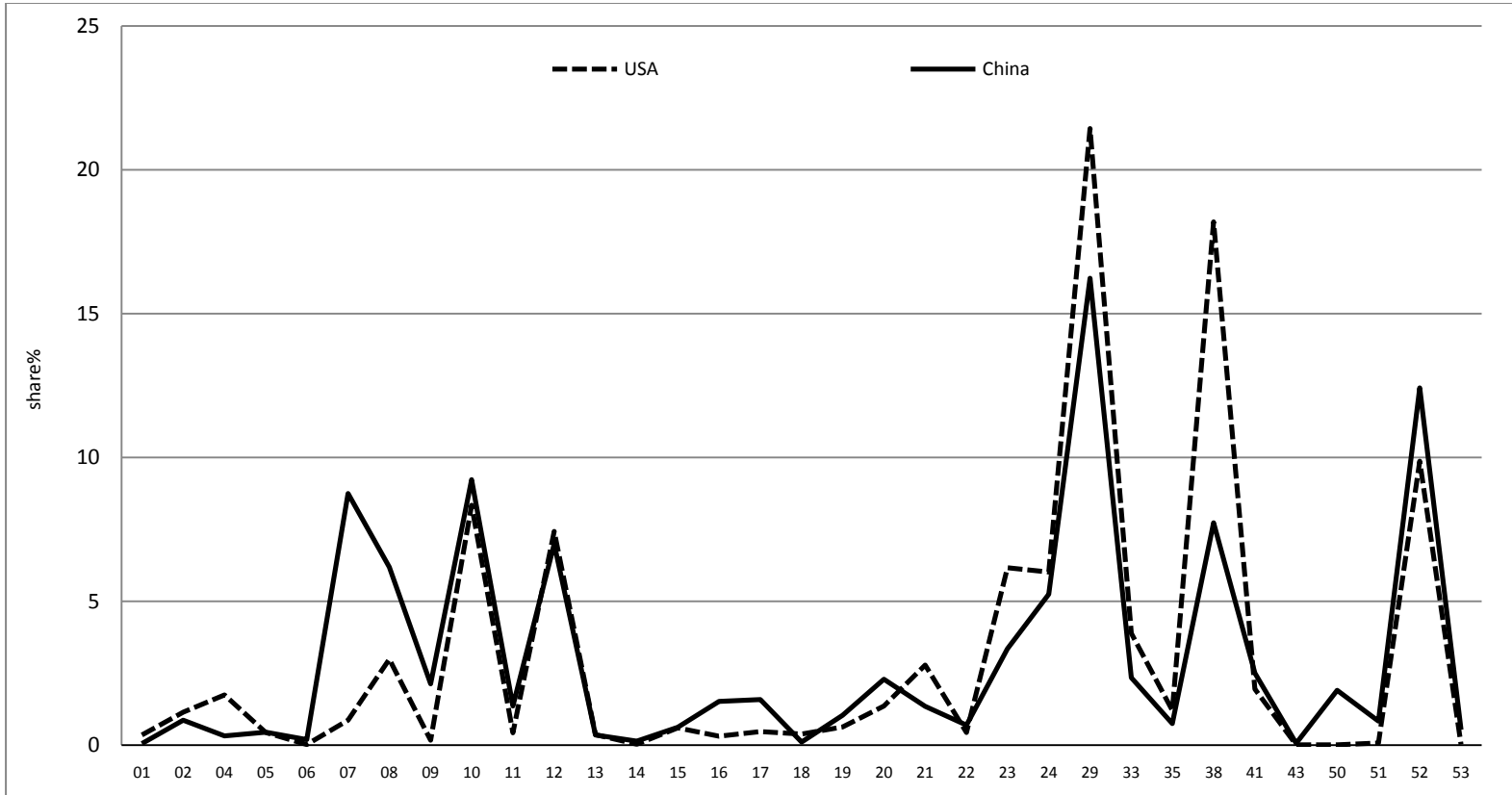
Figure 19 Export structures of China and U.S. to ASEAN agriculture and non-agriculture market (1990-2009)

Figure-19 presents a comparison of export structures of the United States and China to ASEAN market. The horizontal axis shows the selected agriculture and non-agriculture categories in two-digit HS codes, while the vertical axis shows the share percentage of the particular item in a country's total export to ASEAN market. For example, Organic chemicals (HS-29) were the largest share of both U.S. and China's export to ASEAN market. The study found significant overlaps in major agriculture and non-agriculture exports namely Organic chemicals (HS-29), miscellaneous chemical products (HS-38), "Edible fruit and nuts; peel of citrus fruit or melons (HS-08)", Edible vegetables and certain roots and tubers (HS-07) and Cotton (HS-52) when comparing the importance of each export item for these two countries. So China appears to be directly competing with the United States in major non-agriculture products like Organic chemicals (HS-29), miscellaneous chemical products (HS-38) and major agriculture product, "Edible fruit and nuts; peel of citrus fruit or melons (HS-08)".

Five sets of result on ω_{ij} (similarity index) corresponding to the entire sample and four sub-samples of the study are presented in Table-22. The base study country for computing correlation distance is China. In the following, the study focuses first on the result from the entire sample. Only two out of the 20 countries investigated have values of ω_{ij} exceeding 0.7 – U.S. and South Africa. The above result shows that China's export structure was nearly the same with that of the above two countries. But the value of South Africa's export to ASEAN market was 19th largest among the top 20 exporting countries. Hence, the similarity indexes, observed in the case of U.S., were of significance in all sub-sample periods from

1990 to 2009. The trend in the similarity index during 1990-2009, in columns 2 through 5 of Table-22, reveals the changing nature of competition in the ASEAN market. It means that China's exports, under the 323 four–digit HS commodities, were in direct competition with United States during 1990-2009 periods. The other countries with similarity index (0.7) are Japan, India, Korea, Germany, Switzerland and Belgium.

Table 22 Similarity Index of agriculture and non-agriculture export structure compared with China

Top-19 exporters to ASEAN	1990-2009	1990-1994	1995-1999	2000-2004	2005-2009
Argentina	0.3	0.6	0.5	0.2	0.1
Australia	0.5	0.6	0.6	0.6	0.3
Belgium	0.7	-	0.5	0.6	0.8
Brazil	0.5	0.8	0.3	0.3	0.3
Canada	0.5	0.5	0.6	0.6	0.2
France	0.4	0.2	0.3	0.4	0.4
Germany	0.7	0.4	0.5	0.6	0.8
India	0.7	0.6	0.6	0.7	0.7
Italy	0.6	0.3	0.5	0.6	0.7
Japan	0.7	0.4	0.5	0.6	0.8
Korea	0.7	0.5	0.5	0.6	0.8
New Zealand	0.1	0.1	0.1	0.1	0.0
Netherlands	0.6	0.4	0.5	0.5	0.6
Pakistan	0.3	0.3	0.3	0.4	0.3
South Africa	0.8	-	-	0.8	1.0
Spain	0.6	0.4	0.5	0.6	0.8
Switzerland	0.7	0.4	0.5	0.6	0.8
UK	0.6	0.4	0.5	0.6	0.5
USA	0.9	0.6	0.8	0.8	0.9

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

Recall from Table-9 and Table-11 that non-agriculture products like organic chemicals (HS-29) and miscellaneous chemical products (HS-38) and agriculture product such as "edible vegetables and certain roots and tubers (HS-07)" and "edible fruit and nuts; peel of citrus fruit or melons (HS-08)" were the important groups of exports for both countries. Therefore any changes in export quantities of those commodities between China and U. S. will have a larger effect on the similarity index. The result in Table-22 means that China's exports likely focused on products which are also primary exports of United States. Therefore it can anticipate intense competition between United States and China in certain commodity items in the ASEAN market, and that China's export products may be a substitute for U.S. exports in ASEAN market.
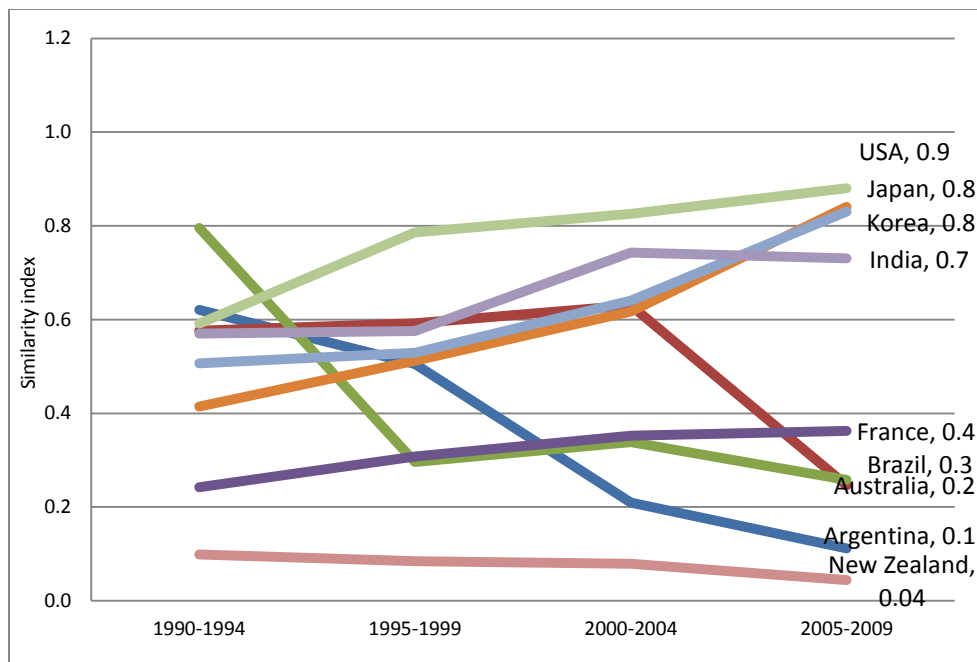
Figure 20 Trend of the similarity index of export structure compared with China

The trends of similarity index of export structure compared with China are shown in Fig-20. The similarity index trend of USA was deeply increasing from 1990-1994 to 1995-1999 and regularly increasing from 1995-1999 to 2005-2009 periods. Japan's trend was also significantly increasing from 1990-1994 to 2005-2009 periods. For Australia, the trend of similarity index was constant until 2000-2004 periods and decreased in 2005-2009 periods.

In Table-23, deriving the index, which represents the pattern of competitive threat from China to the United States and other top exporters based on the relative market shares in ASEAN market, was done. The study has categorized the threat index into 5 types: Direct Threat (5), Partial Threat (4), No Threat (3), China under Threat (2), Mutual Withdrawal (1) and No export (0). The results from the application of the concept of competitive threat with China as the base against United States as well as other exporters are presented in Table-23 and Table-24. As shown in Table-23, China's exports directly threated to United States, Japan, Australia, United Kingdom, Korea, Netherlands, Canada, Switzerland and Pakistan during 1990-2009 periods. Moreover, France, Germany, New Zealand, Italy, Belgium and Spain were faced Partial Threat from China when they were exporting to the ASEAN market.

Table 23 Competitive Threat of China to top-20 exporters in ASEAN by Periods

Top-19 exporters to ASEAN	1990-2009	1990-1994	1995-1999	2000-2004	2005-2009
USA	5	5	2	5	5
Japan	5	5	1	5	5
Australia	5	5	2	5	5
France	4	5	1	4	4
India	3	3	2	3	4
UK	5	5	1	5	5
Korea	5	3	1	4	5
Germany	4	4	2	4	5
New Zealand	4	5	2	3	4
Argentina	3	5	2	3	4
Netherlands	5	5	1	4	5
Brazil	3	5	2	3	3
Canada	5	3	2	5	5
Switzerland	5	3	2	5	5
Italy	4	3	2	0	4
Pakistan	5	5	1	5	5
Belgium	4	-	2	4	5
Spain	4	5	2	3	4
South Africa	3	-	-	3	5

Note: 5=Direct Threat, 4=Partial Threat, 3=No Threat, 2= China under Threat, 1=Mutual Withdrawal, 0= No export

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE

United States, Japan and Australia were faced with Direct Threat in all periods from 1990 to 2009 except in 1995-1999 sub periods due to Asian financial crisis. Moreover during those periods, similarity index of those countries were increasing to nearly 1 as shown in Table-22. Therefore United States, Japan and Australia were seriously suffering Direct Threat from China's export products in ASEAN market in those periods.

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Table 24 Number of Products by Types of China Threat (Four-digit HS Code, 1990-2009)

Top-19 exporters	Direct Threat	Partial Threat	NO Threat	China under threat	Mutual Withdrawal	Total
Japan	154	48	25	50	41	318
	(48%)	(15%)	(8%)	(16%)	(13%)	(100%)
USA	130	70	25	55	36	316
	(41%)	(22%)	(8%)	(17%)	(11%)	(100%)
Australia	141	51	27	49	36	304
	(46%)	(17%)	(9%)	(16%)	(12%)	(100%)
Germany	114	59	46	51	32	302
	(38%)	(19%)	(15%)	(17%)	(11%)	(100%)
France	124	51	42	49	30	296
	(42%)	(17%)	(14%)	(17%)	(10%)	(100%)
UK	157	30	26	39	46	298
	(53%)	(10%)	(9%)	(13%)	(15%)	(100%)
Korea	71	57	86	56	27	297
	(24%)	(19%)	(29%)	(19%)	(9%)	(100%)
India	31	67	114	64	19	295
	(11%)	(23%)	(39%)	(22%)	(6%)	(100%)
Netherlands	134	47	25	37	44	287
	(47%)	(16%)	(9%)	(13%)	(15%)	(100%)
Italy	69	73	58	50	24	274
	(25%)	(27%)	(21%)	(18%)	(9%)	(100%)
Switzerland	121	43	28	25	47	264
	(46%)	(16%)	(11%)	(9%)	(18%)	(100%)
Canada	75	44	70	42	29	260
	(29%)	(17%)	(27%)	(16%)	(11%)	(100%)
New Zealand	80	51	51	42	27	251
	(32%)	(20%)	(20%)	(17%)	(11%)	(100%)
Belgium	0	16	169	60	0	245
	(0%)	(7%)	(69%)	(24%)	(0%)	(100%)
Spain	59	35	85	46	13	238
	(25%)	(15%)	(36%)	(19%)	(5%)	(100%)
Brazil	50	35	70	42	13	210
	(24%)	(17%)	(33%)	(20%)	(6%)	(100%)
Pakistan	50	14	57	37	13	171
	(29%)	(8%)	(33%)	(22%)	(8%)	(100%)
Argentina	22	16	79	27	14	158
	(14%)	(10%)	(50%)	(17%)	(9%)	(100%)
South Africa	0	9	110	35	0	154
	(0%)	(6%)	(71%)	(23%)	(0%)	(100%)

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

The percent of commodity lines facing various degree of competitive threat from China was assessed and presented in Table-24. In total about 63% of U.S. products lines were faced with either Direct or Partial Threat from China in ASEAN market. About 41% of total 316 affected U.S. products were subjected to Direct Threat from China. As recall from Figure-19, China appears to be directly competing with the United States in major non-agriculture product, Organic chemicals (HS-29) and miscellaneous chemical products (HS-38) and major agriculture products like "Edible fruit and nuts; peel of citrus fruit or melons (HS-08)", (HS-24) tobacco and manufactured tobacco substitutes and (HS-52) cotton.

Table 25 Competitive Threat of China in USA's major agriculture exports to ASEAN (1990-2009)

No.	HS-code	Name	Threat	USA (000'US$)		China (000'US$)	
				1990-1991 average	2008-2009 average	1990-1991 average	2008-2009 average
1	080300	Banana, including plantains, fresh or dried	5	48	1	7	32
2	080510	Oranges, fresh or dried	5	28,296	24,099	2,822	23,341
3	080530	Lemons and limes, fresh or dried	5	452	278	35	1,219
4	080540	Grapefruit, fresh or dried	5	488	357	5	162
5	080590	Citrus fruits, fresh or dried, nes	5	20	35	59	269
6	080610	Grapes, fresh	5	31,029	47,323	262	28,567
7	080620	Grapes, dried	5	6,721	9,011	9	1,791
8	080810	Apples, fresh	5	70,164	35,068	539	152,223
9	080820	Pears and quinces, fresh	5	953	959	21,326	82,225
10	080920	Cherries, fresh	5	1,001	5,539	1	38
11	081010	Strawberries, fresh	5	1,719	6,702	24	185
12	081090	Fruits, fresh nes	5	347	331	726	15,654
13	081110	Strawberries, (uncooked steamed or boiled), frozen	5	82	142	14	1,488
14	081120	Rasp-, mul-berries, etc (uncooked, steam, boil),froze	5	82	80	-	470
15	081210	Cherries provisionally preserved	5	7	81	-	68
16	081290	Fruits and nuts, provisionally preserved nes	5	21	25	339	1,942
17	210120	Tea and mate extracts, essences and concentrates	5	990	3,831	41	5,602
18	210220	Yeasts, inactive, dead unicellular organisms nes	5	305	1,137	124	1,640
19	210230	Baking powders, prepared	5	594	1,000	211	581
20	210330	Mustard flour or meal and prepared mustard	5	426	664	14	72
21	210390	Sauces nes, mixed condiments, mixed seasoning	5	6,913	18,222	1,944	15,190
22	210410	Soups and broths and preparations thereof	5	3,133	3,499	117	1,324

23	210420	Homogenised composite food preparations	5	398	664	4	489
24	210500	Ice cream and other edible ice	5	2,198	2,035	-	2,601
25	210610	Protein concentrates and textured protein substances	5	4,679	12,486	55	6,391
26	210690	Food preparations nes	5	65,714	193,583	9,106	72,655
27	240120	Tobacco, unmanufactured, stemmed or stripped	5	137,550	53,390	11,310	77,629
28	240130	Tobacco refuse	5	138	136	19	5,619
29	240220	Cigarettes containing tobacco	5	241,843	2,148	47,865	47,854
30	240290	Cigars, cheroots, cigarettes, with tobacco substitute	5	631	40	-	3,384
31	240310	Cigarette or pipe tobacco and tobacco substitute mixe	5	26,480	322	-	7,998
32	520299	Cotton waste, except garnetted stock	5	3,587	95	2,596	446
33	520811	Plain weave cotton, >85% <100 g/m2, unbleached	5	540	35	1,981	18,120
34	520819	Woven cotton nes, >85% <200g/m2, unbleached	5	586	152	1,059	22,995
35	520831	Plain weave cotton, >85% <100 g/m2, dyed	5	568	6	13,221	9,019
36	520832	Plain weave cotton, >85% 100-200g/m2, dyed	5	525	19	3,798	18,989
37	520839	Woven cotton nes, >85% <200g/m2, dyed	5	949	134	5,283	27,337
38	520842	Plain weave cotton, >85% 100-200g/m2, yarn dyed	5	2,714	98	4,194	28,501
39	520859	Woven cotton nes, >85% <200g/m2, printed	5	2,723	480	6,458	70,197
40	520911	Plain weave cotton, >85% >200g/m2, unbleached	5	1,701	102	190	30,455
41	520931	Plain weave cotton, >85% >200g/m2, dyed	5	873	146	2,956	11,449
42	520932	Twill weave cotton, >85% >200g/m2, dyed	5	1,648	12	2,411	10,495
43	520939	Woven cotton nes, >85% >200g/m2, dyed, nes	5	486	521	2,080	33,649
44	520959	Woven cotton nes, >85% >200g/m2, printed, nes	5	1,225	156	3,527	13,113
45	521059	Woven cotton nes, <85% +manmade fibre, <200g/m2 print	5	592	120	652	14,376

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

To further illustrate the detail of competitive threat from China, the present study carried out an in-depth analysis of ASEAN's major products namely "Edible fruit and nuts; peel of citrus fruit or melons", "Miscellaneous edible preparations" "tobacco and manufactured tobacco substitutes", "cotton", "Organic chemicals" and "miscellaneous chemical products" where China and U.S. were major players. Within agriculture products, the study computed detail threat levels for HS six-digit commodities as shown in Table-25.

The United States has been directly threatened by China in most of "Edible fruit and nuts categories" and "miscellaneous edible preparations", "tobacco and manufactured tobacco substitutes" and cotton. Moreover, U. S. was suffering Direct Threat by China in some major non-agriculture HS six-digit items of Organic chemicals and miscellaneous chemical products (Table-26).

Table 26 Competitive Threat of China in USA's major non-agriculture exports in ASEAN (1990-2009)

No.	HS-code	Name	Threat	USA (000'US$)		China (000'US$)	
				1990-1991 average	2008-2009 average	1990-1991 average	2008-2009 average
1	290122	Propene (propylene)	5	67,204	4,379	-	287
2	290129	Unsaturated acyclic hydrocarbons nes	5	2,756	3,845	9	5,578
3	290511	Methyl alcohol	5	1,528	807	1	6,176
4	290522	Acyclic terpene alcohols	5	1,253	3,130	24	3,237

5	292320	Lecithins and other phosphoaminolipids	5	3,789	6,224	136	1,981
6	292519	Imides except saccharin, derivatives, salts thereof	5	11,608	279	814	457
7	292910	Isocyanates	5	92,743	28,743	-	34,864
8	292990	Compounds with other nitrogen function, nes	5	4,277	2,803	65	1,080
9	293010	Dithiocarbonates (xanthates)	5	2,532	1,008	46	2,186
10	293090	Organo-sulphur compounds, nes	5	26,882	15,502	4,416	9,972
11	293490	Heterocyclic compounds, nes	5	11,204	13,168	3,061	20,771
12	294110	Penicillins, derivatives, in bulk, salts	5	3,216	219	851	17,193
13	294150	Erythromycin, derivatives, in bulk, salts	5	10,791	4,069	36	8,818
14	294190	Antibiotics nes, in bulk	5	6,256	2,743	5,130	57,203
15	380210	Activated carbon	5	5,290	5,777	1,095	5,933
16	380290	Activated natural mineral products, animal black, nes	5	3,873	7,555	62	10,240
17	380690	Resin acids and derivs nes, rosin derivs nes	5	4,150	2,150	84	7,675
18	380810	Insecticides, packaged for retail sale	5	28,713	15,907	13,057	93,131
19	380820	Fungicides, packaged for retail sale	5	6,832	5,932	360	32,583
20	380830	Herbicides, sprouting and growth regulators	5	36,671	6,328	1,396	171,007
21	380890	Pesticides, rodenticides, nes, for retail sale	5	4,017	7,909	120	93,401
22	381010	Metal pickling preps, solder and brazing flux, etc.	5	6,202	9,699	76	4,614
23	381090	Electro-weld rod cores, coatings, etc.	5	3,385	11,508	159	5,321
24	381119	Anti-knock preparations, except lead compounds	5	16,664	2,537	3	338
25	381210	Prepared rubber accelerators	5	4,327	1,653	334	17,067
26	381220	Compound plasticisers for rubber or plastic, nes	5	688	7,508	994	3,871

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

5.8.2 Trade competition between China and Japan

Japan's agriculture and non-agriculture exports to ASEAN market increased significantly with average annual growth rate above 8.7% during 1990-1994 periods as shown in Table-21. However, Japan's market share has declined at an average 0.45% per year. Then Japan's market share were projected to fall deeply with an annual average 1.78% during 1995-1999, 1.43% during 2000-2005, 1.07% during 2005-2009 and overall average 4.29% during 1990-2009 periods respectively. Moreover average annual growth rate of Japan's agriculture and non-agriculture export significantly decreased at 10.9% during 1995-1999 and 1.92% during 2005-2009 periods respectively.

Recall from Table-22, the trend in the similarity index from 1990 to 2009, which reveals the changing nature of competition in ASEAN market, increased for Japan' export product. Therefore Japan's export structure was increasingly similar to that of China and competition nature was also increasing from 1990 to 2009. According to 2008-2009 ASEAN's agriculture and non-agriculture average import value, China (5,559 million US$) became the second largest and Japan (2,656 million US$) was fifth largest trading partners in ASEAN market as shown in Table-7. It means that Japan's 323 exports, under the four-digit HS commodities had been faced with direct competition of China's exports from 1990 to 2009. As mentioned above, United States, Japan and Australia were faced China's direct threat from 1990 to 2009 except 1995-1999 sub periods (Table-23).

