Inzinerine Ekonomika-Engineering Economics, **2013, 24(4), 309-319**

The Impact of China on the Emerging World: New Growth Patterns in Chinese Import-Export Activities

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crossref http://dx.doi.org/10.5755/j01.ee.24.4.3239

Within the intellectual context of "developing economies", we examine the growth patterns of China's import-export performance from 2000 to 2010. We observed that there is a remarkable growth in recent trade with Russia, India, Pakistan, Bangladesh, South Korea, Taiwan, Singapore, ASEAN-5, Argentina, Brazil and Chile for high-medium tech products. These economies appeared to be the successful few that have gained manufacturing experiences and acquired technological capabilities to be able to exploit the opportunities in China's market. Japan and Thailand are at vulnerable position. The so called remainder, such as South Africa which has been witnessing low industrial diversification, failed thereafter to export to China's market.

Keywords: *import-export growth pattern, China, developing economies, technological capabilities, industrial competitiveness.*

Introduction

China achieved remarkable economic progress and rapid industrialization. A number of economic reform projects launched since the 1978 have moved China towards a more open and market-oriented economy. The Chinese economic policy approach has been proven to be highly innovative (even in the context of rigid authoritarian-bureaucratic environment) in exploring institutions to manage the complex challenges of economic change without systemic breakdown (Motohashi & Yun, 2007; Heilmann, 2008). China used export manufacturing orientation policy as a tool for growth and attracted leading international textile, garment, electric and electronics multinationals to relocate their labor-intensive stages of assembly plants in China's export processing zones (Archibugi & Pietrobelli, 2003). The growth was backed with advanced infrastructures, productive cheap labor forces, stock of technical manpower, competent and diversified industrial sector and an adoption of a judicious mix of policy intervention[1] (Naughton & Seagal, 2003; Wong & Goh, 2012). Its export-oriented manufacturing activities have spanned a wide spectrum of industrial sectors, from low tech wood and furniture industry to high tech semiconductor manufacturing.

China's open market policy and burgeoning export have provided the developing world with both opportunities and threats. Industries from the developing world such as automotive, construction, computer hardware and software, consumer goods, luxury goods and etc. can venture their businesses to supply their goods to the growing middle class in China's market[2]. On the other hand, China's success in export may threaten many developing world that rely primarily on low wages for their export advantages (Lall & Albaladejo, 2004). In addition, China's ongoing reforms to advance systematically its innovation system (Mahmood & Singh, 2003; Bhattacharya, 2004; Chang & Shih, 2004; Zhou & Leydesdorff, 2006; Hu & Mathew, 2005, 2008; Wong & Yap, 2012) would also portend the risk of losing competitiveness of many newly industrialized economies, the NIEs (such as South Korea, Taiwan and Singapore).

China has indeed anticipated that its economic growth that depended on FDI which mainly took advantage of the availability of low labor costs cannot be sustainable for long-term development, especially in the face of currency appreciation pressure and price competition from other developing countries over time. Many Chinese firms committed to synergize their market position in China with export development opportunities to catch-up with the world frontiers in both global and domestic market (Zhou, 2008; Chu, 2011). According to Lall and Albaladejo (2004), China's export would increasingly pose a competitive threat to the NIEs. In addition, the gradual move up of Chinese indigenous firms in the technological chain also challenges to the dominant position of the NIEs in medium-high tech products in both Chinese domestic market and international market. Fu *et al.,* (2012) studied the unit prices of import into the EU, Japan and the US of China's manufactured products. They observed that there is a gradual change in China's export structure, moving from price to non-price factors in world competitive market. Such change may eventually vacate the resource-based and the low tech sectors in which the least developed countries (LDCs) relied upon. We may observe a consolidation of LDCs' position in the global division of labor in next few years.

[1] The intervention, on one hand, was used to manage multinational corporations-dominated export policies, on the other hand, intervening and regulating certain local-owned private sectoral activities for indigenous development.

[2] The opening of Chinese market also enables the indigenous firms to learn to obtain high-growth niches from the foreign partners. The Chinese government has been enforcing its local content policy to ensure that the foreign partners implement the sub-contracting mandates. This policy is established to secure learning rent for local firms to acquire foreign technology.