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Table 27 Competitive Threat of China in Japan's major agriculture exports to ASEAN (1990-2009)

N o.	HS-code	Name	Threat	Japan (000'US$)		China (000'US$)	
				1990-1991 average	2008-2009 average	1990-1991 average	2008-2009 average
1	110100	Wheat or meslin flour	5	33,733	20,672	54	19,810
2	110319	Cereal groats or meal except wheat, maize, rice, oats	5	64	11	-	0.4
3	110520	Potato flakes, granules and pellets	5	21	69	8	1,405
4	210220	Yeasts, inactive, dead unicellular organisms nes	5	116	494	124	1,640
5	210330	Mustard flour or meal and prepared mustard	5	131	284	14	72
6	210390	Sauces nes, mixed condiments, mixed seasoning	5	8,152	22,234	1,944	15,190
7	210410	Soups and broths and preparations thereof	5	4,377	2,730	117	1,324
8	210420	Homogenised composite food preparations	5	201	689	4	489
9	210690	Food preparations nes	5	17,012	17,567	9,106	72,655
10	240120	Tobacco, unmanufactured, stemmed or stripped	5	46	4	11,310	77,629
11	240210	Cigars, cheroots and cigarillos, containing tobacco	5	58	0	47	2,135
12	240290	Cigars, cheroots, cigarettes, with tobacco substitute	5	9	3	-	3,384
13	350110	Casein	5	76	34	-	1,381
14	350190	Casein glues, caseinates and other casein derivatives	5	10	71	-	3,616
15	350210	Egg albumin	5	21	181	11	224
16	350290	Albumins nes, albuminates & other albumin derivatives	5	58	38	-	462
17	350510	Dextrins and other modified starches	5	6,334	919	49	6,405
18	350610	Glues and adhesives of all kinds, package <1 kg	5	9,986	7,922	147	2,329

19	350691	Adhesives based on rubber or plastic, package >1 kg	5	22,737	17,365	233	18,163
20	350699	Glues or adhesives, prepared nes, package > 1kg	5	9,195	26,646	54	15,350
21	350790	Enzymes nes, prepared enzymes nes, except rennet	5	8,620	4,502	3	22,989
22	520819	Woven cotton nes, >85% <200g/m2, unbleached	5	3,093	1,781	1,059	22,995
23	520822	Plain weave cotton, >85% 100-200g/m2, bleached	5	6,622	301	5,435	12,503
24	520831	Plain weave cotton, >85% <100 g/m2, dyed	5	6,819	1,034	13,221	9,019
25	520832	Plain weave cotton, >85% 100-200g/m2, dyed	5	8,458	1,499	3,798	18,989
26	520833	Twill weave cotton, >85% <200g/m2, dyed	5	6,161	145	1,532	3,575
27	520839	Woven cotton nes, >85% <200g/m2, dyed	5	8,482	2,489	5,283	27,337
28	520841	Plain weave cotton, >85% <100 g/m2, yarn dyed	5	5,959	115	3,894	1,799
29	520842	Plain weave cotton, >85% 100-200g/m2, yarn dyed	5	31,548	2,665	4,194	28,501
30	520849	Woven cotton nes, >85% <200g/m2, yarn dyed	5	6,049	2,615	2,546	9,408
31	520852	Plain weave cotton, >85% 100-200g/m2, printed	5	8,797	361	5,635	3,105
32	520859	Woven cotton nes, >85% <200g/m2, printed	5	5,460	3,213	6,458	70,197
33	520911	Plain weave cotton, >85% >200g/m2, unbleached	5	36,624	6,210	190	30,455
34	520931	Plain weave cotton, >85% >200g/m2, dyed	5	8,106	1,161	2,956	11,449
35	520932	Twill weave cotton, >85% >200g/m2, dyed	5	7,240	5,878	2,411	10,495
36	520939	Woven cotton nes, >85% >200g/m2, dyed, nes	5	3,402	2,919	2,080	33,649

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

As presented in Table-24, about 48% of total affected 318 Japan's exports were faced with direct threat and about 15% were subjected to partial threat of China. Among major agriculture products, total 36 six-digit items of "products of milling industry", "Miscellaneous edible preparations, "tobacco and manufactured tobacco substitutes", "Albuminoidal substances; modified starches; glues; enzymes" and "cotton" were faced with direct or partial threat of China's agricultural export (Table-27).

Table 28 Competitive Threat of China in Japan's major non-agriculture exports in ASEAN (1990-2009)

No.	HS-code	Name	Threat	Japan (000'US$)		China (000'US$)	
				1990-1991 average	2008-2009 average	1990-1991 average	2008-2009 average
1	290121	Ethylene	5	19,637	5,587	-	1,286
2	290129	Unsaturated acyclic hydrocarbons nes	5	1,036	6,717	9	5,578
3	290410	Sulphonated hydrocarbons, salts and ethyl esters	5	6,215	1,504	163	3,175
4	290519	Saturated monohydric acyclic alcohols nes	5	17,132	1,350	3	1,534
5	290532	Propylene glycol (propane-1,2-diol)	5	15,087	3,406	-	909
6	290542	Pentaerythritol	5	8,645	2,549	159	5,450
7	292010	Thiophosphoric esters(phosphorothioates),salts,derivs	5	11,551	449	1,199	230
8	292090	Esters of inorganic acids, nes, their salts, derivs	5	11,050	4,027	98	3,537
9	292390	Quarternary ammonium salts and hydroxides, nes	5	1,631	5,665	88	9,207
10	292410	Acyclic amides, derivatives, salts thereof	5	9,006	3,630	200	4,916
11	292910	Isocyanates	5	48,800	59,715	-	34,864
12	293040	Methionine	5	13,844	34,695	68	2,673
13	293490	Heterocyclic compounds, nes	5	18,660	16,938	3,061	20,771
14	294110	Penicillins, derivatives, in bulk, salts	5	4,028	2,592	851	17,193

15	294190	Antibiotics nes, in bulk	5	5,518	4,601	5,130	57,203
16	380210	Activated carbon	5	5,234	2,213	1,095	5,933
17	380630	Ester gums	5	1,591	1,290	-	1,525
18	380810	Insecticides, packaged for retail sale	5	12,112	12,656	13,057	93,131
19	380830	Herbicides, sprouting and growth regulators	5	1,961	7,989	1,396	171,007
20	380840	Disinfectants, packaged for retail sale	5	2,785	675	1	1,643
21	380890	Pesticides, rodenticides, nes, for retail sale	5	1,576	12,948	120	93,401
22	380991	Finishing agents, dye carriers, dressing, mordants ne	5	18,646	11,653	21	25,663
23	380992	Finishing agents & dye carriers - paper industry	5	2,406	3,692	-	5,759
24	381121	Lubricating oil additives with petroleum, bitumen oil	5	6,425	4,986	9	10,759
25	381190	Oil additives nes, oxidation, corrosion, gum inhibito	5	1,018	5,439	16	2,333
26	381210	Prepared rubber accelerators	5	3,503	9,157	334	17,067
27	381230	Anti-oxidisers and stabilizers for rubber or plastics	5	6,428	20,088	307	30,058
28	381710	Mixed alkylbenzenes, nes	5	40,010	16,665	44	12,939

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

The first and second important export products of Japan were non agriculture products namely "(HS-29) Organic chemicals (31,677 million US$)" and "(HS-38) miscellaneous chemical products (14,257 million US$)" in ASEAN market as shown in Table-13. So "(HS-29) Organic chemicals" and "(HS-38) miscellaneous chemical products" were the important larger groups of exports for both China and Japan. For detail analysis, total 28 items of HS six-digit Japan's major non-agriculture export products of "Organic chemicals" and "miscellaneous chemical products" were suffering direct threat from China's exports (Table-28).

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5.8.3 Trade competition between China and Australia

Australia was the third largest partner of ASEAN according to both (1990-2009) total import value and (2008-2009) average import value from ASEAN market as presented in Table-7. Australia's average annual export growth has increased slightly but along with a fall market share in ASEAN market as shown in Table-21. In Table-22, the similarity indexes of Australia with China were above 0.5 in all subsample periods except in 2005-2009.

It reveals that Australia's export commodities were in some competition with China during the study period. In Table-23, Australia's agriculture and non-agriculture exports were faced with direct threat from China's exports in ASEAN market except 1995-1999 periods. Under the four-digit HS commodities, 46% of affected commodities were subjected to China's direct threat and 17% were also faced China's partial threat in ASEAN market as shown in Table-24.

Table 29 Competitive Threat of China in Australia's major agriculture exports to ASEAN (1990-2009)

No.	HS-code	Name	Threat	Australia (000'US$)		China (000'US$)	
				1990-1991 average	2008-2009 average	1990-1991 average	2008-2009 average
1	070190	Potatoes, fresh or chilled except seed	5	1,479	5,575	3,742	30,527
2	070200	Tomato, fresh or chilled	5	1,387	833	24	538
3	070410	Cauliflowers and headed broccoli, fresh or chilled	5	14,762	3,668	174	40,869
4	070490	Edible brassicas nes, fresh or chilled	5	2,698	563	2,408	35,275
5	070511	Cabbage lettuce (head lettuce) fresh or chilled	5	1,943	354	16	6,967
6	070519	Lettuce, fresh or chilled except cabbage lettuce	5	1,211	1,738	53	1,327
7	070610	Carrots and turnips, fresh or chilled	5	17,394	13,898	62	47,008
8	070810	Peas, shelled or unshelled, fresh or chilled	5	870	605	333	5,588
9	070940	Celery, other than celeriac, fresh or chilled	5	1,276	564	3	2,760
10	070990	Vegetables, fresh or chilled nes	5	663	1,776	1,387	11,686
11	080300	Banana, including plantains, fresh or dried	5	15	12	7	32
12	080510	Oranges, fresh or dried	5	35,065	14,772	2,822	23,341
13	080520	Mandarin, clementine & citrus hybrids, fresh or dried	5	1,335	2,344	18,052	113,134
14	080530	Lemons and limes, fresh or dried	5	1,151	174	35	1,219
15	080540	Grapefruit, fresh or dried	5	203	148	5	162
16	080590	Citrus fruits, fresh or dried, nes	5	71	30	59	269

17	080610	Grapes, fresh	5	12,512	28,906	262	28,567
18	080620	Grapes, dried	5	1,361	140	9	1,791
19	080710	Melons (including watermelons), fresh	5	2,092	4,058	289	5,559
20	080810	Apples, fresh	5	17,904	1,127	539	152,223
21	080820	Pears and quinces, fresh	5	12,731	796	21,326	82,225
22	080930	Peaches, nectarines, fresh	5	958	2,314	63	1,551
23	080940	Plums, sloes, fresh	5	3,502	2,153	20	579
24	081010	Strawberries, fresh	5	479	1,911	24	185
25	081090	Fruits, fresh nes	5	514	1,026	726	15,654
26	081190	Fruits and nuts (uncooked, steamed, boiled) frozen,nes	5	62	247	41	973
27	520411	Cotton sewing thread >85% cotton, not retail	5	3	-	1,171	944
28	520419	Cotton sewing thread, <85% cotton, not retail	5	1	0.04	69	2,836
29	520710	Cotton yarn (except sewing thread) >85% cotton, retail	5	6	-	500	1,130
30	520790	Cotton yarn (except sewing thread) <85% cotton, retail	5	7	1	87	1,670
31	520819	Woven cotton nes, >85% <200g/m2, unbleached	5	15	41	1,059	22,995
32	520829	Woven cotton nes, >85% <200g/m2, bleached	5	10	7	2,392	7,671
33	520833	Twill weave cotton, >85% <200g/m2, dyed	5	9	2	1,532	3,575
34	520839	Woven cotton nes, >85% <200g/m2, dyed	5	34	11	5,283	27,337
35	520849	Woven cotton nes, >85% <200g/m2, yarn dyed	5	160	23	2,546	9,408
36	520859	Woven cotton nes, >85% <200g/m2, printed	5	142	11	6,458	70,197

37	520919	Woven cotton nes, >85% >200g/m2, unbleached, nes	5	10	8	765	32,631
38	520931	Plain weave cotton, >85% >200g/m2, dyed	5	12	-	2,956	11,449
39	520939	Woven cotton nes, >85% >200g/m2, dyed, nes	5	117	33	2,080	33,649
40	521019	Woven cotton nes <85% +manmade fibre <200g, unbleache	5	21	5	66	4,305
41	521029	Woven cotton nes, <85% +manmade fibre, <200g bleached	5	3	-	52	2,562
42	521052	Twill weave cotton, <85% +manmade fibre, <200g print	5	2	-	7	966
43	521059	Woven cotton nes, <85% +manmade fibre, <200g/m2 print	5	40	-	652	14,376
44	521119	Woven cotton nes, <85% +manmade fibre, >200g/m2 unbl	5	5	0.2	-	2,855
45	521139	Woven cotton nes, <85% +manmade fibre, >200g/m2, dyed	5	20	3	31	5,339
46	521151	Plain weave cotton , <85% +manmade fibre, >200g, prin	5	4	-	161	315

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

As shown in Table-29, the seriously affected agriculture products were 46 items of "edible vegetables and certain roots and tubers", "edible fruit and nuts; peel of citrus fruit or melons" and "cotton" under the detail analysis of HS code six-digit items .

Table 30 Competitive Threat of China in Australia's major non-agriculture exports in ASEAN (1990-2009)

No.	HS-code	Name	Threat	Australia (000'US$)		China (000'US$)	
				1990-1991 average	2008-2009 average	1990-1991 average	2008-2009 average
1	290110	Saturated acyclic hydrocarbons	5	17	12	-	321
2	290121	Ethylene	5	8,552	1,468	-	1,286
3	290129	Unsaturated acyclic hydrocarbons nes	5	43	19	9	5,578
4	290519	Saturated monohydric acyclic alcohols nes	5	1,015	117	3	1,534
5	290549	Polyhydric acyclic alcohols nes	5	29	8	19	1,480
6	290550	Derivatives of acyclic alcohols	5	1,390	0.5	6	304
7	292390	Quarternary ammonium salts and hydroxides, nes	5	51	28	88	9,207
8	292429	Cyclic amides, derivatives, nes, salts thereof	5	21	22	26,516	40,855
9	292910	Isocyanates	5	251	140	-	34,864
10	293090	Organo-sulphur compounds, nes	5	332	8	4,416	9,972
11	293410	Heterocyclic compounds with an unfused thiazole ring	5	23	-	47	922
12	293420	Heterocyclic compounds containing a benzothiazole rin	5	35	35	239	9,882
13	293490	Heterocyclic compounds, nes	5	388	137	3,061	20,771
14	294110	Penicillins, derivatives, in bulk, salts	5	46	113	851	17,193
15	294150	Erythromycin, derivatives, in bulk, salts	5	50	-	36	8,818
16	380630	Ester gums	5	331	2	-	1,525
17	380690	Resin acids and derivs nes, rosin derivs nes	5	240	114	84	7,675
18	380810	Insecticides, packaged for retail sale	5	1,108	1,400	13,057	93,131
19	380820	Fungicides, packaged for retail sale	5	268	1,018	360	32,583
20	380830	Herbicides, sprouting and growth regulators	5	3,127	571	1,396	171,007

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21	380840	Disinfectants, packaged for retail sale	5	228	101	1	1,643
22	380890	Pesticides, rodenticides, nes, for retail sale	5	109	1,335	120	93,401
23	380991	Finishing agents, dye carriers, dressing, mordants ne	5	286	442	21	25,663
24	380992	Finishing agents & dye carriers - paper industry	5	327	639	-	5,759
25	381010	Metal pickling preps, solder and brazing flux, etc.	5	4,578	1,386	76	4,614
26	381190	Oil additives nes, oxidation, corrosion, gum inhibito	5	259	2,148	16	2,333
27	381210	Prepared rubber accelerators	5	1,362	28	334	17,067

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

Major non-agriculture products, HS six-digit 27 items of "Organic chemicals" and "miscellaneous chemical products" were also subjected to China's threat (Table-30).

5.8.4 Trade competition between India and United States

As India has a large and diverse agriculture and is one of the world's leading producers, India is fourth largest agriculture and non-agriculture exporting country to ASEAN market according to 2008-2009 average import values of ASEAN. During 1990-1994 periods India's export to ASEAN market robustly increased with average annual growth rate 10.4% along with 0.52% market share rate. Then it declined only in 1995-1999 periods but with positive market share rate. Since 2000-2005 periods India's export increased very significantly until 2009 with higher average annual growth rate above 16% (Table-21).

Table 31 Similarity Index of agriculture and non-agriculture export structure compared with India

Top-19 exporters to ASEAN	1990-2009	1990-1994	1995-1999	2000-2004	2005-2009
Argentina	0.7	0.2	0.8	0.5	0.6
Australia	0.4	0.4	0.5	0.5	0.3
Belgium	0.6	-	0.4	0.7	0.8
Brazil	0.8	0.8	0.8	0.6	0.6
Canada	0.4	0.2	0.5	0.5	0.3
China	0.7	0.6	0.6	0.7	0.7
France	0.3	0.2	0.2	0.3	0.3
Germany	0.5	0.3	0.4	0.6	0.7
Italy	0.5	0.2	0.4	0.5	0.5
Japan	0.6	0.3	0.4	0.7	0.7
Korea	0.6	0.4	0.4	0.7	0.8
New Zealand	0.1	0.2	0.1	0.1	0.1
Netherlands	0.6	0.3	0.4	0.6	0.6
Pakistan	0.2	0.3	0.3	0.2	0.2
South Africa	0.6	-	-	0.7	0.8
Spain	0.6	0.3	0.4	0.7	0.8
Switzerland	0.6	0.3	0.4	0.6	0.7

UK	0.5	0.2	0.3	0.6	0.4
USA	0.7	0.4	0.7	0.8	0.8

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade
    Database; COMTRADE, accessed in October 2011

USA is first largest partner among the top 20 countries in ASEAN import market. Moreover, the similarity index of U.S. with India increased from 0.4 to until 0.8. So export structures of both countries became more similar in 2000-2009 periods as shown in Table-31. It means that India-U.S. competitive trend can be seen from 1990-2009 (Table-32).
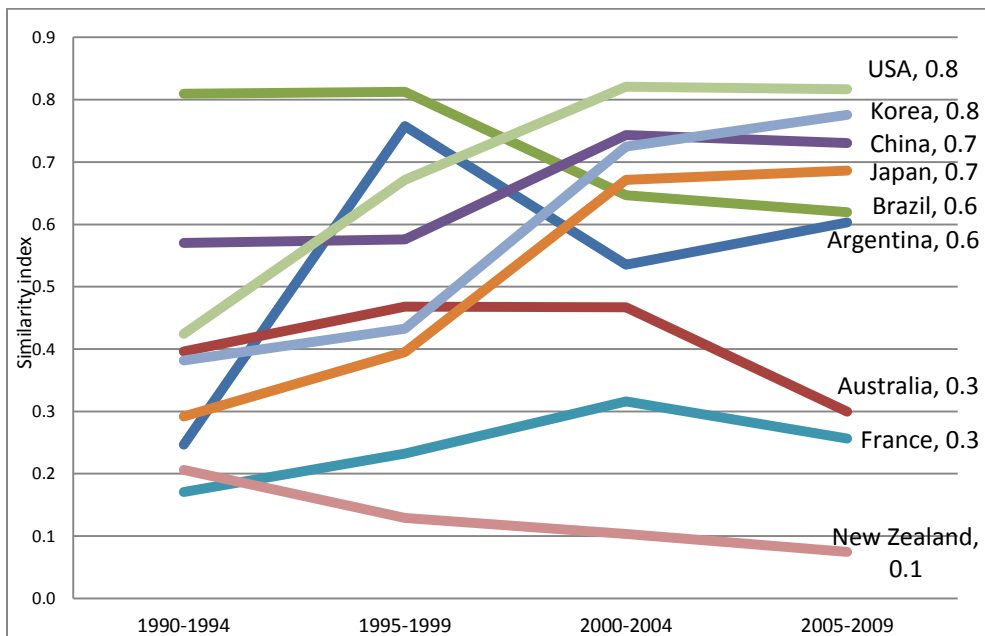
Figure 21 Trend of the similarity of export structure compared with India

The similarity index trends of USA and Japan were increasing from 1990-1994 to 2005-2009 periods significantly (Fig-21). However, trend of Australia slightly increased from 1990-1994 to 2000-2004 periods.

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Table 32 Competitive Threat of India to top-20 exporters in ASEAN by Periods

Top-19 exporters to ASEAN	1990-2009	1990-1994	1995-1999	2000-2004	2005-2009
USA	5	5	3	5	5
Japan	5	5	5	5	5
China	4	4	5	4	3
Australia	5	5	3	5	5
France	4	5	0	4	3
UK	5	5	0	5	5
Korea	5	3	5	4	5
Germany	4	4	4	4	5
New Zealand	4	5	3	4	4
Argentina	4	5	3	3	4
Netherlands	5	5	5	4	5
Brazil	3	5	3	4	3
Canada	5	3	4	5	5
Switzerland	5	3	3	5	5
Italy	4	3	4	5	4
Pakistan	5	5	0	5	0
Belgium	4	-	3	4	5
Spain	4	5	3	4	4
South Africa	3	-	-	4	5

Note: 5=Direct Threat, 4=Partial Threat, 3=No Threat, 2= India under Threat, 1=Mutual Withdrawal, 0= No export

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

About 44% and 27% of the total affected U.S. products were faced by India's direct threat and partial threat respectively as shown in Table-33.

Table 33 Number of Products by Types of India Threat (Four-digit HS Code, 1990-2009)

Top-19 exporters	Direct Threat	Partial Threat	NO Threat	India under threat	Mutual Withdrawal	Total
Japan	170	73	26	24	24	317
	(54%)	(23%)	(8%)	(8%)	(8%)	(100%)
USA	140	85	41	24	25	315
	(44%)	(27%)	(13%)	(8%)	(8%)	(100%)
China	72	97	93	30	19	311
	(23%)	(31%)	(30%)	(10%)	(6%)	(100%)
Australia	150	68	40	19	27	304
	(49%)	(22%)	(13%)	(6%)	(9%)	(100%)
Germany	128	74	53	29	18	302
	(42%)	(25%)	(18%)	(10%)	(6%)	(100%)
Korea	84	79	88	32	14	297
	(28%)	(27%)	(30%)	(11%)	(5%)	(100%)
France	131	66	51	25	22	295
	(44%)	(22%)	(17%)	(8%)	(7%)	(100%)
UK	174	46	28	21	26	295
	(59%)	(16%)	(9%)	(7%)	(9%)	(100%)
Netherlands	153	52	38	19	25	287
	(53%)	(18%)	(13%)	(7%)	(9%)	(100%)
Italy	74	96	64	21	19	274
	(27%)	(35%)	(23%)	(8%)	(7%)	(100%)
Switzerland	141	48	35	13	27	264
	(53%)	(18%)	(13%)	(5%)	(10%)	(100%)
Canada	83	69	70	17	19	258
	(32%)	(27%)	(27%)	(7%)	(7%)	(100%)
New Zealand	92	56	69	19	15	251
	(37%)	(22%)	(27%)	(8%)	(6%)	(100%)
Belgium	0	26	188	31	0	245
	(0%)	(11%)	(77%)	(13%)	(0%)	(100%)
Spain	63	44	91	31	8	237
	(27%)	(19%)	(38%)	(13%)	(3%)	(100%)

Brazil	54	52	76	19	9	210
	(26%)	(25%)	(36%)	(9%)	(4%)	(100%)
Pakistan	53	24	70	14	10	171
	(31%)	(14%)	(41%)	(8%)	(6%)	(100%)
Argentina	32	31	77	14	4	158
	(20%)	(20%)	(49%)	(9%)	(3%)	(100%)
South Africa	0	15	119	20	0	154
	(0%)	(10%)	(77%)	(13%)	(0%)	(100%)

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

The structure of India' export product to ASEAN is presented in Figure-22. The top important agriculture items were cereals (HS-10), "Oil seeds, oleagic fruits, grain, seed, fruit, etc., nes, (HS-12)", cotton (HS-52), food residues (HS-23), Meat and edible meat offal (HS-02) and major non-agriculture item is organic chemicals (HS-29) (Table 15). Share term of food residues (HS-23) and cotton (HS-52) went down in Figure-22 but value term increased in 2005-2009 periods as shown in Table-15.
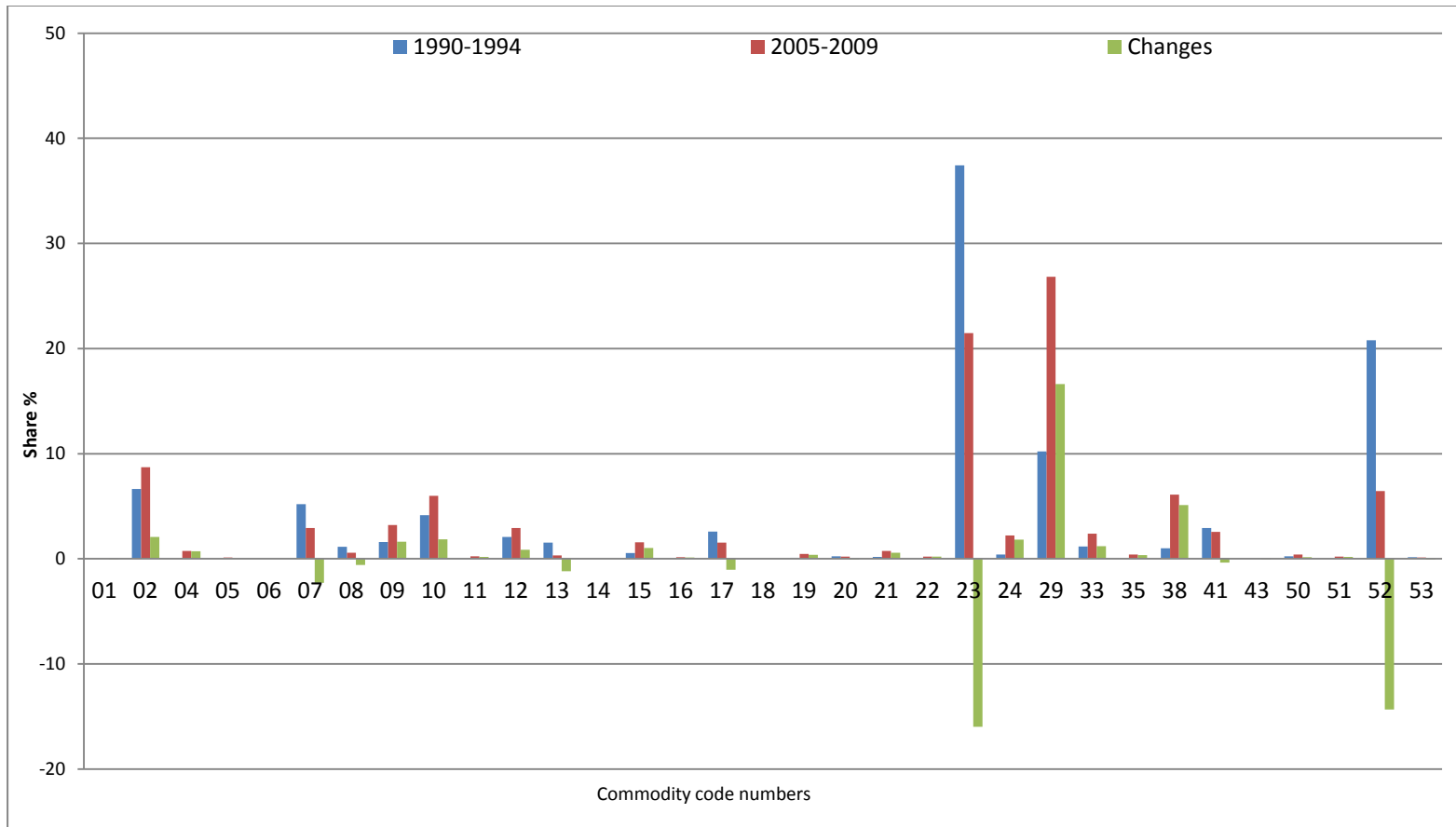
Figure 22 Structure of India's agriculture and non-agriculture export items in ASEAN market

Table 34 Competitive Threat of India to USA's major agriculture exports to ASEAN (1990-2009)

No.	HS-code	Name	Threat	USA (000'US$)		India (000'US$)	
				1990-1991 average	2008-2009 average	1990-1991 average	2008-2009 average
1	100300	Barley	4	14	182	-	34
2	100510	Maize (corn) seed	4	1,039	10,451	-	95,846
3	100590	Maize except seed corn	4	3,322	16,315	-	134,627
4	100700	Grain sorghum	5	1,060	488	-	1,260
5	100820	Millet	5	1,689	2,314	67	314
6	100830	Canary seed	4	37	113	-	18
7	120100	Soya beans	4	129,280	479,136	1	2,794
8	120600	Sunflower seeds	4	11	296	-	426
9	120220	Ground-nuts shelled, not roasted or cooked	5	2,302	157	1,498	46,915
10	120740	Sesame seeds	5	127	1	1,943	11,646
11	120929	Seed, forage plants, for sowing nes	5	324	146	202	245
12	120991	Seed, vegetable, nes for sowing	5	1,510	1,625	38	807
13	121190	Plants & parts, pharmacy, perfume, insecticide use ne	5	763	393	2,714	3,778
14	121299	Vegetable products nes for human consumption	5	694	34	3	234
15	230210	Maize bran, sharps, other residues	5	14,955	8,333	-	4,399
16	230240	Cereal bran, sharps, residue except maize, wheat, rice	5	17	1,616	-	4,979
17	230250	Bran, sharps and other residues of leguminous plants	5	16	179	-	1,051
18	230310	Residues of starch manufacture and similar residues	5	51,170	61,289	-	3,889
19	230890	Vegetable wastes and residues nes for animal feed	5	433	1,682	-	7,057
20	230910	Dog or cat food (retail)	5	8,055	29,793	-	39
21	520299	Cotton waste, except garnetted stock	5	3,587	95	77	1,920
22	520833	Twill weave cotton, >85% <200g/m2, dyed	5	457	0.2	116	42
23	520851	Plain weave cotton, >85% <100 g/m2, printed	5	473	4	293	59
24	520921	Plain weave cotton, >85% >200g/m2, bleached	5	59	13	36	155
25	520941	Plain weave cotton, >85% >200g/m2, yarn dyed	5	53	6	82	68
26	520943	Twill cotton except denim, >85% >200g/m2, yarn dyed	5	278	16	2	68

27	520951	Plain weave cotton, >85% >200g/m2, printed	5	429	48	45	41
28	520952	Twill weave cotton, >85% >200g/m2, printed	5	44	16	8	47
29	521039	Woven cotton nes, <85% +manmade fibre, <200g/m2 dyed	5	229	19	22	268
30	521059	Woven cotton nes, <85% +manmade fibre, <200g/m2 print	5	592	120	12	76
31	521139	Woven cotton nes, <85% +manmade fibre, >200g/m2, dyed	5	90	118	1	128
32	521149	Woven cotton nes, <85% +manmade fibre, >200g,yarn dye	5	88	48	-	30
33	521159	Woven cotton nes, <85% +manmade fibre, >200g, printed	5	135	115	5	180

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

The directly affected agriculture commodities were "Grain sorghum", "Buckwheat, millet and canary seed, other cereals", "Plants, plant parts for perfumery, pharmacy, etc", "Locust beans, seaweed, sugar beet, cane, for food", "Bran, sharps etc, from working of cereals or legumes", "Starch, sugar, brewing & distilling industry residues", "Vegetable waste, residues, etc for animal feed nest", "Cotton waste, including yarn waste and garnetted stock", "Woven cotton fabric, >85% cotton, < 200g/m2", "Woven cotton nes, >85% cotton, >200g/m2", "Woven cotton, <85% cotton with manmade fibre,<200g/m2" and "Woven fabric, <85% cotton with manmade fibre,>200g/m2" (Table-34). The others in Table-34 were partially affected by India agricultural products.

Moreover, 34 items of HS six-digit major non-agricultural products were also faced by India's direct threat (Table-35). These products were top important groups for both countries in ASEAN market.

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Table 35 Competitive Threat of India in USA's major non-agriculture exports to ASEAN (1990-2009)

No.	HS-code	Name	Threat	USA (000'US$)		India (000'US$)	
				1990-1991 average	2008-2009 average	1990-1991 average	2008-2009 average
1	290122	Propene (propylene)	5	67,204	4,379	-	6,585
2	290511	Methyl alcohol	5	1,528	807	-	3,266
3	290513	N-butyl alcohol	5	6,892	852	-	43
4	290522	Acyclic terpene alcohols	5	1,253	3,130	23	1,077
5	290529	Unsaturated monohydric acyclic alcohols nes	5	639	554	-	165
6	292010	Thiophosphoric esters(phosphorothioates),salts,derivs	5	2,922	60	951	516
7	292320	Lecithins and other phosphoaminolipids	5	3,789	6,224	-	2,147
8	292421	Ureines, derivatives, salts thereof	5	953	224	78	1,161
9	292519	Imides except saccharin, derivatives, salts thereof	5	11,608	279	7	577
10	292910	Isocyanates	5	92,743	28,743	33	216
11	292990	Compounds with other nitrogen function, nes	5	4,277	2,803	5	30
12	293010	Dithiocarbonates (xanthates)	5	2,532	1,008	171	2,066
13	293090	Organo-sulphur compounds, nes	5	26,882	15,502	5,364	6,191
14	293420	Heterocyclic compounds containing a benzothiazole rin	5	1,782	328	158	1,080
15	293430	Heterocyclic compounds containing a phenothiazine rin	5	291	796	12	525
16	293490	Heterocyclic compounds, nes	5	11,204	13,168	1,417	27,606
17	294110	Penicillins, derivatives, in bulk, salts	5	3,216	219	6,288	37,067

18	294150	Erythromycin, derivatives, in bulk, salts	5	10,791	4,069	1,464	1,818
19	294190	Antibiotics nes, in bulk	5	6,256	2,743	2,552	30,127
20	380210	Activated carbon	5	5,290	5,777	21	329
21	380290	Activated natural mineral products, animal black, nes	5	3,873	7,555	-	485
22	380620	Rosin salts or resin acid salts	5	234	62	-	224
23	380690	Resin acids and derivs nes, rosin derivs nes	5	4,150	2,150	4	171
24	380810	Insecticides, packaged for retail sale	5	28,713	15,907	2,392	41,991
25	380820	Fungicides, packaged for retail sale	5	6,832	5,932	135	9,161
26	380830	Herbicides, sprouting and growth regulators	5	36,671	6,328	101	6,186
27	380840	Disinfectants, packaged for retail sale	5	2,219	2,073	12	709
28	380890	Pesticides, rodenticides, nes, for retail sale	5	4,017	7,909	432	18,268
29	380910	Finishing agents & dye carriers, amylaceous	5	224	247	15	84
30	381010	Metal pickling preps, solder and brazing flux, etc.	5	6,202	9,699	154	433
31	381090	Electro-weld rod cores, coatings, etc.	5	3,385	11,508	6	371
32	381210	Prepared rubber accelerators	5	4,327	1,653	422	2,926
33	381220	Compound plasticizers for rubber or plastic, nes	5	688	7,508	2	2,079
34	381710	Mixed alkylbenzenes, nes	5	2,984	2,466	-	34,320

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

5.8.5 Trade competition between India and Japan

The similarity indexes of Japan with India were increasing from 0.3 to until 0.7 in Table-31. It means export structures of both countries became more similar in 2000-2009 periods. Therefore India-Japan seriously competitive trend can be found in all subsample periods and the whole (1990-2009) period (Table 32).

Japan's export items directly threatened by India were 54% of total 317 affected commodities. About 23% were affected by partially in ASEAN market (Table 34). The directly affected major non-agriculture items were total 26 six-digit products of "Organic chemicals" and "miscellaneous chemical products" as presented in Table-37. Moreover 24 six-digit major agricultural items included in the groups of "miscellaneous edible preparations", "Albuminoidal substances; modified starches; glues; enzymes" and "cotton" were subjected to direct or partial threat of India's agricultural export (Table-36).

Table 36 Competitive Threat of India in Japan's major agriculture exports to ASEAN (1990-2009)

No.	HS-code	Name	Threat	Japan (000'US$)		India (000'US$)	
				1990-1991 average	2008-2009 average	1990-1991 average	2008-2009 average
1	210130	Chicory & other coffee substitutes, roasted & product	5	12	27	-	198
2	210220	Yeasts, inactive, dead unicellular organisms nes	5	116	494	-	44
3	210390	Sauces nes, mixed condiments, mixed seasoning	5	8,152	22,234	84	405
4	210410	Soups and broths and preparations thereof	5	4,377	2,730	-	63
5	210420	Homogenised composite food preparations	5	201	689	-	151
6	350110	Casein	5	76	34	-	4,199
7	350210	Egg albumin	5	21	181	-	848
8	350290	Albumins nes, albuminates & other albumin derivatives	5	58	38	-	54
9	350510	Dextrins and other modified starches	5	6,334	919	65	639
10	350691	Adhesives based on rubber or plastic, package >1 kg	5	22,737	17,365	14	1,740
11	350699	Glues or adhesives, prepared nes, package > 1kg	5	9,195	26,646	27	446
12	350790	Enzymes nes, prepared enzymes nes, except rennet	5	8,620	4,502	146	2,053
13	520833	Twill weave cotton, >85% <200g/m2, dyed	5	6,161	145	116	42

14	520843	Twill weave cotton, >85% <200g/m2, yarn dyed	5	2,496	344	143	39
15	520851	Plain weave cotton, >85% <100 g/m2, printed	5	4,731	348	293	59
16	520941	Plain weave cotton, >85% >200g/m2, yarn dyed	5	2,833	81	82	68
17	520943	Twill cotton except denim, >85% >200g/m2, yarn dyed	5	434	141	2	68
18	520951	Plain weave cotton, >85% >200g/m2, printed	5	1,066	39	45	41
19	521021	Plain weave cotton <85% +manmade fibre, <200g bleache	5	572	56	-	7
20	521031	Plain weave cotton, <85% +manmade fibre, <200g/m2 dye	5	3,262	911	3	9
21	521039	Woven cotton nes, <85% +manmade fibre, <200g/m2 dyed	5	2,064	1,132	22	268
22	521049	Woven nes cotton,<85% +manmade fibre, <200g yarn dyed	5	2,456	317	1	246
23	521139	Woven cotton nes, <85% +manmade fibre, >200g/m2, dyed	5	245	565	1	128
24	521142	Denim cotton nes, <85% +manmade fibre, >200g/m2	5	39	1,038	-	1,160

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

Table 37 Competitive Threat of India in Japan's major non-agriculture exports to ASEAN (1990-2009)

No.	HS-code	Name	Threat	Japan (000'US$)		India (000'US$)	
				1990-1991 average	2008-2009 average	1990-1991 average	2008-2009 average
1	290121	Ethylene	5	19,637	5,587	-	24
2	290410	Sulphonated hydrocarbons, salts and ethyl esters	5	6,215	1,504	16	408
3	290519	Saturated monohydric acyclic alcohols nes	5	17,132	1,350	711	730
4	290522	Acyclic terpene alcohols	5	1,401	458	23	1,077
5	292090	Esters of inorganic acids, nes, their salts, derivs	5	11,050	4,027	292	1,241
6	292390	Quarternary ammonium salts and hydroxides, nes	5	1,631	5,665	6	619
7	292410	Acyclic amides, derivatives, salts thereof	5	9,006	3,630	13	901
8	292421	Ureines, derivatives, salts thereof	5	3,802	410	78	1,161
9	292910	Isocyanates	5	48,800	59,715	33	216
10	293020	Thiocarbamates and dithiocarbamates	5	2,374	889	13	4,148
11	293420	Heterocyclic compounds containing a benzothiazole rin	5	3,818	1,852	158	1,080
12	293490	Heterocyclic compounds, nes	5	18,660	16,938	1,417	27,606
13	294110	Penicillins, derivatives, in bulk, salts	5	4,028	2,592	6,288	37,067
14	294190	Antibiotics nes, in bulk	5	5,518	4,601	2,552	30,127
15	380210	Activated carbon	5	5,234	2,213	21	329

16	380290	Activated natural mineral products, animal black, nes	5	1,045	1,789	-	485
17	380810	Insecticides, packaged for retail sale	5	12,112	12,656	2,392	41,991
18	380830	Herbicides, sprouting and growth regulators	5	1,911	5,141	101	6,186
19	380840	Disinfectants, packaged for retail sale	5	2,785	675	12	709
20	380890	Pesticides, rodenticides, nes, for retail sale	5	1,576	12,948	432	18,268
21	380991	Finishing agents, dye carriers, dressing, mordants ne	5	18,646	11,653	56	2,357
22	381121	Lubricating oil additives with petroleum, bitumen oil	5	6,425	4,986	-	6,432
23	381190	Oil additives nes, oxidation, corrosion, gum inhibito	5	1,018	5,439	-	8,396
24	381210	Prepared rubber accelerators	5	3,503	9,157	422	2,926
25	381230	Anti-oxidisers and stabilizers for rubber or plastics	5	6,428	20,088	25	2,218
26	381710	Mixed alkylbenzenes, nes	5	40,010	16,665	-	34,320

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

5.8.6 Trade competition between India and Australia

India's agriculture and non-agriculture exports have significantly grown on average along with positive market share while Australia's export increased very slightly with fall in market share in ASEAN market from 1990 to 2009 (Table-21). Australia's similarity index increased from the beginning to 2000-2004 periods but it decreased again in 2005-2009 periods as shown in Table-21. So Australia was subjected to India's threat as shown in Table-32 but similarity index was relatively low when compared to the similarity indexes of U.S. and Japan with India.

By doing the detail analysis of major six-digit HS-code items, the directly affected Australia's major export items were "Milk and cream, concentrated or sweetened", "Cheese and curd, "Birds eggs, other than in shell, egg yolks", "Honey, natural", "Maize (corn)", "Buckwheat, millet and canary seed, other cereals", "Ground-nuts, not roasted or otherwise cooked", "Oil seeds and oleaginous fruits nest", "Seed, fruit and spores, for sowing", "Plants, plant parts for perfumery, pharmacy, etc", "Locust beans, seaweed, sugar beet, cane, for food", "Cereal straw and husks, unprepared", "Cotton, not carded or combed", "Woven cotton nes, <85% +manmade fibre, <200g/m2 print", "Woven cotton nes, <85% +manmade fibre, >200g/m2, dyedand" in ASEAN market (Table-38).

In addition to, six-digit 37 items of non-agricultural products of "organic chemicals" and "miscellaneous chemical products" were also directly affected by India's export (Table-39).

Table 38 Competitive Threat of India in Australia's major agriculture exports to ASEAN (1990-2009)

No.	HS-code	Name	Threat	Australia (000'US$)		India (000'US$)	
				1990-1991 average	2008-2009 average	1990-1991 average	2008-2009 average
1	040210	Milk powder < 1.5% fat	5	120,057	136,562	5	12,160
2	040221	Milk and cream powder unsweetened < 1.5% fat	5	45,554	80,622	-	426
3	040229	Milk and cream powder sweetened < 1.5% fat	4	5,008	37,516	-	301
4	040291	Milk and cream unsweetened, concentrated	5	3,676	2,090	-	2
5	040610	Fresh cheese, unfermented whey cheese, curd	5	13,540	9,049	-	148
6	040630	Cheese processed, not grated or powdered	4	6,367	25,025	-	247
7	040690	Cheese except fresh, grated, processed or blue-veined	4	3,591	13,567	-	30
8	040819	Egg yolks except dried	4	-	5	-	64
9	040899	Eggs, bird, not in shell not dried	4	-	38	-	340
10	040900	Honey, natural	5	3,950	4,662		107
11	100510	Maize (corn) seed	4	8	165	-	95,846
12	100590	Maize except seed corn	5	84	140	-	134,627
13	100820	Millet	5	464	383	67	314
14	100830	Canary seed	5	98	19	-	18
15	100890	Cereals unmilled nes	4	33	65	8	87
16	120210	Ground-nuts in shell not roasted or cooked	5	1	2	-	14,480
17	120220	Ground-nuts shelled, not roasted or cooked	5	37	1	1,498	46,915
18	120740	Sesamum seeds	5	9	9	1,943	11,646
19	120750	Mustard seeds	5	6	2	2	213

20	120760	Safflower seeds	5	1	-	2	343
21	120799	Oil seeds and oleaginous fruits, nes	5	52	52	130	477
22	120911	Seed, sugar beet, for sowing	5	6	-	-	36
23	120926	Seed, Timothy grass, for sowing	5	39	10	-	83
24	120929	Seed, forage plants, for sowing nes	5	798	467	202	245
25	120991	Seed, vegetable, nes for sowing	5	452	168	38	807
26	120999	Seed, fruits and spores for sowing, nes	5	5,656	179	208	567
27	121110	Liquorice roots	5	5	-	7	11
28	121190	Plants & parts, pharmacy, perfume, insecticide use ne	5	2,857	1,013	2,714	3,778
29	121220	Seaweeds and other algae,	5	4	3	2	805
30	121299	Vegetable products nes for human consumption	5	5	6	3	234
31	121300	Cereal staw and husks, unrepared	5	1,376	466	30	87
32	520100	Cotton, not carded or combed	5	525,834	111,849	182,790	121,969
33	521059	Woven cotton nes, <85% +manmade fibre, <200g/m2 print	5	40	-	12	76
34	521139	Woven cotton nes, <85% +manmade fibre, >200g/m2, dyed	5	20	3	1	128

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

Table 39 Competitive Threat of India in Australia's non-agriculture exports to ASEAN (1990-2009)

No.	HS-code	Name	Threat	Australia (000'US$)		India (000'US$)	
				1990-1991 average	2008-2009 average	1990-1991 average	2008-2009 average
1	290110	Saturated acyclic hydrocarbons	5	17	12	-	12
2	290121	Ethylene	5	8,552	1,468	-	24
3	290420	Nitrated, nitrosated hydrocarbons	5	5	4	113	285
4	290513	N-butyl alcohol	5	13	2	-	43
5	290514	Butanols nes	5	2	4	-	426
6	290516	Octanol(octyl alcohol), isomers	5	422	1	-	1
7	290517	Dodecan-1-ol, hexadecan-1-ol and octadecan-1-ol	5	4	-	-	388
8	290519	Saturated monohydric acyclic alcohols nes	5	1,015	117	711	730
9	290529	Unsaturated monohydric acyclic alcohols nes	5	7	1	-	165
10	290544	D-glucitol (sorbitol)	5	3	0	-	34
11	290549	Polyhydric acyclic alcohols nes	5	29	8	-	67
12	290550	Derivatives of acyclic alcohols	5	1,390	0	21	144
13	292390	Quarternary ammonium salts and hydroxides, nes	5	51	28	6	619
14	292429	Cyclic amides, derivatives, nes, salts thereof	5	21	22	849	5,523
15	292910	Isocyanates	5	251	140	33	216
16	293090	Organo-sulphur compounds, nes	5	332	8	5,364	6,191
17	293410	Heterocyclic compounds with an unfused thiazole ring	5	23	-	14	3,033
18	293420	Heterocyclic compounds containing a benzothiazole rin	5	35	35	158	1,080

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19	293430	Heterocyclic compounds containing a phenothiazine rin	5	28	1	12	525
20	293490	Heterocyclic compounds, nes	5	388	137	1,417	27,606
21	294110	Penicillins, derivatives, in bulk, salts	5	46	113	6,288	37,067
22	294150	Erythromycin, derivatives, in bulk, salts	5	50	-	1,464	1,818
23	380290	Activated natural mineral products, animal black, nes	5	141	129	-	485
24	380620	Rosin salts or resin acid salts	5	28	2	-	224
25	380630	Ester gums	5	331	2	-	8
26	380690	Resin acids and derivs nes, rosin derivs nes	5	240	114	4	171
27	380810	Insecticides, packaged for retail sale	5	1,108	1,400	2,392	41,991
28	380820	Fungicides, packaged for retail sale	5	268	1,018	135	9,161
29	380830	Herbicides, sprouting and growth regulators	5	3,127	571	101	6,186
30	380840	Disinfectants, packaged for retail sale	5	228	101	12	709
31	380890	Pesticides, rodenticides, nes, for retail sale	5	109	1,335	432	18,268
32	380991	Finishing agents, dye carriers, dressing, mordants ne	5	286	442	56	2,357
33	380992	Finishing agents & dye carriers - paper industry	5	327	639	-	238
34	380993	Other :-- Of a kind used in the leather or like industries	5	-	34	-	275
35	381010	Metal pickling preps, solder and brazing flux, etc.	5	4,578	1,386	154	433
36	381190	Oil additives nes, oxidation, corrosion, gum inhibito	5	259	2,148	-	8,396
37	381210	Prepared rubber accelerators	5	1,362	28	422	2,926

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

5.8.7   Trade competition between Korea and Japan

Korea was seventh largest partner (26,274 million US$) according to 1990-2009 total ASEAN import values and ninth largest partner (1,426 million US$) according to 2008-2009 average ASEAN import value for specific agricultural commodities (Table-7). Korea's export growth rate has been positive (6% per year along with only 0.01% increased share) in 2000-2004 periods but it has been 4% per year along with a fall market share 0.6% in 2005-2009 in ASEAN market (Table-21) . In those periods, Japan's export growth rate has been with only 2 % per year along with significant fall in market share (1.43% per year) in ASEAN market. Although Japan was fourth largest partner in 1990-2009 total value, Japan became fifth largest partner in 2008-2009 average value.

Table 40 Similarity Index of agriculture and non-agriculture export structure compared with Korea

Top-19 exporters to ASEAN	1990-2009	1990-1994	1995-1999	2000-2004	2005-2009
Argentina	0.1	0.1	0.1	0.0	0.0
Australia	0.2	0.3	0.2	0.2	0.1
Belgium	0.9	-	1.0	0.9	0.9
Brazil	0.3	0.6	0.4	0.2	0.2
Canada	0.2	0.2	0.4	0.2	0.1
China	0.7	0.5	0.8	0.6	0.8
France	0.4	0.6	0.7	0.4	0.3
Germany	0.9	0.9	1.0	0.8	0.8
India	0.6	0.4	0.6	0.7	0.8
Italy	0.7	0.7	1.0	0.6	0.5
Japan	**1.0**	**1.0**	**1.0**	**0.9**	**0.9**

New Zealand	0.0	0.1	0.1	0.1	0.0
Netherlands	0.8	0.9	1.0	0.8	0.6
Pakistan	0.1	0.2	0.1	0.2	0.1
South Africa	0.9	-	-	0.9	1.0
Spain	0.9	0.9	1.0	0.9	0.9
Switzerland	0.9	0.9	1.0	0.9	0.8
UK	0.7	0.8	1.0	0.8	0.6
USA	0.8	0.8	1.0	0.8	0.8

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011
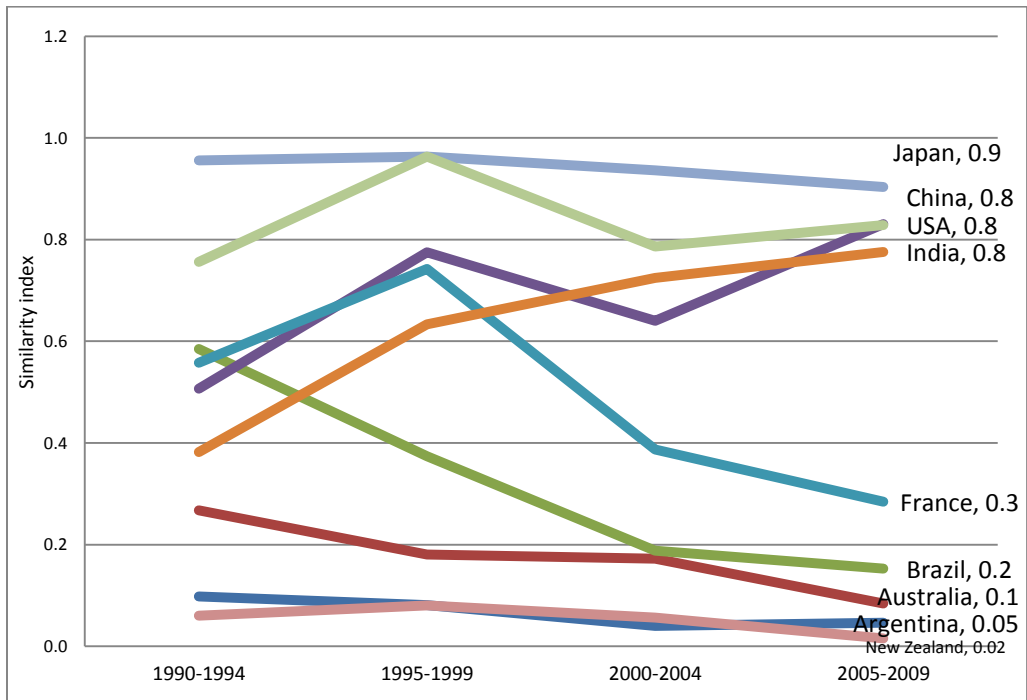
Figure 23 Trend of the similarity index of the export structure compared with Korea

The export structures of those two countries were almost the same ($\omega_{ij} = 1$) in all periods (Table-40). So the more similar the exporting structure of the two countries, the stronger is their likely competition in the third market (Figure-24).

As shown in Fig-23, Japan's similarity index trend was always in higher position and constant from 1990-1999 to 2005-2009 periods. Trends of China and USA fluctuated during 1995-1999 and 2000-2004 periods. Although India's trend was increasing regularly, other trends were decreasing during the study periods. Therefore there was Korea-Japan strong competition in agriculture and non-agriculture items during 1990-1994 periods and 2000-2004 periods as shown in Table-41.

Table 41 Competitive Threat of Korea to top-20 exporters in ASEAN by Periods

Top-19 exporters to ASEAN	1990-1994	1995-1999	2000-2004	2005-2009
USA	5	2	5	1
Japan	5	1	5	1
China	4	1	3	2
Australia	5	2	5	1
France	5	1	4	2
India	4	2	3	2
UK	5	1	5	1
Germany	4	2	4	1
New Zealand	5	2	3	2
Argentina	5	2	3	2
Netherlands	5	1	4	1
Brazil	5	2	3	2
Canada	3	2	5	1
Switzerland	3	2	5	1
Italy	4	2	0	2
Pakistan	5	1	5	1
Belgium	-	2	4	1
Spain	5	2	3	2
South Africa	-	-	3	1

Note: 5=Direct Threat, 4=Partial Threat, 3=No Threat, 2= Korea under Threat, 1=Mutual Withdrawal, 0= No export
Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE
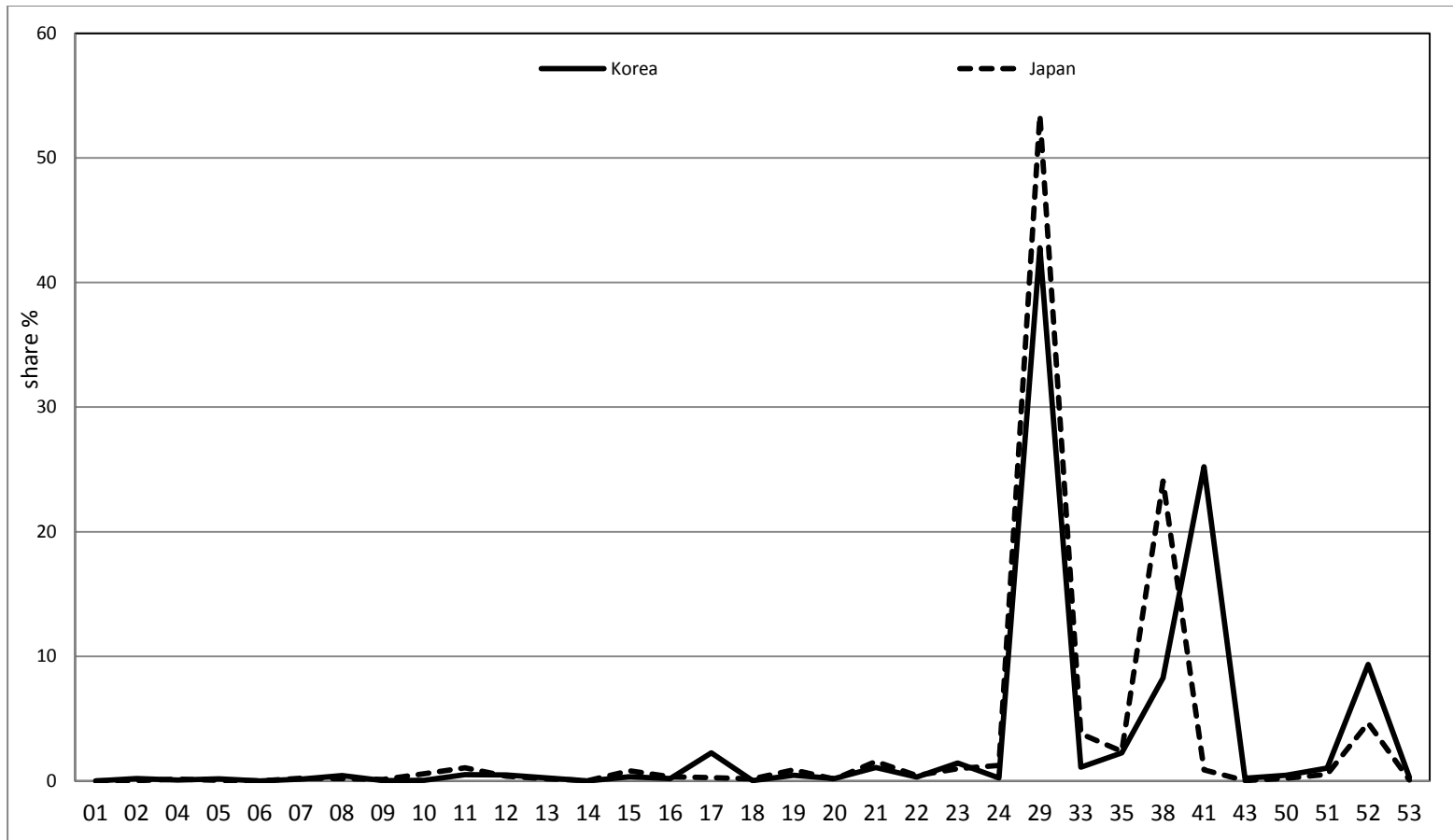
Figure 24 Export Structure of Korea and Japan in ASEAN agriculture and non-agriculture market (1990-2009)

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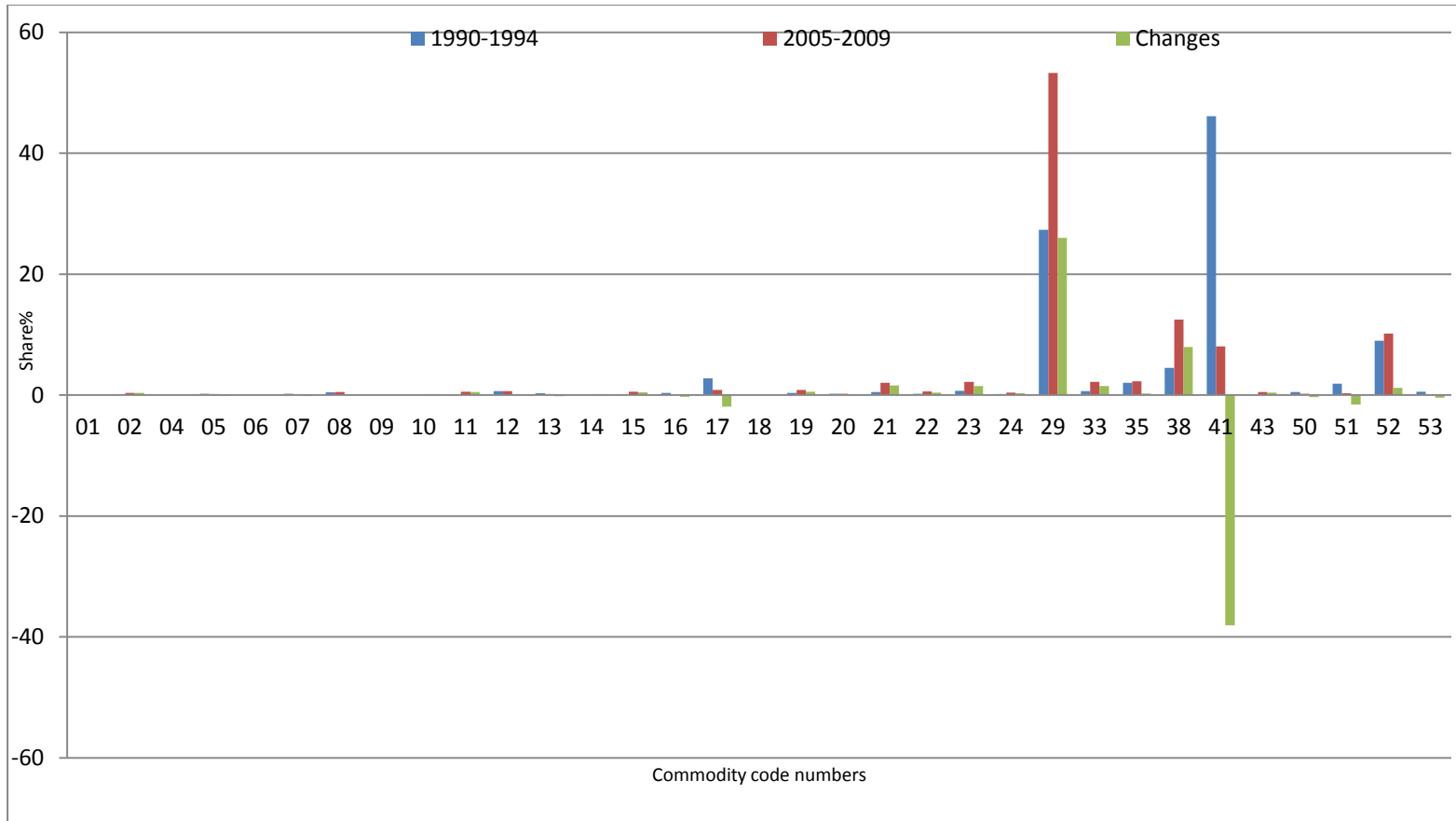
Figure 25 Structure of Korea's agriculture and non-agriculture export items in ASEAN market

As presented in Figure-24, the top four export items for both Japan and Korea were Organic chemicals (HS-29), miscellaneous chemical products (HS-38), Cotton (HS-52) and food residues (HS-23). The first largest Japan's export product, organic chemicals (HS-29) was sharply decreased since 2000-2004 period (Table-13). Moreover Cotton (HS-52) and food residues (HS-23) were also significantly decreased since 1995-1999 periods. In contrary, those items of Korea's export were increased in ASEAN market as shown in Figure-25. Therefore about 69% of total 318 affected Japan's exports were subjected to Korea's direct threat and partial threat (Table- 42).

Table 42 Number of Products by Types of Korea Threat (Four-digit HS Code, 1990-2009)

Top-19 exporters	Direct Threat	Partial Threat	NO Threat	Korea under threat	Mutual With-drawal	Total
Japan	156	65	29	29	39	318
	(49%)	(20%)	(9%)	(9%)	(12%)	(100%)
USA	130	92	25	33	34	314
	(41%)	(29%)	(8%)	(11%)	(11%)	(100%)
China	94	91	60	41	27	313
	(30%)	(29%)	(19%)	(13%)	(9%)	(100%)
Australia	136	73	34	20	41	304
	(45%)	(24%)	(11%)	(7%)	(13%)	(100%)
Germany	118	69	50	37	27	301
	(39%)	(23%)	(17%)	(12%)	(9%)	(100%)
UK	164	42	29	24	39	298
	(55%)	(14%)	(10%)	(8%)	(13%)	(100%)
France	127	70	37	35	26	295
	(43%)	(24%)	(13%)	(12%)	(9%)	(100%)
India	39	83	109	53	11	295
	(13%)	(28%)	(37%)	(18%)	(4%)	(100%)
Netherlands	139	52	33	24	38	286
	(49%)	(18%)	(12%)	(8%)	(13%)	(100%)
Italy	71	90	56	35	22	274

	(26%)	(33%)	(20%)	(13%)	(8%)	(100%)
Switzerland	133	48	24	24	35	264
	(50%)	(18%)	(9%)	(9%)	(13%)	(100%)
Canada	82	51	71	34	21	259
	(32%)	(20%)	(27%)	(13%)	(8%)	(100%)
New Zealand	93	56	51	37	12	249
	(37%)	(22%)	(20%)	(15%)	(5%)	(100%)
Belgium	0	33	164	48	0	245
	(0%)	(13%)	(67%)	(20%)	(0%)	(100%)
Spain	60	52	78	36	12	238
	(25%)	(22%)	(33%)	(15%)	(5%)	(100%)
Brazil	48	49	66	32	15	210
	(23%)	(23%)	(31%)	(15%)	(7%)	(100%)
Pakistan	57	17	59	32	5	170
	(34%)	(10%)	(35%)	(19%)	(3%)	(100%)
Argentina	27	19	79	24	9	158
	(17%)	(12%)	(50%)	(15%)	(6%)	(100%)
South Africa	0	13	113	28	0	154
	(0%)	(8%)	(73%)	(18%)	(0%)	(100%)

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade
   Database; COMTRADE, accessed in October 2011

When there was detail analysis for six-digit code commodities, the seriously affected non-agriculture products were total 29 items of Organic chemicals and miscellaneous chemical products (Table-44). In addition to, major agricultural products in the groups of "Flour etc of meat, fish or offal for animal feed", "Bran, sharps etc, from working of cereals or legumes", "Animal feed preparations, nest", " Cotton yarn (except sewing thread) retail", "Woven cotton fabric, >85% cotton, < 200g/m2" and "Woven cotton nest, >85% cotton, >200g/m2", "Woven cotton, <85% cotton with manmade fibre,<200g/m2" and " Woven fabric, <85% cotton with manmade fibre,>200g/m2" were also directly threatened by Korea's export in ASEAN market (Table 43).

Table 43 Competitive Threat of Korea in Japan's major agriculture exports to ASEAN (1990-2009)

N o.	HS-code	Name	Threat	Japan (000'US$)		Korea (000'US$)	
				1990-1991 average	2008-2009 average	1990-1991 average	2008-2009 average
1	230110	Flour or meal, pellet of meat or offal for animal feed	5	500	5	-	17
2	230120	Flour or meal, pellet, fish, etc., for animal feed	5	36,963	2,876	3,381	10,733
4	230220	Rice bran, sharps, other residues	5	110	-	-	3
5	230990	Animal feed preparations nes	5	15,405	10,131	271	14,743
6	520710	Cotton yarn (except sewing thread) >85% cotton, retail	5	1,032	60	49	227
7	520819	Woven cotton nes, >85% <200g/m2, unbleached	5	3,093	1,781	531	15,654
8	520821	Plain weave cotton, >85% <100 g/m2, bleached	5	1,004	157	303	642
9	520829	Woven cotton nes, >85% <200g/m2, bleached	5	1,202	2,222	263	2,892
10	520831	Plain weave cotton, >85% <100 g/m2, dyed	5	6,819	1,034	915	3,196
11	520839	Woven cotton nes, >85% <200g/m2, dyed	5	8,482	2,489	872	7,061
12	520841	Plain weave cotton, >85% <100 g/m2, yarn dyed	5	5,959	115	19	74
13	520849	Woven cotton nes, >85% <200g/m2, yarn dyed	5	6,049	2,615	227	1,287
14	520851	Plain weave cotton, >85% <100 g/m2, printed	5	4,731	348	578	304
15	520859	Woven cotton nes, >85% <200g/m2, printed	5	5,460	3,213	1,197	7,418
16	520911	Plain weave cotton, >85% >200g/m2, unbleached	5	36,624	6,210	903	11,270
17	520919	Woven cotton nes, >85% >200g/m2, unbleached, nes	5	888	649	33	6,001
18	520929	Woven cotton nes, >85% >200g/m2, bleached, nes	5	223	631	189	5,931

19	520939	Woven cotton nes, >85% >200g/m2, dyed, nes	5	3,402	2,919	759	10,602
20	520949	Woven cotton nes, >85% >200g/m2, yarn dyed, nes	5	1,334	2,298	221	8,438
21	520959	Woven cotton nes, >85% >200g/m2, printed, nes	5	1,386	1,070	1,855	13,648
22	521039	Woven cotton nes, <85% +manmade fibre, <200g/m2 dyed	5	2,064	1,132	555	3,946
23	521059	Woven cotton nes, <85% +manmade fibre, <200g/m2 print	5	234	1,183	325	4,463
24	521139	Woven cotton nes, <85% +manmade fibre, >200g/m2, dyed	5	245	565	711	8,430
25	521149	Woven cotton nes, <85% +manmade fibre, >200g,yarn dye	5	439	475	-	269

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

Table 44 Competitive Threat of Korea in Japan's major non-agriculture exports in ASEAN (1990-2009)

No.	HS-code	Name	Threat	Japan (000'US$)		Korea (000'US$)	
				1990-1991 average	2008-2009 average	1990-1991 average	2008-2009 average
1	290110	Saturated acyclic hydrocarbons	5	3,442	3,074	252	3,444
2	290121	Ethylene	5	19,637	5,587	1,605	22,930
3	290124	Buta-1, 3-diene and isoprene	5	174	0.03	-	779
4	290410	Sulphonated hydrocarbons, salts and ethyl esters	5	6,215	1,504	627	2,314
5	290420	Nitrated, nitrosated hydrocarbons	5	375	10	-	83
6	290490	Hydrocarbon derivs, mixed sulpho/nitro/nitroso groups	5	569	306	37	90
7	290516	Octanol(octyl alcohol), isomers	5	5,117	4,272	-	6,087
8	290517	Dodecan-1-ol, hexadecan-1-ol and octadecan-1-ol	5	116	50	-	27
9	290519	Saturated monohydric acyclic alcohols nes	5	17,132	1,350	-	18

10	290522	Acyclic terpene alcohols	5	1,401	458	-	15
11	290531	Ethylene glycol (ethanediol)	5	25,634	7,494	138	2,831
12	290532	Propylene glycol (propane-1,2-diol)	5	15,087	3,406	640	5,112
13	290541	Trimethylolpropane	5	1,008	661	-	22
14	290550	Derivatives of acyclic alcohols	5	204	183	-	17
15	292010	Thiophosphoric esters(phosphorothioates),salts,derivs	5	11,551	449	48	59
16	292310	Choline, salts	5	2,664	1,261	9	657
17	292320	Lecithins and other phosphoaminolipids	5	322	55	16	56
18	292410	Acyclic amides, derivatives, salts thereof	5	9,006	3,630	306	4,505
19	292421	Ureines, derivatives, salts thereof	5	3,802	410	1	20
20	293410	Heterocyclic compounds with an unfused thiazole ring	5	361	216	-	128
21	293490	Heterocyclic compounds, nes	5	18,660	16,938	482	1,609
22	293810	Rutoside (rutin), derivatives, in bulk	5	101	49	-	7
23	294130	Tetracyclines, derivatives, in bulk, salts	5	617	24	-	25
24	294150	Erythromycin, derivatives, in bulk, salts	5	305	-	-	26
25	380210	Activated carbon	5	5,234	2,213	113	169
26	380630	Ester gums	5	1,591	1,290	22	34
27	380840	Disinfectants, packaged for retail sale	5	2,785	675	16	30
28	380991	Finishing agents, dye carriers, dressing, mordants ne	5	18,646	11,653	271	4,589
29	381121	Lubricating oil additives with petroleum, bitumen oil	5	6,425	4,986	6	2,593

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011.

5.9 Effect of Free Trade Agreement (FTA)

A particular application of the gravity model is to explain and predict the effects of Free Trade Agreements on trade flows. Free Trade Agreements are forms of trade pacts between countries; these agreements eliminate tariffs, quotas and other barriers for a number of goods, traded between involved partners. The aim of FTAs is obvious: development of trade between two countries as a result of relaxing or removing existing institutional and economic barriers. FTAs have been a tool widely implemented for enhancing trade between countries.

Table 45 Gravity Model Estimation Results

Independent Variables	Pooled Regression	Fixed Effects	Random Effects
Importer GDP (Log)	3.3366**	3.3979**	3.3812**
	(0.1101)	(0.0974)	(0.1016)
Exporter GDP (Log)	0.7927**	0.4962**	0.6133**
	(0.1685)	(0.1505)	(0.1564)
Importer GDP per capita (Log)	0.7243**	0.9242**	0.8527**
	(0.1059)	(0.0934)	(0.0979)
Exporter GDP per capita (Log)	-0.0004	-0.1503	-0.0796
	(0.1376)	(0.1199)	(0.1278)
Distance (Log)	0.1630	-0.0721	0.0355
	(0.3138)	(0.2702)	(0.2898)
FTA (dummy)	2.3866**	-	1.1118*
	(0.5250)	-	(0.5461)
Constant	-11.7002**	-7.6238**	-9.5786**
	(2.8259)	(2.4426)	(2.6576)
Number of observations	1600	1600	1600
Adjusted R^2	0.41	0.40	0.41

Notes: All variables marked ** are significant at 1% level, and those marked * are significant at 5% level. All other variables are statistically insignificant. Standard deviations are in parentheses.

The result of the estimation of the gravity model over all countries in our sample is shown in Table-45. The first column shows the results from estimating equation (2) using OLS applied to the pooled data set. All other coefficients have the expected sign and their magnitudes are similar to those resulted in other papers. The effects of the importer GDP and the exporter GDP are positive and statistically significant. Importer GDP per capita shows positive and highly significant. It means that trade rises significantly with GDP per capita of importer country.

Here the estimated coefficient of distance has the positive sign but is not significant. J-F Brun et al (2005) studied that the estimated coefficient of distance on the volume of trade is generally found to increase rather than decrease through time using the traditional gravity model of trade. The introduction of an "augmented" barrier to trade function removes the paradox, yielding a decline in the estimate of the elasticity of trade to distance of about 11 percent over the 35-year period for the whole sample.

However, the "death of distance" is shown to be largely confined to bilateral trade between rich countries, with poor countries becoming marginalized. This is puzzling, because the common perception of globalization is that distance should be becoming less important in international trade, implying decreasing rather than increasing values for the estimated coefficient of distance.

The dummy variable, FTA_{ijt} indicates that, controlling for other factors; members of ASEAN FTA tend to trade more with each other than with other countries in our sample. The significant coefficient for FTA_{ijt} is of (2.39).This means that the intra-ASEAN free trade agreement have increased trade between its

members by 991%, (exp (2.39)-1). Because the model was estimated in log and the percentage equivalent for each dummy is [exp (dummy coefficient)-1] * 100%. Thus regional effects are at work in ASEAN and the intraregional trade in ASEAN is more active than extra-ASEAN trade. Doing free trade agreement with ASEAN has positive effect on export to ASEAN market.

We assume that the error term is time-invariant, and then apply fixed effect estimator to equation (2) since heteroscedasticity and serial correlation may likely to appear. The second column of Table-42 shows the results of fixed effects estimator applied to equation (2). The distance coefficient show negative sign but it is not statistically significant. A limitation of the fixed effect estimator is that it fails to provide estimation of the dummy variables, which are time-invariant.

But the researcher is interested in the coefficient of the dummy for Free Trade Agreement. To solve this problem, we apply the random effect estimator, which can avoid the defect of OLS method and fixed effect estimator method . The result of the random effect estimator of equation (2) is shown in the third column of Table-45. All results for respective coefficients are similar to those of pool regression effect. FTA coefficient is positive and statistically highly significant. Therefore the AFTA provides significant trade effects in ASAEN import market.

5.10 Production, export and import of some major crops in ASEAN

By using production, export and import amount (ton) data from http://faostat3.fao.org , quantitative analysis was done to know the effect of increasing imports on domestic production and export of some major crops in ASEAN.
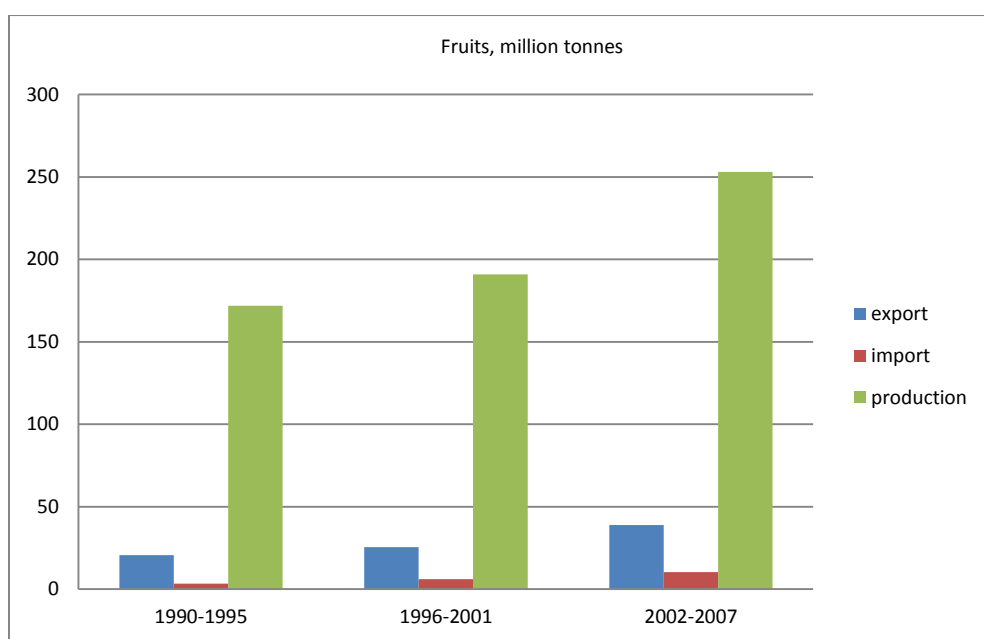
Figure 26 Production, export and import amount of fruits (total) in ASEAN

China's increasingly important position in global agricultural markets followed decades of gradual growth in both domestic food production and consumption. Most of the temperate fruits played as major crops in China-USA and China-Australia trade competitions in ASEAN import market (Table-25 and Table-

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27). Although ASEAN's fruits importing was increasing from 1990 to 2007, fruits productions and exports were also increasing in those periods (Fig-26). ASEAN countries produce tropical fruits and import temperate fruits which are complementary items for domestic consumptions. So increasing of temperate fruits import might not affect domestic production and export of tropical fruits in ASEAN countries.
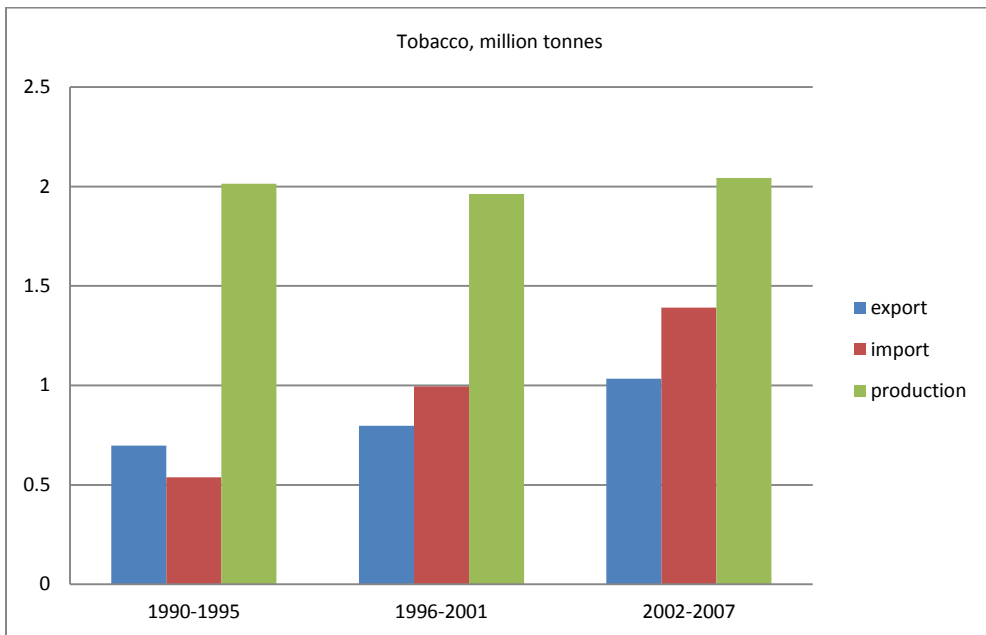
Figure 27 Production, export and import amount of tobacco in ASEAN

In the China-USA trade competition and China-Japan trade competition, tobacco crop played as major item in ASEAN import market (Table-25 and Table-27). ASEAN imported tobacco a lot in 1990-2007 periods (Fig-27). Although ASEAN' tobacco production was fluctuated in 1996-2001 period, export was

significantly increasing in those periods. It means that tobacco (value-added products of imported raw materials) exporting was significantly increased in ASEAN countries.
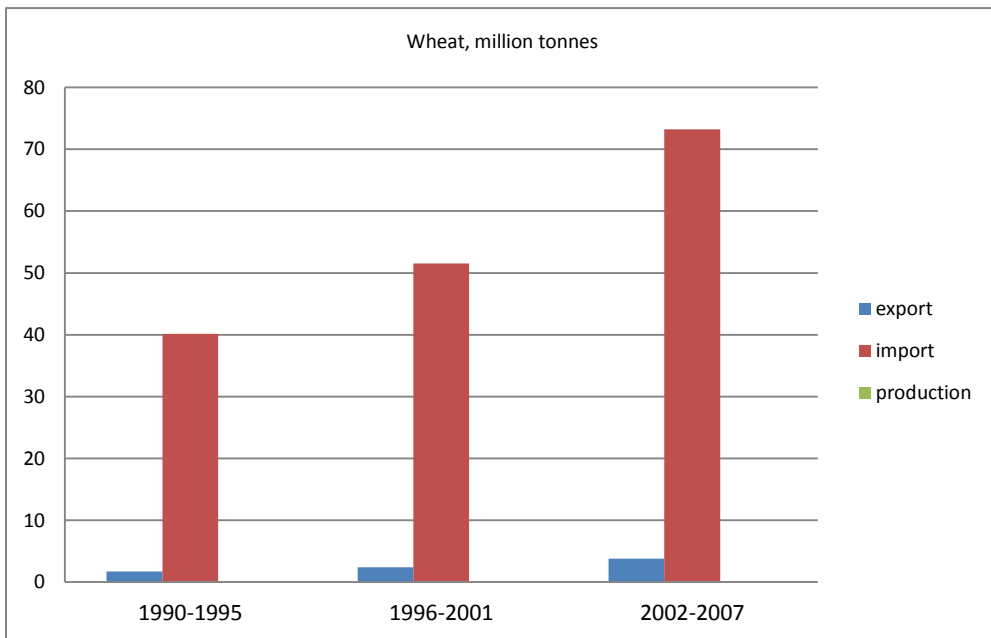
Figure 28 Production, export and import amount of wheat in ASEAN

Temperate crop, wheat importing was also significantly increasing due to domestic consumptions and increasing demand of the spreading presence of fast-food industries in ASEAN developing countries (Fig-28). Therefore wheat was major crop in China-Japan trade competition in ASEAN import market (Table-27). Tropical ASEAN countries can produce very few amount and they export value-added wheat commodities.
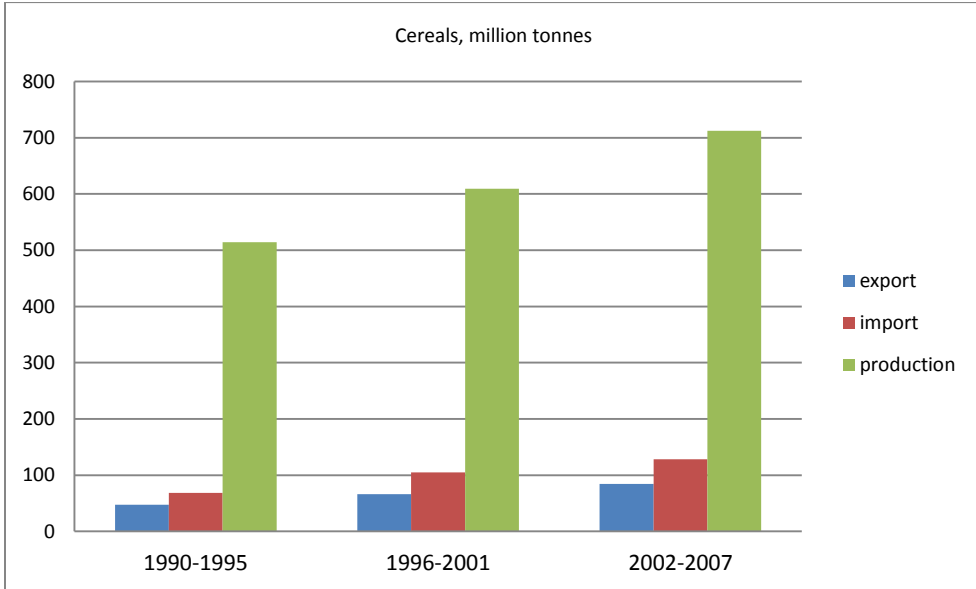
Figure 29 Production, export and import amount of cereals in ASEAN
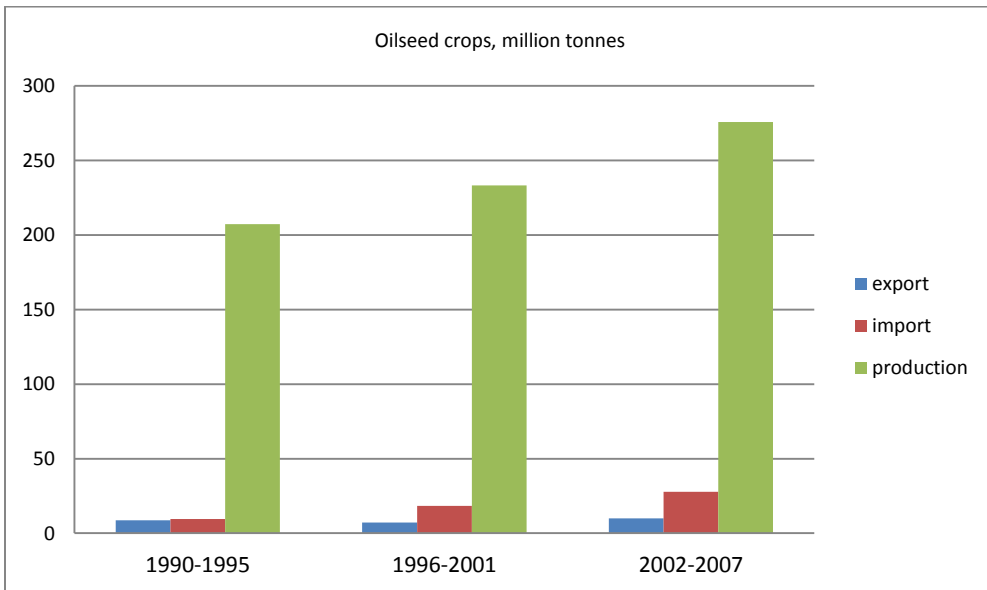
Figure 30 Production, export and import amount of oilseed crops in ASEAN

Cereals and oilseed crops were first and seventh largest agricultural import items in ASEAN market (Table-5) and also played as major crops in India-USA and India-Australia trade competitions in ASEAN import market (Table-34 and Table-38). Although imports of those products were increasing, production and export were also significantly expending in ASEAN (Fig-29 and Fig-30).

Cotton was the second largest agricultural import item in ASEAN market (Table-5). Therefore cotton played as major crop in all trade competitions (Table-25, 27, 29, 34, 36, 38 and 43). The reason is that domestic consumption was increasing and production was decreasing in ASEAN market (Fig-31).
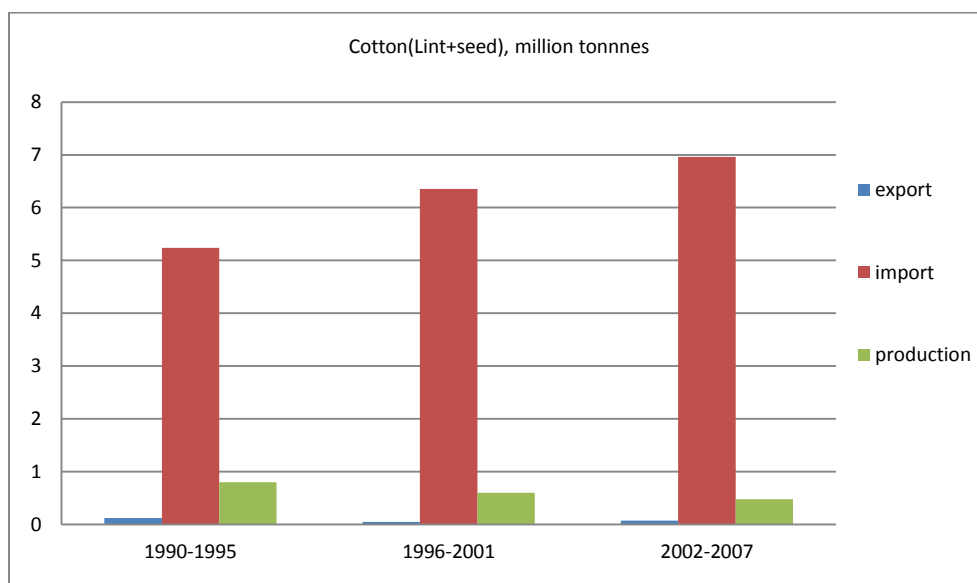
Figure 31 Production, export and import amount of cotton in ASEAN
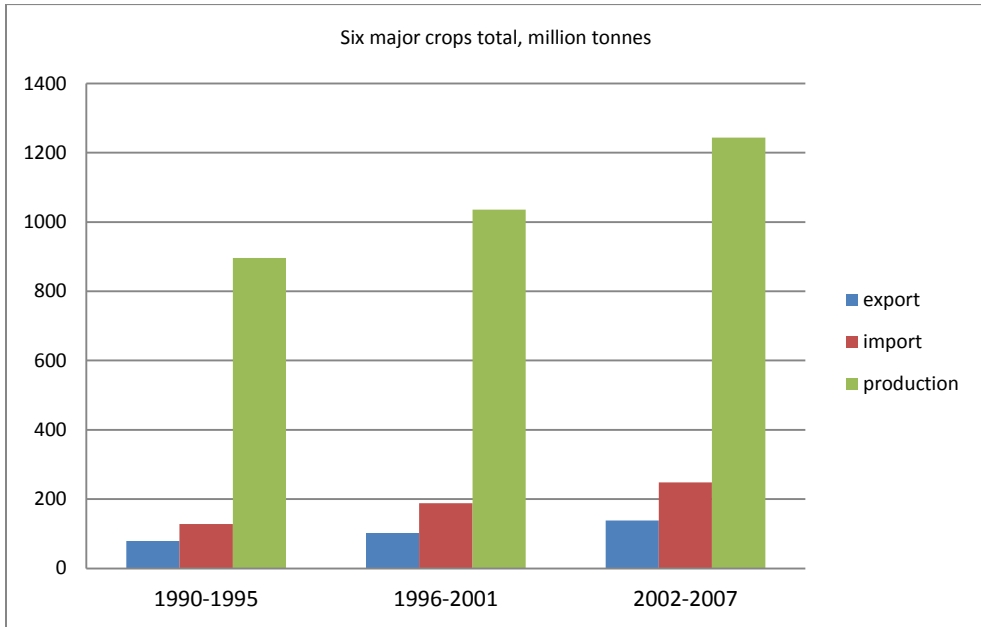
Figure 32 Production, export and import amount of six major crops in ASEAN

Productions and export amounts of total six major crops (cereals, cotton, tobacco, oilseeds, fruits and wheat), were increasing although import was increasing from 1990 to 2007, since trade liberalization and Free Trade Agreements enhance the outputs of representative firms and total factor productivity (Fig-32). So we can conclude that even import amounts of the major crops increased significantly, the increasing of import did not effect on their domestic productions in ASEAN. The importing products or commodities could be used for domestic consumption as complementary goods and could be used as raw materials from value-added industries for domestic food security as well as for export.
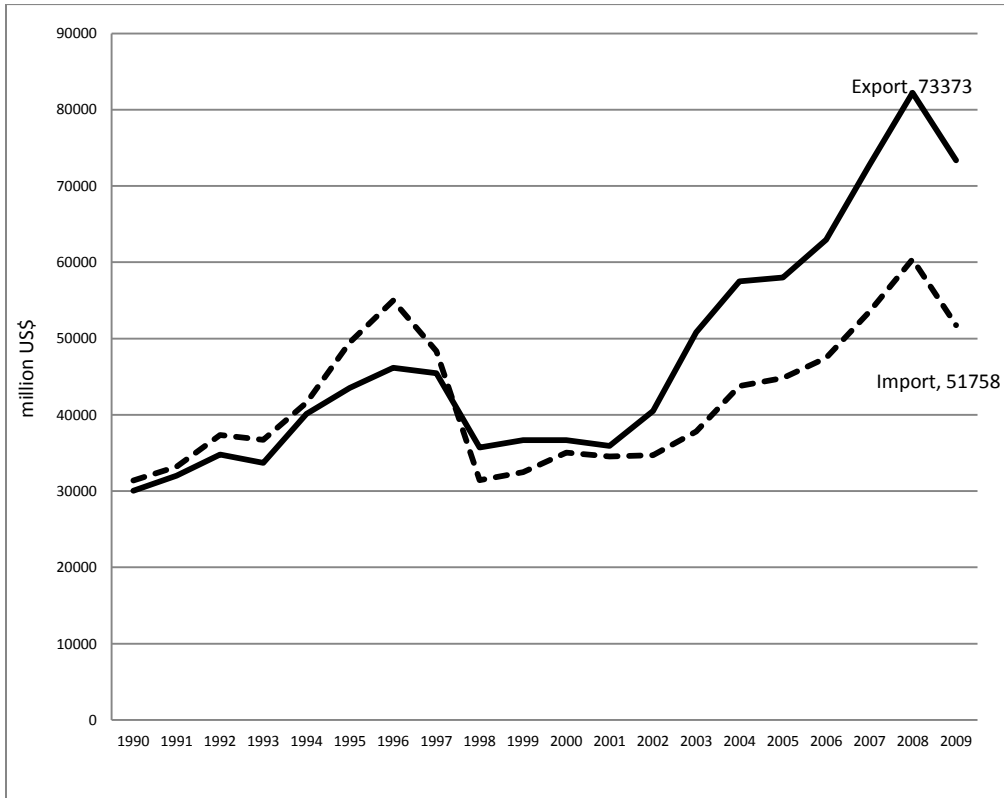
Figure 33 Trend of ASEAN export and import values (1990-2009)

As shown in Fig-33, both export trend and import trend were increasing from 1990 to 1996 in ASEAN but show down ward trends during 1997-1998 periods due to Asian financial crisis. Then trends show positive slope from 1998 to 2008 and again went down after 2008 to 2009 owing to global financial crisis. From 1990 to 2008 trends of ASEAN import values and export values show positive slope except in 1997-1998 periods, when Asian financial crisis occurred. Although trend of ASEAN import values exceeded than that of export until 1997, after that ASEAN export values were significantly greater than ASEAN import value until 2009.

Table 46 ASEAN agriculture and non-agriculture export values

HS code	1990-1994		1995-1999		2000-2004		2005-2009		1990-2009	
	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%	mil US$	share%
15	36,147	21.2	52,950	25.5	40,827	18.4	74,466	21.3	204,390	21.54
29	12,945	7.6	24,744	11.9	53,416	24.1	86,626	24.8	177,731	18.7
16	10,372	6.1	12,858	6.2	14,612	6.6	22,572	6.5	60,414	6.4
10	9,838	5.8	11,073	5.3	12,855	5.8	22,550	6.5	56,316	5.9
38	5,005	2.9	9,718	4.7	12,853	5.8	21,968	6.3	49,543	5.2
09	14,306	8.4	11,680	5.6	7,210	3.3	9,826	2.8	43,022	4.5
52	10,953	6.4	10,099	4.9	6,691	3.0	5,481	1.6	33,224	3.5
33	3,702	2.2	4,735	2.3	7,274	3.3	14,434	4.1	30,145	3.2
24	7,495	4.4	9,113	4.4	5,935	2.7	5,600	1.6	28,142	3.0
20	6,649	3.9	6,602	3.2	6,251	2.8	8,532	2.4	28,033	3.0
17	6,357	3.7	7,288	3.5	5,732	2.6	7,518	2.2	26,896	2.8
18	6,267	3.7	6,267	3.0	4,667	2.1	7,463	2.1	24,664	2.6
08	2,683	1.6	5,060	2.4	6,440	2.9	7,803	2.2	21,986	2.3
07	8,727	5.1	4,203	2.0	3,106	1.4	4,471	1.3	20,506	2.2
22	3,622	2.1	3,841	1.9	4,098	1.9	8,901	2.5	20,462	2.2
19	2,347	1.4	3,287	1.6	4,290	1.9	8,505	2.4	18,430	1.9

21	2,058	1.2	3,543	1.7	4,792	2.2	7,937	2.3	18,330	1.9
23	4,376	2.6	4,014	1.9	3,240	1.5	5,243	1.5	16,873	1.8
04	1,728	1.0	1,701	0.8	3,111	1.4	4,246	1.2	10,785	1.1
41	2,241	1.3	2,641	1.3	2,511	1.1	3,041	0.87	10,434	1.1
02	3,152	1.8	2,520	1.2	2,629	1.2	624	0.18	8,925	0.94
11	1,792	1.0	1,804	0.87	1,720	0.78	3,085	0.88	8,400	0.89
35	831	0.49	1,363	0.66	1,981	0.89	2,991	0.86	7,167	0.76
12	1,523	0.89	1,346	0.65	1,363	0.62	1,269	0.36	5,501	0.58
01	1,613	0.95	1,515	0.73	777	0.35	869	0.25	4,773	0.50
51	735	0.43	1,089	0.52	614	0.28	499	0.14	2,937	0.31
06	612	0.36	516	0.25	666	0.30	957	0.27	2,752	0.29
13	820	0.48	663	0.32	522	0.24	647	0.19	2,652	0.28
50	465	0.27	445	0.21	388	0.18	334	0.10	1,632	0.17
14	518	0.30	404	0.19	283	0.13	268	0.08	1,473	0.16
05	436	0.26	278	0.13	355	0.16	263	0.08	1,333	0.14
53	334	0.20	188	0.09	159	0.07	200	0.06	882	0.09
43	34	0.02	44	0.02	43	0.02	52	0.01	172	0.02
Total	**170,685**	**100**	**207,594**	**100**	**221,410**	**100**	**349,240**	**100**	**948,929**	**100**

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

According to ASEAN export values (Table-46), agriculture and non-agriculture export values increased significantly from 1990 to 2009. Total ASEAN export values (1990-2009), 948,929 mil US$ (Table-47) were greater than total ASEAN import values (1990-2009), 840,171 mil US$ (Table-5). Among two-digit 33 export items, agricultural product namely (HS-15) "Animal or vegetable fats and oils and their cleavage products" is the greatest item valued 204,390 mil US$ (22%). Non-agriculture product, (HS-29) "organic chemicals" is the second largest export item valued 177,731mil US$ (19%).

Agriculture products, which have played as major crops in trade competitions, like (HS-10) cereals (6%), (HS-52) cotton (4%), (HS-24) tobacco (3%), (HS-08) Edible fruits (2.3%) and oil seed crops (1%) were also exported from ASEAN. Overall agriculture is one of the sectors that would benefit the most from AFTA. It is possible that the increasing agricultural export market may support improvement in agricultural productivity, which is likely to have a positive impact on employment quality in the long term within the sector.

VI.CONCLUSIONS AND POLICY IMPLICATIONS

6.1 Conclusions

The Association of Southeast Asian Nations (ASEAN), one of the fastest growing regions with a population of approximately 600 million in the developing world, strengthens its ties with its external partners in the areas of political, security, economic, socio-cultural and development cooperation. ASEAN cooperation with its Northeast Asian neighbors (China, Japan and the Republic of Korea) within the framework of the ASEAN plus Three processes has intensified, especially in economic and financial cooperation. ASEAN's relationship with India has deepened as efforts towards comprehensive economic cooperation continue. Contacts with other inter-governmental and international organizations also increased. Strengthening linkages with the outside world is in line with ASEAN's outward-looking orientation in this age of globalization.

The primary goal of economic integration in ASEAN is to reduce transactions costs associated with economic interchange and to make the region more attractive to multinational corporations wishing to take advantage of its diversity and openness in rationalizing production networks. While there are a number of reasons for ASEAN's success, one central element has been a high-degree of openness to trade. One possible channel for reviving the region's

economic dynamism and enhancing the region's competitive position in the world economy is to invigorate intra-regional trade.

The trend towards further sub-regional trade agreements in East Asia can be viewed as a second-best approach for accelerating trade liberalization in the region because multilateral negotiations under the World Trade Organization (WTO) are becoming increasingly time-consuming and unilateralism under Asia-Pacific Economic Cooperation (APEC) is also politically difficult. At this situation, ASEAN is playing a significant role in the networking of bilateral trade agreements in the East Asia region. Free Trade Agreements (FTAs) become now the most prominent and rapidly expanding feature of the multilateral trading system. ASEAN recognizes the potential benefits of furthering co-operation amongst its trading partners and is currently working to advance its free trade arrangements with a number of them. The ASEAN–China Free Trade Area (ACFTA) and the ASEAN–Republic of Korea Free Trade Area (AKFTA) were already come into effect in 2010. There has been less progress on the ASEAN–Japan Free Trade Area (AJFTA) and the ASEAN+3 Free Trade Area (A+3FTA). Other important agreements that came into effect in 2010 were the ASEAN-Australia-New Zealand Free Trade Area (AANZFTA), the ASEAN-India Trade in Goods Agreement and the ASEAN-China Investment.

The 1997-1998 Asian financial crises also served as a catalyst for regional cooperation and integration in East Asia. Regionalization, the geographic concentration of trade between neighbor countries, is a widespread characteristic of international trade. The positions of advanced economies, mainly the U.S. and

Japan, in Asian trade have been considerably weakened. Although this result may come from several intricate factors, one is the regionalization process which has accelerated trade within South East Asia. Another one is the move of large volumes of production to low cost sites (e.g. China).

In the global economy, the emerging-market countries like India, China, and the South-East Asian economies were experiencing robust growth. However Europe and the U.S. faced stagnation causing sharp contraction in international trade. Since 2004, China has replaced the United States as the largest trading partner of Japan, South Korea, Taiwan, India, Australia, Brazil, and Chile. Admittedly this is mainly due to the rise of China as a world trader, but it is also an indicator of America's relative declining influence. The United States has only signed FTAs with Singapore and South Korea. The new ASEAN FTAs were most likely to affect U.S. exports of processed agricultural products. Sound domestic demand and intra-regional trade will continue to be strong drivers for regional growth through the next couple of years with India and China propelling the region. ASEAN countries have concluded recent bilateral agreements with two large emerging markets in the region, China and India. ASEAN countries trade more in agricultural goods with China and India than do other countries as a percentage of their total trade in agriculture. In the last five years, the quality of many Chinese horticultural products has greatly improved, and competition with the United States, particularly in Asian markets, has grown.

Within the last decade, ASEAN countries have rapidly increased production and consumption of agricultural products. Agriculture and non-agriculture imports

provide food security, which is also a high priority for ASEAN countries. Although ASEAN is a net exporting region for agricultural trade, due to rising per capita income, the diets and preferences of consumers, the demands of an increasingly concentrated food industry, globalization and the spreading presence of the fast-food industry in developing countries, most of its agricultural imports become large and growing during these periods until the total import amount 257,943 million US$ from the world in 2005-2009 periods. Income growth, relative price changes, urbanization and shifts in consumer preference have altered dietary patterns in both the developed and developing countries. When people have more money to spend, they add more variety and more expensive and high-value foods to their diets. These changes are reflected in both the volume and the composition of world trade in agricultural commodities.

Among the top 20 exporters to ASEAN market, USA (6,804 million US$), China (5,559 million US$), Australia (2,915 million US$), India (2,814 million US$) and Japan (2,656 million US$), were five largest trade partners to ASEAN market. Both average annual growth rate and market share of China, India, Brazil and Argentina have grown while Japan's export growth has been negative along with a fall in market share in ASEAN market.

For the United States (U.S.) and Australia, export growth has been positive but along with falling market shares. U.S.'s three largest export products to ASEAN market were organic chemicals (HS-29), miscellaneous chemical products (HS-38) and cotton (HS-52) as in the case of China. However, the trend of the top export products of U.S. was decreasing since 1990 and was the opposite of China. Among

the China's export commodities, Organic chemicals (HS-29), cotton (HS-52), cereals (HS-10), "edible vegetables and certain roots and tubers (HS-07)", "miscellaneous chemical products (HS-38)", "Oil seeds, oleagic fruits, grain, seed, fruit, etc, nes, (HS-12)" and "edible fruit and nuts; peel of citrus fruit or melons (HS-08)" were top export products in ASEAN market. All export product trends were upward except "Oil seeds, oleagic fruits, grain, seed, fruit, etc, nes, (HS-12)" and "cereals (HS-10)" for which consumers will substitute meat, fruit and vegetables due to their rising income.

The objective of the present study is to investigate the nature and extent of competition among the major foreign suppliers in ASEAN agriculture and non-agriculture market. Examining the impact of emerging export countries like China, India and Korea on ASEAN market, will help understand the changing relationship between ASEAN and its agricultural trade partners, especially U.S., Australia and Japan which were first, third and fourth largest partners according to (1990-2009) total import values. For this purpose, to know the similarities in the export structures of competing countries in the ASEAN market, the un-centered correlation distance approach has been employed in the analysis. And then the concept of competitive threat framework has been used to determine the competitive relationship between any two exporters, by comparing their average annual growth rate of exports and export share in ASEAN import market. The changing roles of emerging export countries like China, India and Korea etc. and the declining exporting countries like U.S., Australia and Japan etc. in ASEAN import market can be investigated by combining the results of the above two approaches.

The results show that U.S., Japan and Australia were facing serious competition with China's export in ASEAN import market. The very similar export structures of U.S. (ω_{ij}=0.9), Japan (ω_{ij}=0.7) and Australia (ω_{ij}=0.5) with China have made these three countries vulnerable to compete in total 323 four-digit HS commodities during 1990-2009 periods. As China's temperate agriculture and ASEAN's tropical agriculture are complementary in many product areas and the quality of Chinese horticultural products has improved since last five years, China and ASEAN will be able to go further than the WTO in liberalizing agricultural trade. The relative geographic proximity of China and India to ASEAN markets seems to favor them several advantages in their competition with other countries.

Among the total 323 four-digit HS commodities of ASEAN import, USA's exports (316 commodities), Japan's exports (318 commodities) and Australia's exports (304 commodities) were affected by China's threat. Among those affected items, U.S. (63%), Japan (63%) and Australia (63%) were subjected to "Direct threat and Partial threat" of China's exports.

After more detail analysis of six-digit items, China directly threatened to U.S. and Australia in major edible fruits such as fresh apples, fresh and dried grapes, fresh or dried oranges, "fresh pears and quinces", and "fresh mandarin, clementine & citrus" in ASEAN market. U.S. and Japan were suffering China's direct threat in some items like "Sauces nes, mixed condiment, mixed seasoning", "Soups and broths and preparations thereof", "Homogenised composite food preparations", "Mustard flour or meal and prepared mustard", "Food preparation nes" and "Tobacco, unmanufactured, stemmed or stripped". Moreover these three countries

were subjected to China' direct threat in "Woven cotton nes, >85% <200g/m2, printed", "Woven cotton nes, >85% >200g/m2, dyed, nes", and "Woven cotton nes, >85% <200g/m2, unbleached".

For China, actually the ACFTA has not only economic meaning; but it is also an important element of furthering its foreign policy aims. Not only does the beefing up of economic cooperation contribute to strengthening regional security, which is high on the list of China's development priorities, but it is also meant to reduce the fear of "the Chinese threat" and highlight the concept of "peaceful development" promoted by the Chinese government. At the same time, the ACFTA serves the purpose of bolstering China's position in the region (Abren Ginting, 2011).

In China's relations with Southeast Asian states, much like in its relations with many other states, economic diplomacy is an instrument to enhance political relations. By building up its position in the region, China expects to reduce the U.S. influence and to win the ASEAN states' supportive and sympathetic attitude on important issues addressed at various international forums. This gradual strengthening of position has a strategic importance for the Chinese government, both because of the seemingly impending intensification of regional integration processes and because of the role to which China aspires in East Asia.

The ASEAN consists of states with different levels of development and different economic structures and so the implications of the free trade agreement with China will be different for individual members. The reduced trade barriers will give the ASEAN exporters more favorable access to the Chinese market than that

enjoyed by exporters from countries with no such agreement with China (Fig-34). Export expansion opportunities look particularly promising for countries producing goods in high demand in China: raw materials, some agricultural and intermediate goods. This makes Malaysia (a palm oil exporter) and food producers and exporters (Thailand, Vietnam and Singapore) potentially major beneficiaries of the ACFTA. Given the rising costs of labor in China, the tightening of economic cooperation could also boost China's investment in countries in the region, a trend that could benefit the poorest ASEAN members: Laos, Cambodia and Myanmar.

Since India has a large and diverse agriculture and is one of the world's leading producers, total value of India's agriculture and non-agriculture export to ASEAN was significantly increasing from 4,907 million US$ in 1990-1994 periods to 11,678 million US$ in 2005-2009 periods. The important top agricultural export items were cereals (HS-10), "Oil seeds, oleagic fruits, grain, seed, fruit, etc, nes, (HS-12)", cotton (HS-52), food residues (HS-23), Meat and edible meat offal (HS-02) and organic chemicals (HS-29).

With the relatively higher similarity index, exports of U.S., Japan and Australia were subjected to compete with not only China's export but also India's export in ASEAN import market. Japan's export 243 items, U.S.'s export 225 items and Australia's export 218 items were directly or partially challenged by India's exports. The major agriculture export commodities directly affected by India's export were "Maize except seed corn", "Maize (corn) seed", Millet, Canary seed, "Ground-nuts shelled, not roasted or cooked", "Sesamum seeds", "Plants & parts, pharmacy, perfume, insecticide use nes", "Seed, fruits and spores for sowing, nes",

"Seed, forage plants, for sowing nes", "Seed, vegetable, nes for sowing", "Vegetable products nes for human consumption" and different kinds of Cotton for both U. S. and Australia. Moreover Australia's Dairy products and U.S.'s "Residues and waste from the food industries" were also threatened by India's exports.

Japan's major products like "Sauces nes, mixed condiments, mixed seasoning", "Soups and broths and preparations thereof", "Homogenised composite food preparations", "Adhesives based on rubber or plastic, package >1 kg", "Glues or adhesives, prepared nes, package > 1kg", "Enzymes nes, prepared enzymes nes, except rennet", "Dextrins and other modified starches" and major cotton products were subjected to Direct Threat by India's products. In addition to, Japan's major products directly threatened by Korea were "Flour or meal, pellet, fish, etc, for animal feed", "Animal feed preparations nes", "Plain weave cotton, >85% >200g/m2, unbleached", "Woven cotton nes, >85% <200g/m2, unbleached", "Woven cotton nes, >85% <200g/m2, dyed" and other different kinds of cotton in ASEAN market.

For non-agriculture products, Herbicides, Insecticides, Pesticides, "Finishing agents, dye carriers" , "Activated carbon", "prepared rubber accelerators", Isocyanates, Ethylene, Antibiotics, Organo-sulphur compounds, Heterocyclic compounds, and "Penicillins and their derivatives" of U.S., Japan and Australia were subjected to Direct Threat of each reference country in all trade competitions in ASEAN market.

By applying gravity model to provide a benchmark for trade flow, relating them to GDP, GDP per capita, distance and FTA member of the trading partners, we

found that the effect of the importers' GDP, the importers' GDP per capita and exporters' GDP shows positive and highly significant. It means that trade rises with GDP of importers, GDP per capita of importers and GDP of exporters in ASEAN import market. The significant coefficient of FTA_{ijt} is (2.39) and we can conclude that the intra-ASEAN Free Trade Agreement increased trade between its members by 991%, (exp (2.39)-1). Therefore, Free Trade Agreements play an important role of trade of top 10 exporters in ASEAN import market.

By using quantitative analysis, effect of increasing imports on ASEAN domestic production and exports can be examined. Even import amounts of the major crops increased significantly, increasing of import did not effect on their domestic productions. Importing products or commodities could be used for domestic consumption as complementary goods and could be used as raw materials from value-added industries for domestic consumption as well as export.

From 1990 to 2009, trends of import values and export values of ASEAN show positive slope except in 1997-1998 periods when Asian financial crisis occurred. After 1997, ASEAN export values were significantly greater than ASEAN import value until 2009.

6.2 Policy implications

The above trade competitions between the emerging markets and declining markets in the ASEAN import market are one of the effects/ consequences of trade liberalization or regional Free Trade Agreements of ASEAN. The proliferation of regional trade agreements (RTAs) has contributed to reducing trade barriers and stimulating trade among the developing countries. In many developing regions, RTAs are seen as a vehicle for promoting and diversifying trade. This is particularly true of those agreements that have reduced tariffs and other barriers to trade within their regions.

There are a lot of advantages and disadvantages of trade liberalization or free trade agreements on consumers, producers and industries of member countries. Welfare effect/ implications of Free Trade Agreements can be determined by examining macroeconomic and trade performance, employments, exports, sectorial outputs, and the trade creation and trade diversion effects. If multilateral free trade were adopted by all countries/regions in the global trading systems, the welfare effects would be considerably larger.

Free trade is beneficial for developing countries either when it is practiced uniformly throughout the global market or if it is conducted selectively. As free trade agreements become more common around the globe, the positive impact on developing countries has been touted as one of their greatest successes. There are several advantages to developing countries that participate in free trade. In developing countries, free trade in agriculture can raise incomes greatly, be an

important source of foreign exchange and act as a catalyst for overall development. For most countries, food imports are already an important source of supplies and will continue to contribute to food security.

According to the present study results, ASEAN countries can import very cheaply the commodities, to solve the problems of increasing demand of domestic consumptions as well as raw materials for value-added industries in ASEAN countries. Then ASEAN countries can produce and export the commodities, which will be complementary products for consumption, to their trading partner countries.

Since trade reform and liberalization reduces the barriers to trade, it can increase global economic integration, enhance the outputs of the representative firms and total factor productivity and boost incomes and raise the relative wage of high-skilled workers and will continue to do so. An increase in the global production possibility frontier indicates that the absolute quantity of goods and services produced is highest under free trade. Not only are the absolute quantity of goods and services higher, but the particular combination of goods and services actually produced will yield the highest possible utility to global consumers.

Trade liberalization can enhance international trade since lower tariffs increase the incentives of foreign suppliers to undertake cost-reducing investments and lower tariffs may prompt vertical multinational integration. Welfare gains and likelihood of free trade agreements (FTA) depend on –the closer in distance of two trading partners, the larger and more similar economy of two partners, the greater the difference in capital-labor endowment ratios between two countries, and the less is the difference in capital-labor endowment ratios of the member countries relative

to that of the rest of the world.

Free trade simultaneously can transform the domestic distribution of power by eliminating economic regulations that strengthen societal groups most likely to support war. Free trade can reduce military conflict in the international system by undermining the domestic political power of interests that benefit from conflict and by limiting the state's ability to enact commercial policies to build domestic coalitional support for its war machine. In the age of globalization it seems only polite to negotiate free-trade agreements. So free trade is highly prized as a route to peace and prosperity for the region.

Due to increasing demand, lower international food price and consumer preferences upon different kinds of food varieties and the value-added product, ASEAN import became large and growing. In the short run, the importing countries may currently benefit from the higher supply and lower prices of agricultural products on world market, which may be the result of the subsidies for production and trade in the developed countries. If this support is reduced, world food prices will be expected to increase and will be leading to higher food import bills for those developing countries very much dependent on food imports in the long term. The impact of the change in world commodity prices on the consumption of households would depend first on how the world price changes are transmitted to the domestic market, particularly the effects on the domestic price. The impact of higher world prices on domestic prices may vary from country to country depending on each country's border protection policy.

There may be a negative, and restraining, effect of import competition on

domestic prices in the third market. The import competition may not only affect profit rates in developing countries but price behavior as well. Trade liberalization should be viewed as another viable policy to promote domestic competition. An ideal competition policy in developing countries should consist of vigorous enforcement of domestic competition policy in the form of regulatory reform and antitrust policy as well as an earnest pursuit of trade liberalization.

By doing trade liberalization in the intermediate-product market, average cost will fall in most industries, with tradable goods producers registering the largest reduction. Among import products, these cost reductions will trace partly to improvements in relative productivity. Among export products, they are due to favorable changes in relative prices, probably because imported intermediate goods became cheaper. A domestic firm may choose to purchase a key intermediate good from a more efficient foreign producer, who also competes with the domestic firm for a final good. This may have a strategic effect on competition and could raise the price of both intermediate and final goods. Trade liberalization in the intermediate-product market has a very different effect compared with trade liberation in the final-good market.

Trade liberalization implies a change in market structure as firms are exposed to new competitors. If foreign and domestic firms produce close substitutes, their interaction in the product market will force prices below the monopolistic level. Demand shifts from monopolistic to oligopolistic varieties and incentives to develop new varieties will be reduced. The changing market structure will constitute a market failure as competition becomes asymmetric. If the scale and the

intensity of competition are large, trade will reduce the welfare level even below the autarky level.

For countries, the agricultural sector is of significance both as a source of income as well as a major expenditure item (i.e., food) in their total budgets. Hence, any policy reform in this sector, such as trade liberalization, will affect more the population groups within a given country, such as indigenous, rural, and developing populations who are more dependent on the agricultural sector. The FTA may actually hinder the improvement of the quality of life of people in the lowest income levels whose primary means of living is farming. This is due to many more imports of agricultural products that will flood the importing country market and drive these farmers out of business due to their higher cost structures. Liberalization can draw resources away from cash crops and into manufacturing. Agricultural landlords will be among the biggest losers. Free trade may benefit the wealthiest corporations and the individuals that own them. It squeezes more work for less pay from the rest of society.

Increase in total trade liberalization can reduce aggregate unemployment. Even in the case of minimal impact on aggregate unemployment and quite substantial aggregate gain from trade, some amount of existing "good jobs" may be destroyed in liberalization. Many high-paid jobs are replaced with much lower paying jobs, offsetting any standard of living increase realized by the proliferation of low-cost imported goods for many workers. The impact on employment of any change in trade is determined by its effect on the trade balance, the difference between exports and imports.

Liberalization may lead to an increase in total greenhouse gas emissions. The increase in CO_2 emissions are caused by deforestation and vegetation clearance due to a rapid expansion of agricultural area; especially in South America and Southeast Asia. Increased methane emissions in the case of full liberalization are caused by less intensive cattle farming in the regions such as South America and Southeast Asia. Using more fertilizers and other chemicals for insect-pest-protections purpose will cause environment pollutions.

The FTA reduces various banking regulation and will result in greater competition between two countries. So ASEAN countries especially CLMV should prepare their banking system efficiently in globalization.

In many developing countries, agriculture has suffered not only from trade barriers and subsidies abroad but has also been neglected by domestic policies. Developing countries' producers may therefore not benefit greatly from free trade unless they can operate in an economic environment that enables them to respond to the incentives of higher and more stable international prices. A number of policies should be implemented. These include a removal of the domestic bias against agriculture; investment to lift product quality to the standards demanded abroad; and effort to improve productivity and competitiveness in all markets.

Investment in transportation and communications facilities, upgraded production infrastructure, improved marketing, storage and processing facilities as well as better food quality and safety schemes could be particularly important, the latter not only for the benefit of better access to export markets, but also for reducing food-born diseases affecting the local population. Trade has an important

role to play in improving food security and fostering agriculture. In globalization, if there is efficient transportation system among the FTA member countries, effect of distance will be more significant in trade.

If free trade is to contribute to poverty reduction, internal reforms such as reduction of the bias against agriculture in national policy making; the opening of the borders for long-term foreign investments; the introduction of schemes to improve food quality and safety; investment in roads, irrigation, seeds and skills; improved quality standards; and safety nets for the poor who face higher food prices are also required within developing countries.

It is impossible to gain a surplus when trading with a powerful country without good preparations and a comprehensive strategic plan. The policies which should be done under good cooperation and coordination by government organizations are - Counterbalance the import wave that AFTA would bring by promoting the exports of FTA partner countries to ASEAN import market, - Controlling the commodities exported to ASEAN market, focusing more on raw materials import, to avoid over-consumptive behavior on consumption goods and increasing the sustainable productivity of domestic industry, especially the export oriented industry; - Stabilize the price fluctuations to encourage people to save more and strengthen the currency's purchasing power so that exporters are encouraged to export more and the import waved can be endured; and - Developing long term foreign direct investment to boost employment and increase the sustainable productivity of export oriented industry.

REFERENCES

1. . *ASEAN-Statistical Year Book* (2008).

2. Adam Schwarz, and Roland Villinger. "Integrating Southeast Asia's Economies." *The McKinsey Quarterly* 1 (2004).

3. ADB. "Asian Development Outlook 2009 Update: Broadening Openness for a Resilient Asia.Manila." (2009a).

4. ———. "Asian Development Outlook 2009: Overbalancing Asia's Growth. Manila." (2009b).

5. " Agri-Food Regional Profile Asean ". *Agri-Food trade Service, www.ats.agr.gc.ca* (2011).

6. AID. "Agricultural Trade: Planting the Seeds of Regional Liberalization in Asia." *Studies in Trade and Investment No. 60 - A Study by the Asia-Pacific Research and Training Network on Trade ARTNeT,Trade and Investment Division(AID)* (2007).

7. Alston & Bird LLP, and Chunlian Yang. "U.S.- China Trade Relations: A Future of Cooperation or Continued Competition?". *International Trade & Regulatory Advisory* (2011).

8. Arase, David. "Non-Traditional Security in China-Asean Cooperation: The Institutionalization of Regional Security Cooperation and the Evolution of East Asian Regionalism." *Asian Survey* 50, no. 4 (2010): 808-33.

9. ASEAN-Secretariat. *ASEAN FDI Statistics Database* (2006).

10. ———. *Website of the ASEAN Secretariat, http://www.aseansec.org* (1995).

11. ———. "Asean Economic Community Factbook." (2011).

12. Baum, Cristopher F. "An Introduction to Modern Econometrics Using Stata." (2006).

13. Betina Dimaranan, Elena Ianchovichina and Will Martinr. "China, India, and the Future of the World Economy: Fierce Competition or Shared Growth?". *Policy Research Working Paper 4304* (2007).

14. Bhattacharya B., and M. Ariff. "Study on A.F.T.A-India Linkages for the Enhancement of Trade and Investment." a report submitted to the Government of India and the ASEAN Secretariat, 2002.

15. Bhavish Jugurnath, Mark Stewart and Robert Brooks. "Asia/Pacific Regional Trade Agreements:An Empirical Study." *Journal of Asian Economics* 18 (2007): 974-87.

16. Blustein, Paul. "Misadventures of the Most Favored Nations." *Public Affairs Books: New York* (2009).

17. Bottelier, Pieter. "China as an Exporter of Services. What Lies Ahead?". *mimeo* (2003).

18. Carrere, Celine. "Revisiting the Effects of Regional Trade Agreements on Trade Flows with Proper Specification of the Gravity Model." *European Economic Review 50 (2006) 223–247* 50 (2004): 223-47.

19. Chandran, B. P. Sarath. "Trade Complementarity and Similarity between India and Asean Countries in the Context of the R.T.A." *The Indian*

Economic Journal Vol. Special Issue, December 2010, no. No. 27. December 2010 (2010): 111- 17.

20. Cheng, Yao Chao. "China's Role in the Asian Economic Unification Process." *Economic and Political Weekly* 40, no. 36 (2005): 3949-52.

21. Chuanmin Shuai, and Xi Wang. "Comparative Advantages and Complementarity of the Sino-U.S. Agricultural Trade: An Empirical Analysis." *Agric. Econ.–Czech* 57, no. 2011 (3) (2011): 118-31.

22. Chunlai Chen, and Jun Yang. "Agricultural Trade between China and Asean: Dynamics and Prospects." *Agriculture and Food Security in China, ANU ePress* (2008): 346-71.

23. CSO. "Statistical Yearbook, Central Statistic Organization ". *Ministry of National Planning and Economic Development, Myanmar* (2009).

24. Dominic Wilson, and Roopa Purushothaman. "Dreaming with Brics: The Path to 2050." *New York: Goldman Sachs, Global Economics Paper No. 99 at www.gs.com* (2003).

25. FAO. "The State of Agricultural Commodity Market." *FAO report* (2004).

26. Financial-Times. "India Awakes." *special report on India released at the World Economic Forum at Davos, Switzerland* (2004).

27. Finger, K. Michael. "Evolving Wave of Competition in the International Market: Challenges for Africa through the Rise of China and India." *Economic Research and Statistics Division WTO* (2007).

28. Francis, Smitha. "The Asean-India Free Trade Agreement: A Sectoral Impact Analysis of Increased Trade Integration in Goods." *the Economic and Political Weekly* 46, no. 02 (2011).

29. Gemma Estra, Donghyun Park, Innwon Park, and Soonchan Park. "Asean's Free Trade Agreement with the People's Republic of China, Japan, and the Republic of Korea: A Qualitative and Quantitative Analysis." *Asian Development Bank* No.75 (2011).

30. Ghoshal, Baladas. "Understanding the Sino-Indian Competition in Africa–Analysis." *Institute of Peace and Conflict Studies (IPCS)* (2011).

31. Giles, David E. "Interpreting Dummy Variables in Semi-Logarithmic Regression Models: Exact Distributional Results." *ISSN 1485-6441* (2011).

32. Ginting, Abren. "The Impact of Acfta to Indonesia -China Trade." *ICRA Indonesia Comment* (2011).

33. Goswami, O. "India 2003-2010: Economic and Political Scenario." *Confederation of Indian Industry (CII)* (2003).

34. Greene, William. "U.S. - China Competition in the Indian Market." *Office of Economics Working Paper, U. S. International Trade Commission* (2006).

35. GTIS. "(Global Trade Information Services),Global Trade Atlas Database (Accessed February 16, 2011)." (2011).

36. Guillaume Gaulier, Françoise Lemoine, and Deniz Ü nal-akesenci. "China's Emergence and the Reorganisation of Trade Flows in Asia." *China Economic Review* 18 (2007): 209-43.

37. Hanho Kim, Munisamy Gopinath, and Jae-Kyung Kim. "Competition between China and the United States in the Korean Food Market." *International Agricultural Trade and Development* 5, no. 1 (2008): 31-50.

38. Hiro Lee, and Michael G. Plummer. "Assessing the Impact of the Asean Economic Community." *OSIPP Discussion Paper: DP-2011-E-002* (2011).

39. Hiro Lee, David Roland Holst and Dominique van der Mensbrugghe. "China's Emergence in East Asia under Alternative Trading Arrangements." *Journal of Asian Economics* 15 (2004): 697-712.

40. http://www.timeanddate.com.

41. Hu Xiaoping, Tu Wentao, and Fang Xingming. "An Analysis and Comparison of Wheat Production Competitiveness between China and the USA." *Journal of Economic Issues* 38, no. 4 (2004): 1074-82.

42. Huang, Sophia Wu. "Global Trade Patterns in Fruit and Vegetables." *U.S. Department of Agriculture, Economic Research Service, Agriculture and Trade Report no. WRS-04-06* (2004).

43. Huanguang Qiu, Jun Yang, Jikun Huang, and Ruijian Chen. "Impact of China-Asean Free Trade Area on China's International Agricultural Trade and Its Regional Development." *China & World Economy* 15, no. 4 (2007): 77-99.

44. ICONE. "Overview of the Agricultural Sectors in Selected Asian and Latin American Countries." *Asia Latin America Agri-Food Research Network, Institute for International Trade Negotiations (ICONE)* (2008).

45. Ismail N. W., and P. Smith, et al. . "Regional Economic Integration and Intra Regional Trade: The Evidence from the Association of Southeast Asian Nations (Asean) Free Trade Area." *Singapore Economic Review Conference 2007, 1st - 4th August 2007. Singapore.* (2007).

46. J. A. Frankel, and D. Romer. ""Does Trade Cause Growth?"." *American Economic Review* 379-99 (1999).

47. Jacob Townsend, and Amy King. "Sino-Japanese Competition for Central Asian Energy: China's Game to Win." *China and Eurasia Forum Quarterly* 5, no. 4 (2007): 23-45.

48. Jaffee, Adam B. "Technological Opportunity and Spillovers of R&D: Evidence from Firm's Patents, Profit and Market Value." *American Economic Review* 76, no. 5 (1986): 1984-2001.

49. Jane Korinek, and Mark Melatos. "Trade Impacts of Selected Regional Trade Agreements in Agriculture." *OECD Trade Policy Working Papers* No. 87 (2009).

50. John Wainio, John Dyck, Mark Gehlhar and Tom Vollrath. "Are Competitors' Free Trade Agreements Putting U.S. Agricultural Exporters at a Disadvantage?". *Amberwaves, Economic Research Service / USDA* 9, no. 2 (2011): 8-15.

51. John Wainio, Mark Gehlhar, and John Dyck. "Selected Trade Agreements and Implications for U.S. Agriculture." United States Department of Agriculture (USDA), Economic Research Service, Economic Research Report 115, 2011.

52. Kawasaki, Kenichi. "The Impact of Free Trade Agreements in Asia." *RIETI Discussion Paper Series 03-E-018* (2003).

53. Khanna, Tarrun. "Can India Overtake China?". *Foreign Policy* (2003).

54. Khine, Thandar. "Foreign Direct Investment Relations between Myanmar and Asean." *IDE Discussion paper* (2008).

55. Kim, Jae Cheol. "Competition among China, Japan and Korea to Woo A.S.E.A.N ". *East Asia Integration Studies* (2009).

56. Konstantinos Kepaptsoglou, Matthew G. Karlaftis and Dimitrios Tsamboulas. "The Gravity Model Specification for Modeling International Trade Flows and Free Trade Agreement Effects: A 10-Year Review of Empirical Studies." *The Open Economics Journal* 3 (2010): 1-13.

57. Leamer, E. E. "International Trade Theory: The Evidence." *Handbook of International Economics,* 3 (1995): 1339-94.

58. Levesque, Julien. "Lords of Jade: Mismanaging Myanmar's Natural Resources ". *ICPS Issue Brief, Institute of Conflict and Peace Study* (2008).

59. Limskul, Kitti. "Japan-Asean Comprehensive Economic Partnership." (2004).

60. Lin, Sun. "Study on the Agricultural Trade Competition between China and Japan & Korea-Empirical Analysis with Export Similarity Index." *Journal of International Trade* (2008).

61. Linneman, H. "An Econometric Study of World Trade Flows." *Amsterdam: North-Holland Publishing Co.* (1966).

62. MAP. "India's Role in World Agriculture." *Monitoring Agri-trade Policy (MAP) No. 03-07* (2007).

63. Mary E. Burfisher, and Steven Zahniser. "Multilateralism and Regionalism – Dual Strategies for Trade Reform." *Amber Waves, Economic Research Service/ USDA* 1, no. 4 (2003).

64. Matthieu Bussiere, and Bernd Schnatz "Evaluating China's Integration in World Trade with a Gravity Model Based Benchmark." *Working paper series, No (693)* (2006).

65. Merchant, K. "Indian Firms Spread around the Globe." *Gulf News* (2004): p.37.

66. Minda C. Mangabat, and Antonette P. Natividad. "Agricultural Trade in the Asean Region: Challenges for Enhancing Cooperation and Integration." *The International Journal of Economic Policy Studies* 2, no. Article-4 (2007).

67. "Myanmar Trade Brief." *World Trade Indicators* (2009-2010).

68. Myint, U. "Myanmar's G.D.P Growth and Investment: Lessons from a Historical Perspective." (2006).

69. Nandan, Gita. "Asean Building an Economic Community." *Economic Analytical Unit, Australian Government* (2006).

70. ———. "Asean Building an Economic Community." *Australian Government, Department of Foreign Affair and Trade, Economic Analytical Unit* (2006).

71. OECD. *China Economic Surveys, 2005/13* (2005).

72. ———. "Agricultural Policies in Emerging Economies." (2009).

73. Park, Innwon. "Trade Liberalization and Long-Run Economic Growth - a C.G.E Model Analysis of A.F.T.A." *Korea Review of International Studies* 3, no. 1 (2000): 107-30.

74. Park, Ji-hyun. "Agricultural Trade between Korea, China and Japan: Disputes and Countermeasures." *EAST ASIAN REVIEW* 14, no. 3 (2002): 49-66.

75. Poyhonen, P. "A Tentative Model for the Volume of Trade between Countries." *Weltwirtschaftliches Archive* 90 (1963): 93-100.

76. Rahul Sen, Mukul G. Asher, and Ramkishen S. Rajan. "Asean-India Economic Relations: Current Status and Future Prospects." (2004).

77. Raju, Sunitha. "Asean – India F.T.A : Emerging Issues for Trade in Agriculture." (2010).

78. Ramakrishnan, N. "The Age of Indian M.N.C Has Finally Dawned." *Business Line* (2004).

79. Ravenhill, John. "Is China an Economic Threat to Southeast Asia?". *Asian Survey* 46, no. 5 (2006): 653-74.

80. S. Lall, and J. Weiss. *China and Latin America: Trade Competition, 1990-2002*. edited by OECD Publishing. The Visible Hand of China in Latin America: OECD Publishing, 2007.

81. Sanjaya Lall, and Manuel Albaladejo "China's Competitive Performance: A Threat to East Asian Manufactured Export?". *World Development* 32, no. 9 (2004): 1441-66.

82. Scott Mcdonald, Sherman Robinson, and Karen Thierfelder. "Asian Growth and Trade Poles: India, China, and East and Southeast Asia." *World Development* 36, no. 2 (2008): 210– 34.

83. Soe, Tin. "Policy Dilemmas and Economic Development: A Case Study of Myanmar Economy in Transition." (2008).

84. Sridharan, K. "The Asean Region in India's Foreign Policy." *Aldershot: Dartmouth Publishing Co.* (1996).

85. Stanley, Morgan. "India Economics: The Next Trillion-Dollar Economy." *Equity Research Asia/Pacific* (January, 2003).

86. *Statistical Year Book for Asia and Pacific*. 2011.

87. Suhail Nathani, Samir Gandhi. "A Global Competition Review Special Report." *The Handbook of Trade Enforcement, www.globalcompetitionreview.com* (2011).

88. T. N. Srinivasan, and Samuel C. Park. "China and India: Economic Performance, Competition and Cooperation an Update." *presented paper at a seminar on WTO Accession, Policy Reform and Poverty sponsored by the World Trade Organization in Beijing, China* (2004).

89. Tan Jing-rong, and Wang Zhen-qian. "An Analysis of Agricultural Products Competition among China, Japan, and Republic of Korea in American Market." *Journal of International Trade* (2008).

90. Tang Yihong, and Wang Weiwei. "An Analysis of Trade Potential between China and Asean within China-Asean F.T.A." China: University of International Business and Economics (UIBE), 2006.

91. Timbergen, J. "Shaping the World Economy, New York, Ny: Twentieth Century Fund." (1962).

92. United Nations Statistics Division, Commodity Trade Database; COMTRADE.

93. USITC. "China's Agricultural Trade: Competitive Conditions and Effects on U.S. Exports." *United States International Trade Commission*, no. Investigation No. 332-518 (2011).

94. Wang, Weicheng. "China-Asean Free Trade Area: A Chinese "Monroe Doctrine" or "Peaceful Rise"?". *China Brief* IX, no. 17 (2009).

95. Wang, Zhi. "The Impact of China's W.T.O Accession on Patterns of World Trade." *Journal of Policy Modeling* 25 (2003): 1-41.

96. Weiss, John. "People's Republic of China and Its Neighbors: Partners or Competitors for Trade and Investment?". *ADB Institute Research Paper Series No. 59* (2004).

97. Yinug, Falan. "U.S.-Asean 2010 Goods Trade: A Closer Look." *Asia Pacific Bulletin* No. 110 (2011).

98. Yoon Heo, and Tran Nhuan Kien "The Impacts of A.F.T.A on Korea-Asean Trade Flows: A Sector-Specific Evidence." edited by POSCO TJ Park Foundation, 2009.

99. Yue, Chia Siow. "Asean-China Free Trade Area." *Paper for presentation at the AEP Conference* (2004).

100. ———. "East Asian Regionalism and Asean-Japan Economic Partnership." *ASEAN-Japan Cooperation:A Foundation for East Asian Community; (ed. Japan Center for International Exchange), Tokyo:Japan Center for International Exchange* (2003): 75-94.

APPENDICES

Table 47 Similarity Index Matrix for Export Structure by Periods

1990-2009	ARG	AUS	BEL	BRA	CAN	CHI	FRA	GER	IND	ITL	JPA	KOR	NZL	NTL	PAK	SAF	SPA	SWZ	UK	USA
Argentina	1.0	0.4	0.1	0.8	0.5	0.3	0.0	0.1	0.7	0.1	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.1	0.4
Australia	0.4	1.0	0.2	0.3	0.7	0.5	0.1	0.1	0.4	0.2	0.1	0.2	0.5	0.3	0.3	0.3	0.1	0.1	0.1	0.4
Belgium	0.1	0.2	1.0	0.3	0.2	0.7	0.5	0.9	0.6	0.8	1.0	0.9	0.2	0.9	0.0	0.9	0.9	0.9	0.8	0.8
Brazil	0.8	0.3	0.3	1.0	0.2	0.5	0.1	0.2	0.8	0.3	0.2	0.3	0.1	0.3	0.2	0.4	0.3	0.2	0.2	0.5
Canada	0.5	0.7	0.2	0.2	1.0	0.5	0.1	0.2	0.4	0.2	0.2	0.2	0.0	0.2	0.1	0.3	0.2	0.2	0.2	0.4
China	0.3	0.5	0.7	0.5	0.5	1.0	0.4	0.7	0.7	0.6	0.7	0.7	0.1	0.6	0.3	0.8	0.6	0.7	0.6	0.9
France	0.0	0.1	0.5	0.1	0.1	0.4	1.0	0.6	0.3	0.6	0.5	0.4	0.1	0.5	0.0	0.5	0.6	0.6	0.8	0.5
Germany	0.1	0.1	0.9	0.2	0.2	0.7	0.6	1.0	0.5	0.9	1.0	0.9	0.1	0.9	0.1	0.8	0.9	0.9	0.8	0.9
India	0.7	0.4	0.6	0.8	0.4	0.7	0.3	0.5	1.0	0.5	0.6	0.6	0.1	0.6	0.2	0.6	0.6	0.6	0.5	0.7
Italy	0.1	0.2	0.8	0.3	0.2	0.6	0.6	0.9	0.5	1.0	0.8	0.7	0.1	0.7	0.4	0.7	0.7	0.8	0.7	0.8
Japan	0.0	0.1	1.0	0.2	0.2	0.7	0.5	1.0	0.6	0.8	1.0	1.0	0.0	0.8	0.1	0.9	0.9	1.0	0.8	0.8
Korea	0.1	0.2	0.9	0.3	0.2	0.7	0.4	0.9	0.6	0.7	1.0	1.0	0.0	0.8	0.1	0.9	0.9	0.9	0.7	0.8
New Zealand	0.1	0.5	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	1.0	0.5	0.0	0.1	0.1	0.1	0.1	0.1
Netherlands	0.1	0.3	0.9	0.3	0.2	0.6	0.5	0.9	0.6	0.7	0.8	0.8	0.5	1.0	0.1	0.8	0.8	0.9	0.7	0.7
Pakistan	0.2	0.3	0.0	0.2	0.1	0.3	0.0	0.1	0.2	0.4	0.1	0.1	0.0	0.1	1.0	0.3	0.1	0.1	0.1	0.2

South Africa	0.1	0.3	0.9	0.4	0.3	0.8	0.5	0.8	0.6	0.7	0.9	0.9	0.1	0.8	0.3	1.0	0.9	0.9	0.8	0.8
Spain	0.1	0.1	0.9	0.3	0.2	0.6	0.6	0.9	0.6	0.7	0.9	0.9	0.1	0.8	0.1	0.9	1.0	1.0	0.8	0.8
Switzerland	0.0	0.1	0.9	0.2	0.2	0.7	0.6	0.9	0.6	0.8	1.0	0.9	0.1	0.9	0.1	0.9	1.0	1.0	0.8	0.8
UK	0.1	0.1	0.8	0.2	0.2	0.6	0.8	0.8	0.5	0.7	0.8	0.7	0.1	0.7	0.1	0.8	0.8	0.8	1.0	0.7
USA	0.4	0.4	0.8	0.5	0.4	0.9	0.5	0.9	0.7	0.8	0.8	0.8	0.1	0.7	0.2	0.8	0.8	0.8	0.7	1.0

1990-1994	ARG	AUS	BRA	CAN	CHI	FRA	GER	IND	ITL	JPA	KOR	NZL	NTL	PAK	SPA	SWZ	UK	USA
Argentina	1.0	0.8	0.3	0.8	0.6	0.0	0.1	0.2	0.1	0.1	0.1	0.0	0.1	0.2	0.1	0.0	0.1	0.2
Australia	0.8	1.0	0.4	0.7	0.6	0.1	0.2	0.4	0.2	0.2	0.3	0.4	0.2	0.3	0.1	0.1	0.1	0.4
Brazil	0.3	0.4	1.0	0.2	0.8	0.2	0.4	0.8	0.3	0.5	0.6	0.1	0.4	0.4	0.4	0.4	0.4	0.6
Canada	0.8	0.7	0.2	1.0	0.5	0.2	0.3	0.2	0.2	0.3	0.2	0.0	0.3	0.0	0.3	0.2	0.3	0.3
China	0.6	0.6	0.8	0.5	1.0	0.2	0.4	0.6	0.3	0.4	0.5	0.1	0.4	0.3	0.4	0.4	0.4	0.6
France	0.0	0.1	0.2	0.2	0.2	1.0	0.7	0.2	0.7	0.6	0.6	0.1	0.7	0.0	0.6	0.7	0.9	0.6
Germany	0.1	0.2	0.4	0.3	0.4	0.7	1.0	0.3	0.9	1.0	0.9	0.2	0.9	0.1	0.9	0.9	0.8	0.8
India	0.2	0.4	0.8	0.2	0.6	0.2	0.3	1.0	0.2	0.3	0.4	0.2	0.3	0.3	0.3	0.3	0.2	0.4
Italy	0.1	0.2	0.3	0.2	0.3	0.7	0.9	0.2	1.0	0.8	0.7	0.1	0.8	0.2	0.7	0.7	0.8	0.9
Japan	0.1	0.2	0.5	0.3	0.4	0.6	1.0	0.3	0.8	1.0	1.0	0.1	0.9	0.1	1.0	1.0	0.8	0.8
Korea	0.1	0.3	0.6	0.2	0.5	0.6	0.9	0.4	0.7	1.0	1.0	0.1	0.9	0.2	0.9	0.9	0.8	0.8
New Zealand	0.0	0.4	0.1	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.1	1.0	0.3	0.0	0.1	0.1	0.1	0.1
Netherlands	0.1	0.2	0.4	0.3	0.4	0.7	0.9	0.3	0.8	0.9	0.9	0.3	1.0	0.1	0.9	0.9	0.8	0.7
Pakistan	0.2	0.3	0.4	0.0	0.3	0.0	0.1	0.3	0.2	0.1	0.2	0.0	0.1	1.0	0.0	0.0	0.1	0.3

Spain	0.1	0.1	0.4	0.3	0.4	0.6	0.9	0.3	0.7	1.0	0.9	0.1	0.9	0.0	1.0	1.0	0.8	0.7
Switzerland	0.0	0.1	0.4	0.2	0.4	0.7	0.9	0.3	0.7	1.0	0.9	0.1	0.9	0.0	1.0	1.0	0.8	0.7
UK	0.1	0.1	0.4	0.3	0.4	0.9	0.8	0.2	0.8	0.8	0.8	0.1	0.8	0.1	0.8	0.8	1.0	0.8
USA	0.2	0.4	0.6	0.3	0.6	0.6	0.8	0.4	0.9	0.8	0.8	0.1	0.7	0.3	0.7	0.7	0.8	1.0

1995-1999	ARG	AUS	BEL	BRA	CAN	CHI	FRA	GER	IND	ITL	JPA	KOR	NZL	NTL	PAK	SPA	SWZ	UK	USA
Argentina	1.0	0.7	0.1	0.5	0.8	0.5	0.0	0.1	0.8	0.1	0.0	0.1	0.1	0.1	0.4	0.1	0.0	0.1	0.5
Australia	0.7	1.0	0.2	0.2	0.7	0.6	0.1	0.1	0.5	0.1	0.1	0.1	0.4	0.2	0.4	0.1	0.1	0.1	0.5
Belgium	0.1	0.2	1.0	0.3	0.3	0.5	0.6	1.0	0.4	0.9	0.9	0.9	0.2	0.9	0.0	0.9	0.9	0.8	0.8
Brazil	0.5	0.2	0.3	1.0	0.1	0.3	0.1	0.3	0.8	0.3	0.2	0.3	0.1	0.3	0.2	0.3	0.2	0.3	0.4
Canada	0.8	0.7	0.3	0.1	1.0	0.6	0.2	0.3	0.5	0.2	0.3	0.3	0.0	0.3	0.2	0.3	0.3	0.2	0.6
China	0.5	0.6	0.5	0.3	0.6	1.0	0.3	0.5	0.6	0.5	0.5	0.5	0.1	0.5	0.3	0.5	0.5	0.5	0.8
France	0.0	0.1	0.6	0.1	0.2	0.3	1.0	0.6	0.2	0.6	0.5	0.5	0.1	0.6	0.0	0.7	0.6	0.8	0.5
Germany	0.1	0.1	1.0	0.3	0.3	0.5	0.6	1.0	0.4	0.9	0.9	0.9	0.1	0.9	0.1	1.0	0.9	0.9	0.8
India	0.8	0.5	0.4	0.8	0.5	0.6	0.2	0.4	1.0	0.4	0.4	0.4	0.1	0.4	0.3	0.4	0.4	0.3	0.7
Italy	0.1	0.1	0.9	0.3	0.2	0.5	0.6	0.9	0.4	1.0	0.8	0.8	0.1	0.8	0.2	0.8	0.8	0.8	0.8
Japan	0.0	0.1	0.9	0.2	0.3	0.5	0.5	0.9	0.4	0.8	1.0	1.0	0.1	0.9	0.0	0.9	1.0	0.8	0.8
Korea	0.1	0.1	0.9	0.3	0.3	0.5	0.5	0.9	0.4	0.8	1.0	1.0	0.1	0.9	0.1	0.9	1.0	0.8	0.7
New Zealand	0.1	0.4	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.0	0.4	0.0	0.1	0.1	0.1	0.1
Netherlands	0.1	0.2	0.9	0.3	0.3	0.5	0.6	0.9	0.4	0.8	0.9	0.9	0.4	1.0	0.1	0.9	0.9	0.8	0.7

Pakistan	0.4	0.4	0.0	0.2	0.2	0.3	0.0	0.1	0.3	0.2	0.0	0.1	0.0	0.1	1.0	0.0	0.0	0.1	0.3
Spain	0.1	0.1	0.9	0.3	0.3	0.5	0.7	1.0	0.4	0.8	0.9	0.9	0.1	0.9	0.0	1.0	1.0	0.9	0.8
Switzerland	0.0	0.1	0.9	0.2	0.3	0.5	0.6	0.9	0.4	0.8	1.0	1.0	0.1	0.9	0.0	1.0	1.0	0.8	0.7
UK	0.1	0.1	0.8	0.3	0.2	0.5	0.8	0.9	0.3	0.8	0.8	0.8	0.1	0.8	0.1	0.9	0.8	1.0	0.8
USA	0.5	0.5	0.8	0.4	0.6	0.8	0.5	0.8	0.7	0.8	0.8	0.7	0.1	0.7	0.3	0.8	0.7	0.8	1.0

2000-2004	ARG	AUS	BEL	BRA	CAN	CHI	FRA	GER	IND	ITL	JPA	KOR	NZL	NTL	PAK	SAF	SPA	SWZ	UK	US
Argentina	1.0	0.1	0.1	0.8	0.2	0.2	0.0	0.0	0.5	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.4
Australia	0.1	1.0	0.2	0.3	0.6	0.6	0.2	0.2	0.5	0.2	0.1	0.2	0.6	0.4	0.3	0.4	0.1	0.2	0.2	0.4
Belgium	0.1	0.2	1.0	0.2	0.2	0.6	0.5	0.9	0.7	0.7	0.9	0.9	0.2	0.9	0.1	0.8	0.9	0.9	0.8	0.8
Brazil	0.8	0.3	0.2	1.0	0.2	0.3	0.1	0.2	0.6	0.3	0.2	0.2	0.1	0.2	0.3	0.3	0.2	0.2	0.2	0.5
Canada	0.2	0.6	0.2	0.2	1.0	0.6	0.1	0.2	0.5	0.1	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.5
China	0.2	0.6	0.6	0.3	0.6	1.0	0.4	0.6	0.7	0.6	0.6	0.6	0.1	0.5	0.4	0.8	0.6	0.6	0.6	0.8
France	0.0	0.2	0.5	0.1	0.1	0.4	1.0	0.6	0.3	0.6	0.5	0.4	0.1	0.5	0.0	0.5	0.6	0.6	0.8	0.5
Germany	0.0	0.2	0.9	0.2	0.2	0.6	0.6	1.0	0.6	0.8	1.0	0.8	0.1	0.8	0.1	0.7	0.8	1.0	0.8	0.9
India	0.5	0.5	0.7	0.6	0.5	0.7	0.3	0.6	1.0	0.5	0.7	0.7	0.1	0.6	0.2	0.7	0.7	0.6	0.6	0.8
Italy	0.1	0.2	0.7	0.3	0.1	0.6	0.6	0.8	0.5	1.0	0.7	0.6	0.1	0.6	0.5	0.7	0.7	0.8	0.7	0.7

Japan	0.0	0.1	0.9	0.2	0.2	0.6	0.5	1.0	0.7	0.7	1.0	0.9	0.0	0.8	0.1	0.8	0.9	0.9	0.8	0.9
Korea	0.0	0.2	0.9	0.2	0.2	0.6	0.4	0.8	0.7	0.6	0.9	1.0	0.1	0.8	0.2	0.9	0.9	0.9	0.8	0.8
New Zealand	0.1	0.6	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	1.0	0.5	0.0	0.1	0.1	0.1	0.1	0.1
Netherlands	0.1	0.4	0.9	0.2	0.2	0.5	0.5	0.8	0.6	0.6	0.8	0.8	0.5	1.0	0.1	0.7	0.8	0.8	0.7	0.7
Pakistan	0.1	0.3	0.1	0.3	0.1	0.4	0.0	0.1	0.2	0.5	0.1	0.2	0.0	0.1	1.0	0.3	0.1	0.1	0.1	0.2
South Africa	0.1	0.4	0.8	0.3	0.2	0.8	0.5	0.7	0.7	0.7	0.8	0.9	0.1	0.7	0.3	1.2	0.8	0.8	0.8	0.8
Spain	0.1	0.1	0.9	0.2	0.2	0.6	0.6	0.8	0.7	0.7	0.9	0.9	0.1	0.8	0.1	0.8	1.0	0.9	0.9	0.8
Switzerland	0.0	0.2	0.9	0.2	0.2	0.6	0.6	1.0	0.6	0.8	0.9	0.9	0.1	0.8	0.1	0.8	0.9	1.0	0.9	0.9
UK	0.0	0.2	0.8	0.2	0.2	0.6	0.8	0.8	0.6	0.7	0.8	0.8	0.1	0.7	0.1	0.8	0.9	0.9	1.0	0.8
USA	0.4	0.4	0.8	0.5	0.5	0.8	0.5	0.9	0.8	0.7	0.9	0.8	0.1	0.7	0.2	0.8	0.8	0.9	0.8	1.0

2005-2009	ARG	AUS	BEL	BRA	CAN	CHI	FRA	GER	IND	ITL	JPA	KOR	NZL	NTL	PAK	SAF	SPA	SWZ	UK	USA
Argentina	1.0	0.3	0.1	0.7	0.3	0.1	0.0	0.1	0.6	0.2	0.0	0.0	0.0	0.1	0.2	0.0	0.1	0.0	0.0	0.3
Australia	0.3	1.0	0.2	0.3	0.7	0.2	0.2	0.1	0.3	0.2	0.1	0.1	0.5	0.4	0.4	0.2	0.1	0.1	0.1	0.4
Belgium	0.1	0.2	1.0	0.2	0.1	0.8	0.4	0.9	0.8	0.6	0.9	0.9	0.2	0.7	0.1	0.9	0.9	0.8	0.6	0.8
Brazil	0.7	0.3	0.2	1.0	0.3	0.3	0.1	0.1	0.6	0.3	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.4

Canada	0.3	0.7	0.1	0.3	1.0	0.2	0.1	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.4	0.2	0.1	0.1	0.1	0.4
China	0.1	0.2	0.8	0.3	0.2	1.0	0.4	0.8	0.7	0.7	0.8	0.8	0.0	0.6	0.3	1.0	0.8	0.8	0.5	0.9
France	0.0	0.2	0.4	0.1	0.1	0.4	1.0	0.4	0.3	0.6	0.4	0.3	0.1	0.4	0.1	0.3	0.5	0.5	0.9	0.4
Germany	0.1	0.1	0.9	0.1	0.1	0.8	0.4	1.0	0.7	0.8	1.0	0.8	0.1	0.7	0.1	0.8	0.8	0.9	0.6	0.9
India	0.6	0.3	0.8	0.6	0.3	0.7	0.3	0.7	1.0	0.5	0.7	0.8	0.1	0.6	0.2	0.8	0.8	0.7	0.4	0.8
Italy	0.2	0.2	0.6	0.3	0.1	0.7	0.6	0.8	0.5	1.0	0.7	0.5	0.1	0.5	0.5	0.5	0.6	0.7	0.5	0.7
Japan	0.0	0.1	0.9	0.1	0.1	0.8	0.4	1.0	0.7	0.7	1.0	0.9	0.0	0.7	0.1	0.8	0.8	0.9	0.6	0.9
Korea	0.0	0.1	0.9	0.2	0.1	0.8	0.3	0.8	0.8	0.5	0.9	1.0	0.0	0.6	0.1	1.0	0.9	0.8	0.6	0.8
New Zealand	0.0	0.5	0.2	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	1.0	0.6	0.0	0.0	0.0	0.1	0.1	0.1
Netherlands	0.1	0.4	0.7	0.2	0.1	0.6	0.4	0.7	0.6	0.5	0.7	0.6	0.6	1.0	0.1	0.6	0.7	0.7	0.5	0.7
Pakistan	0.2	0.4	0.1	0.2	0.4	0.3	0.1	0.1	0.2	0.5	0.1	0.1	0.0	0.1	1.0	0.3	0.1	0.1	0.1	0.3
South Africa	0.0	0.2	0.9	0.2	0.2	1.0	0.3	0.8	0.8	0.5	0.8	1.0	0.0	0.6	0.3	1.0	0.9	0.8	0.6	0.8
Spain	0.1	0.1	0.9	0.2	0.1	0.8	0.5	0.8	0.8	0.6	0.8	0.9	0.0	0.7	0.1	0.9	1.0	0.9	0.7	0.8
Switzerland	0.0	0.1	0.8	0.2	0.1	0.8	0.5	0.9	0.7	0.7	0.9	0.8	0.1	0.7	0.1	0.8	0.9	1.0	0.6	0.8
UK	0.0	0.1	0.6	0.1	0.1	0.5	0.9	0.6	0.4	0.5	0.6	0.6	0.1	0.5	0.1	0.6	0.7	0.6	1.0	0.6
USA	0.3	0.4	0.8	0.4	0.4	0.9	0.4	0.9	0.8	0.7	0.9	0.8	0.1	0.7	0.3	0.8	0.8	0.8	0.6	1.0

Table 48 Competitive interaction with China (1990-2009)

HS code	01	02	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	29	33	35	38	41	43	50	51	52	53
Argen-tina	2	5	3	3	3	5	3	1	1	5	2	3	1	5	5	3	3	3	3	3	3	2	3	5	3	4	4	2	2	0	3	5	0
Austr-alia	2	3	5	4	5	5	5	1	2	4	1	4	1	4	3	5	5	4	5	4	3	1	4	5	5	4	5	2	5	2	5	5	1
Brazil	1	3	3	3	3	5	4	2	2	5	2	3	2	4	3	3	3	3	4	4	3	2	3	5	4	5	4	2	3	1	5	4	2
Canada	1	3	3	3	5	3	5	1	2	5	2	3	1	3	5	3	5	5	3	3	3	1	4	5	4	4	4	2	3	1	5	5	1
France	1	3	3	3	5	5	4	1	2	4	2	4	2	4	3	4	4	3	4	5	5	2	5	5	4	4	5	2	3	1	5	4	1
Germany	1	3	5	3	5	5	4	2	1	5	1	4	1	5	4	5	5	4	3	4	5	2	3	5	5	4	4	1	5	2	5	4	2
India	1	3	3	3	3	4	5	2	2	3	2	5	2	3	3	5	3	3	3	3	3	2	3	3	4	4	3	2	4	2	3	4	2
Italy	1	3	3	3	4	3	4	2	2	5	2	4	1	4	3	3	4	3	3	3	3	2	5	5	4	4	4	2	5	2	4	4	2
Japan	1	5	5	5	5	5	5	2	2	5	2	5	1	5	5	4	5	5	5	5	5	1	4	5	5	5	4	2	5	2	4	5	1
Netherla-nds	1	5	4	3	5	5	4	1	1	5	2	5	1	5	5	5	4	3	3	4	5	2	4	5	5	5	5	2	5	1	5	4	2
New Zealand	1	5	3	4	5	5	4	1	2	4	2	3	2	5	4	3	3	4	3	3	3	1	3	5	5	4	4	2	4	2	4	3	1
Korea	1	3	5	4	4	5	4	2	2	3	1	5	1	3	5	5	3	5	5	4	5	2	3	4	4	5	4	1	4	1	5	4	1
Spain	2	3	3	3	5	3	5	2	2	3	2	3	1	5	3	5	5	3	3	3	3	2	5	4	4	5	4	2	5	2	4	3	2
Switzer	1	5	5	4	5	5	5	2	2	5	2	5	1	3	5	3	5	3	5	4	5	1	3	5	5	5	4	2	4	1	4	3	1

-land																																	
UK	1	5	5	5	5	4	5	2	1	5	2	5	1	5	5	5	5	5	5	4	5	1	5	5	5	5	5	2	5	2	5	3	2
USA	1	5	5	5	5	5	5	1	1	5	1	5	1	5	5	5	5	5	5	3	1	5	5	5	5	5	1	5	2	4	5	2	
Belgium	2	3	3	3	3	3	3	2	2	3	2	3	2	3	3	3	3	3	3	3	2	3	3	3	3	3	2	3	2	3	3	2	
South Africa	2	3	3	3	3	3	3	2	2	3	2	3	2	3	3	3	3	3	3	3	2	3	3	3	3	3	2	0	2	3	3	2	

Table 49 Competitive interaction with India (1990-2009)

HS code	01	02	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	29	33	35	38	41	43	50	51	52	53
Argentina	2	5	4	3	3	5	2	5	5	5	4	2	5	5	5	2	3	3	3	3	3	3	4	5	3	4	4	3	3	0	4	5	0
Australia	2	3	5	4	5	5	1	5	4	4	5	2	5	4	4	1	5	4	5	4	4	5	4	5	5	4	5	4	5	3	5	5	5
Brazil	1	3	3	3	3	5	2	4	3	5	4	2	3	4	4	2	3	3	4	4	4	3	4	5	4	5	4	3	3	5	5	4	3
Canada	1	3	4	4	5	3	1	5	4	5	4	2	5	3	5	2	5	5	3	3	4	5	4	5	3	4	4	3	3	5	5	5	5
China	1	4	4	4	4	3	2	5	5	4	5	2	5	4	4	2	4	4	4	4	4	5	4	4	3	3	4	5	3	5	4	3	5
France	1	3	4	4	5	5	2	5	3	4	4	2	4	4	4	2	4	4	4	5	5	3	5	5	4	4	5	4	3	5	5	4	5
Germany	1	3	5	4	5	5	2	4	5	5	5	2	5	5	4	1	5	4	4	4	5	3	4	5	5	4	4	5	5	4	5	3	4

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Italy	1	3	4	3	4	3	2	3	3	5	4	2	5	4	3	2	4	4	3	4	4	3	5	5	3	4	4	3	5	4	4	3	4
Japan	1	5	5	5	5	5	1	4	3	5	4	1	5	5	5	2	5	5	5	5	5	5	4	5	5	5	4	4	5	4	4	5	5
Netherlands	1	5	4	3	5	5	2	5	5	5	4	1	5	5	5	1	4	4	3	4	5	4	4	5	5	5	5	3	5	5	5	4	3
New Zealand	1	5	4	4	5	5	2	5	4	4	4	2	3	5	4	2	4	4	3	4	3	5	3	5	5	4	4	3	4	3	4	3	5
Pakistan	1	3	3	3	3	3	1	5	3	4	4	2	3	5	5	2	3	3	3	3	3	3	4	4	5	3	4	4	3	5	5	5	4
Korea	1	3	5	4	4	5	2	4	3	4	5	1	5	4	5	1	4	5	5	4	5	3	4	4	4	5	4	5	3	5	5	3	5
Spain	2	3	4	4	5	3	1	4	3	3	3	2	5	5	4	1	5	3	3	3	4	4	5	4	3	5	4	3	5	4	4	3	3
Switzerland	1	5	5	4	5	5	1	4	3	5	4	1	5	4	5	2	5	4	5	4	5	5	3	5	5	5	4	4	4	5	4	3	5
United Kingdom	1	5	5	5	5	3	1	4	5	5	4	1	5	5	5	1	5	5	5	3	5	5	5	5	5	5	5	4	5	4	5	3	3
USA	1	5	5	5	5	5	1	5	5	5	5	1	5	5	5	1	5	5	5	5	4	5	5	5	5	5	5	5	5	4	4	5	3
Belgium	2	3	3	3	3	3	2	3	3	3	3	2	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
South Africa	2	3	3	3	3	3	2	3	3	3	3	2	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	0	3	3	3

Table 50 Competitive interaction with Korea (1990-2009)

HS code	01	02	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	29	33	35	38	41	43	50	51	52	53
Japan	1	5	1	5	5	1	5	3	3	5	2	1	1	5	1	2	5	1	1	5	1	5	4	5	5	1	4	2	5	2	2	5	1
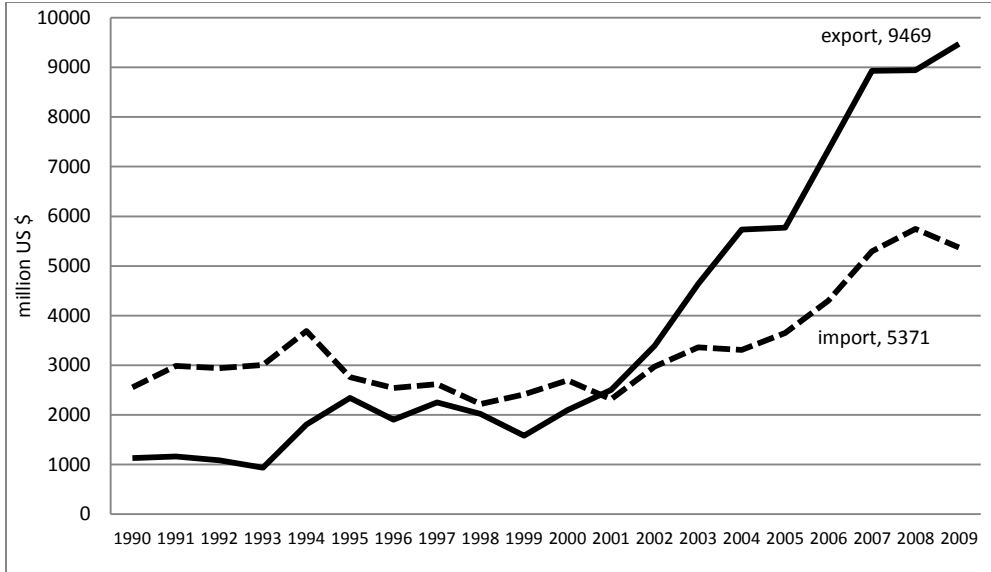
Figure 34 Trend of ASEAN export and import values with China

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011
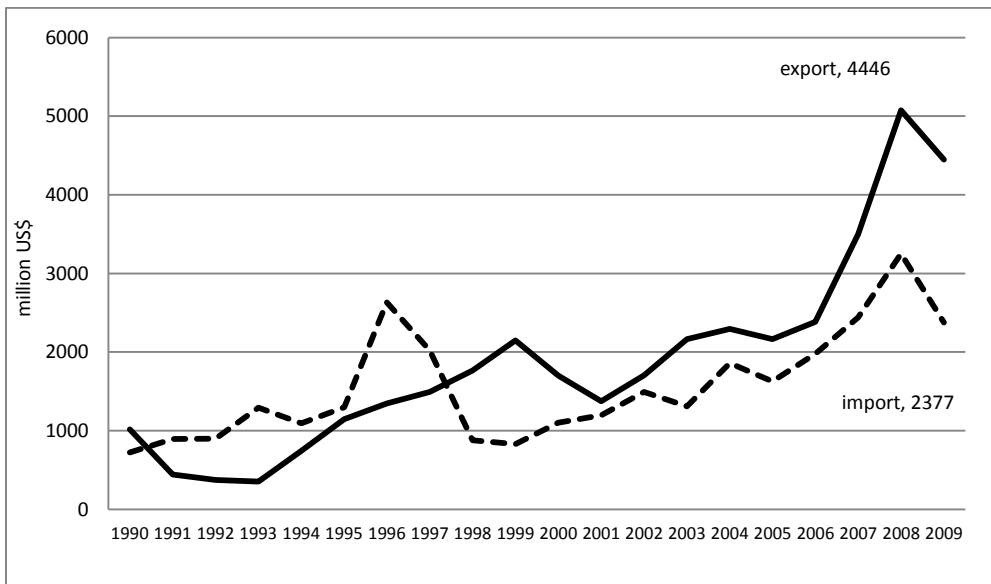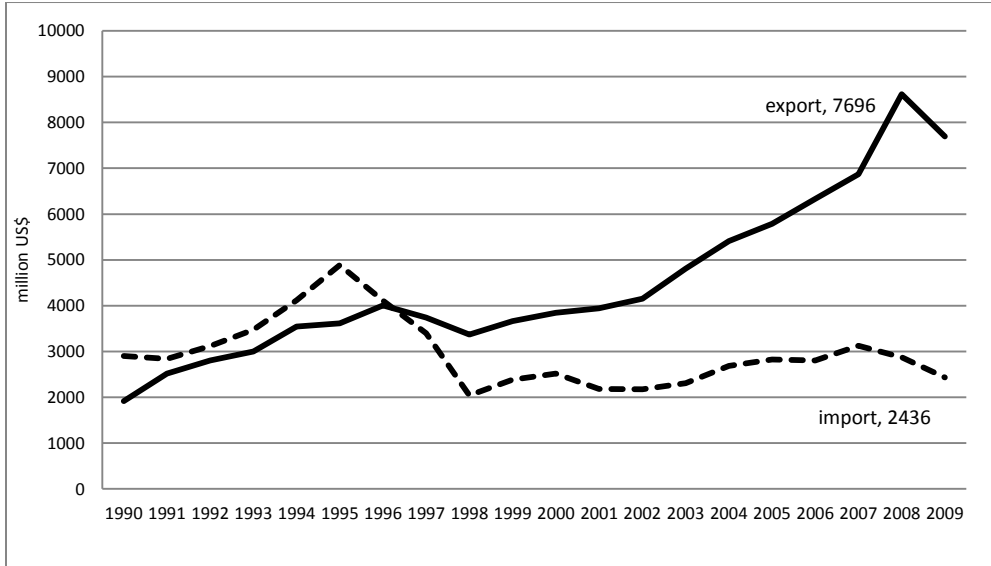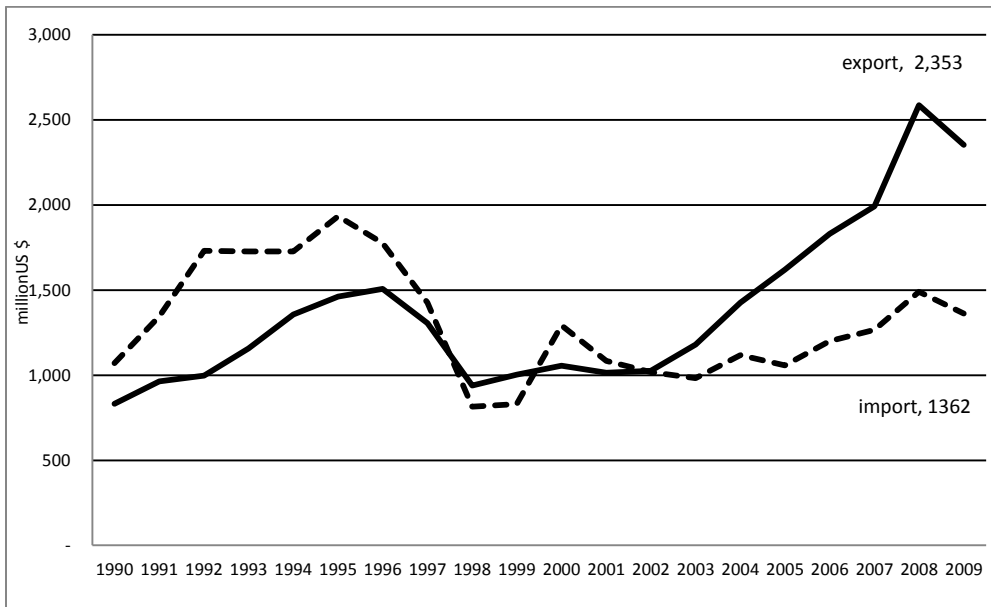

Figure 35 Trend of ASEAN export and import values with India

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

Figure 36 Trend of ASEAN export and import values with Japan

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

Figure 37 Trend of ASEAN export and import values with Korea

Source: Author's calculation based on data from United Nations Statistics Division, Commodity Trade Database; COMTRADE, accessed in October 2011

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ABSTRACT (in Korean)

동남아시아국가연합(ASEAN)이 동아시아 지역에서의 양자무역협정 네트워킹에 있어 중요한 역할을 하기 시작하면서 자유무역협정(FTA)이 활발히 맺어지고 있으며 동시에 다자간 무역 시스템의 특징도 급속히 확장하고 있다.

동남아시아국가연합은 농산물무역에 있어 순 수출 지역이지만, 최근 1인당 소득 증대, 여러 가지 부가가치제품에 대한 식습관 및 선호, 농축식품산업의 집중도 증가, 세계화 및 개발도상국에서의 패스트푸드의 확산 등으로 2005년~2009년 사이 농산물과 비농산물 수입시장이 총수입금액 257,943 백만달러(US)로 커지기 시작하였다. ASEAN 시장으로 가장 많이 수출하는 주요 20국 가운데, 특히 미국, 중국, 호주, 인도, 그리고 일본이 수출 5대국가를 형성하고 있다.

비중심상관거리접근(The un-centered correlation distance approach)과 경쟁위협모형(competitive threat framework) 개념을 사용하여 분석한 결과, 미국, 일본, 호주는 ASEAN 시장에서 인도뿐만 아니라 중국과 심각한 경쟁을 하고 있다. 일본은 또한 한국과의 경쟁에 직면해 있다. 중국과 인도는 지리적 접근의 상대적 우월성 때문에 ASEAN 시장에서 다른 나라보다 경쟁우위를 점할 수 있는 것처럼 보인다.

HS 4자리 기준 총 323개의 ASEAN 시장 수입품을 두고 미국(316개 품목), 일본(318개 품목), 호주(304개 품목) 등이 경쟁을 하고 있는데, 최근 중국 수출로 인해 위협을 받고 있다. 영향을 받는 품목들 중에서 미국(63%), 일본(63%), 호주(63%)의 수출이 중국 수출의 "직접적 위협과 부분적 위협"을 받았다.

HS 6자리 품목으로 좀 더 자세한 분석을 수행한 결과, 중국은 "신선 사과", "신선 또는 건조한 포도", "신선 또는 건조한 오렌지", "신선한 배 및 마르멜로", "신선한 만다린, 클레멘타인 & 시트러스" 등 주요 식용 과일에 대해 ASEAN 수입 시장에서 직

접적으로 미국과 호주를 위협했다. 미국과 일본은 "소스와 소스용 조제품, 혼합조미료",

"수프·브로드와 수프·브로드용 조제품", "균질화한 혼합조제식료품", 겨자의 분·조분과

조제한 겨자", "따로 분류되지 아니한 조제식료품 기타", "잎담배"와 같은 품목에서 중

국의 직접적인 위협을 겪고 있었다. 게다가 이들 3국은 "면직물(면의 함유량이 전 중량

의 100분의 85 이상인 것으로서 1제곱미터 당 중량이 200그램 이하인 것에 한함) 기

타작물", "면직물(면의 함유량이 전 중량의 100분의 85 이상인 것으로서 1제곱미터당

중량이 200그램을 초과하는 것에 한함) 기타직물", "면직물 기타 직물의 것"에 대하여

중국의 직접적인 위협을 받았다.

상대적으로 높은 유사성(similarity) 지수로 미국, 일본, 호주는 중국의 수출뿐

만 아니라 인도의 수출과도 ASEAN 수입 시장에서 경쟁해야 했다. 일본의 243개 수출

품목, 미국의 225개 수출 품목, 호주의 218개 수출 품목은 직접 또는 부분적으로 인도

의 수출에 도전을 받았다. 직접적으로 인도의 수출에 영향을 받은 미국과 호주의 주요

농산물은 "옥수수 기타(사료용, 팝콘, 기타)", "옥수수 종자용", "밀리트", "카나리시드",

"낙화생(볶거나 기타 조리를 한 것을 제외하며, 탈각 또는 파쇄한 것인지의 여부를 불

문한다)", "참깨", "주로 향료용·의료용·살충용·살균용 기타 이와 유사한 용도에 적

합한 식물 및 그 부분 기타", "사료용 식물의 종자", "채소 종자", "주로 식용에 적합한

과실의 핵과 기타의 식물성 생산품(볶지 아니한 시코리엄 인티부스 새티범 변종의 치

커리뿌리를 포함한다)으로서 따로 분류되지 아니한 것 기타"와 "면·면사면직물"이었다.

게다가 호주의 "유제품"과 미국의 "조제사료" 또한 인도의 수출로부터 위협을 받고 있

다.

"간장 기타", "수프·브로드와 수프·브로드용조제품", "균질화한 혼합조제식료품

", "제 3901호 내지 제 3913호의 풀리머 또는 고무를 기제로 한 접착제", "규산염을 기

제로 한 글루", "효소 및 따로 분류되지 아니한 조제 효소", "덱스트린과 기타 변성전분", "면·면사면직물"과 같은 일본 주요 생산품은 인도의 수출 생산품으로 인해 직접적 위협을 받았다. 또한 한국에 의하여 직접적으로 위협 받은 주요 생산품은 "분 또는 설육의 분. 조분. 펠리트 및 수지박", "어류. 갑각류. 연체동물 또는 기타 수생무척추동물의 분. 조분 및 펠리트", "평직물 (1제곱미터당 주량이 100 그램 이하인 것에 한한다)", "표박하지 아니한 것. 기타 직물의 것"과 "염색한 것. 기타직물"이다.

ASEAN 시장의 무역경쟁에서 미국, 일본, 호주는 "제초제", "살충제", "살충제(농약)", "섬유공업 또는 이와 유사한 공업용의 것", "활성탄", "조제한 고무가황촉진제", "이소시아네이트", "에틸렌", "항생물질", "유기-황 화합물", "농약원제의 것", "페니실린과 페니실린 산"과 같은 비농산물 품목에서 모든 비교 대상 국가 즉, 중국, 인도, 한국으로부터 직접적인 위협을 받았다.

중력모형을 적용하면 "수입국 GDP", "1인당 수입국 GDP", "수출국 GDP"는 양의 부호를 가지며 높은 통계적 유의성을 보여준다. 이것은 ASEAN 수입 시장에서 수입국의 GDP, 수입국의 1인당 GDP, 수출국의 GDP와 함께 무역량이 증가한다는 것을 의미한다. FTA를 표시하는 더미변수의 추정치는 유의미한 계수(2.39)를 보여주고, 또한 ASEAN 역내 자유무역협정은 회원국간 무역을 991% 상승시켰다. 그러므로 자유무역은 ASEAN 수입 시장 내 주요수출국가들의 무역에서 중요한 역할을 하였다.

주요 작물의 수입은 양과 금액 모두 상당히 증가했는데, 이 같은 수입 증가는 ASEAN 국가들의 국내 생산에는 크게 영향을 끼치지 않았다. 여러 품목의 수입은 보완재로서 국내에서 소비될 수 있었고 또한 ASEAN 국가들의 수출뿐만 아니라 국내 소비를 위한 부가가치 산업의 원자재로서도 사용될 수 있었다.

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