The studies of industrial development of China have evolved impressively over the years. It had demonstrated the uniqueness of Chinese institutional environment and national production system in responding to new economic development and competitiveness in import-export activities (Heilmann, 2008). Also there a number of studies that explored and generalized the industrial structure patterns and described the rationale behind the success of China's export-oriented manufacturing activities (Amsden *et al.*, 1996; Zhou, 2008; Gallagher & Shafaeddin, 2010; Tang & Hussler, 2011). Common themes and lessons gained from these set of studies provide useful clues and guides to those economies trying to organize export-import activities for economic growth and development.

This study shares with many scholars a commitment to a competitiveness analysis through assessing export growth data (Amsden, 2001; Lall & Albaladejo, 2004; Macerinskiene & Sakhanova, 2011, Gumilar *et al.*, 2011, Bruneckiene & Paltanaviciene, 2012; Fu *et al.*, 2012). What we attempt to add to previous studies is to broaden the scope of analysis beyond the limited aspect of export growth of China to include import growth analysis to assess the competitiveness of other developing economies. We are particularly interested to examine China's pattern of import-export growth resulted from trading with the developing countries.

Recent recession due to collapse of financial institutions from the developed world ultimately affected import-export growth patterns of China. We anticipate changes in the pattern of trading structure of China with other developing countries due to recent global recession. We follow Amsden (2001), Lall and Albaladejo (2004) in selecting a number of countries in our study. This include BRICS (Brazil, Rusia, India, China and South Africa), Argentina and Chile as two fast emerging economies in Latin America, growing economies of South Asia such as Bangladesh and Pakistan, developing Southeast Asia economies such as Malaysia, Thailand, Indonesia, Philippine and Vietnam (as a group of ASEAN 5), the NIEs (Taiwan, Singapore and South Korea) and Japan as the most developed economy of Asia. The explosive growth and development of Chinese economy, in recent decades, may have opened up numerous industrial development opportunities for these selected economies. It would therefore be interesting to explore the competitive performance of these economies. Japan, a country with advanced economic development, is included for comparison.

Research Methodology

Concept

This study borrowed Lall and Albalajedo's (2004) analytical framework on import and export growth to explain the competitiveness of an economy. They maintained (p. 1442), "National competitiveness is assumed to be similar (with that of companies measuring competitiveness by relative market shares), economies compete with each other, measure competitive performance by trade performance..". We follow the framework by disaggregating imports-exports according to technological categories to study the changes in trade. The products are classified into 4 main categories which are resource-base, low-tech, medium-tech and high-tech. This classification is based on Lall and Albalajedo (2004 p. 1443)'s framework on levels of technology sophistication. The detailed list of products under each category is provided in Appendix 1. Based on Lall and Albalajedo's (2004) perspectives on technology categories, we detail some characteristics of the technology categories:

1) Resource based/Low tech: Resource-based or low technology products entail low R&D expenditures and lesser skill requirements. Labor costs could be a major element of cost. Low-technology industries spend less than 1% of sales on R&D.

2) Medium technology products require complex but not fast-changing technologies, with moderate R&D expenditure but advanced engineering and design and large scales of production. Medium-technology industries spend 1 % to 4 % of sales on R&D.

3) High-technology products need larger R&D investments, advanced technology infrastructures and close interactions between firms and research institutions. High-technology industries spend above 4 % to of sales on R&D.

Data Source

The data used for our analysis are extracted from UN COMTRADE. The classification is based on export data at the three digit levels, SITC Rev 2. We are interested to assess the China's trading performance (imports and exports) with selected economies for years 2000, 2005, 2007 and 2010. Percentage changes for particular period are also calculated to assess the trends of imports and exports with selected economies in particular industries. We used the import-export data in nominal value (USD) fixed at 2000.

Competitive Performance at a Glance

This section focuses on competitive performance of the selected countries, using China's trading volume with the selected developing countries as indicator. We attempt to provide a current state of the selected economies in the race of acquiring trading activities with the Chinese economy. Trading between China and its neighboring economies (Japan, NIEs and ASEAN 5) is firstly discussed. The subsequent subsection discusses trading performance between China and other selected developing economies (BRICS, countries from Latin America and South Africa).

China and Its Neighboring Economies

Figure 1 shows the total trading volume between China and its neighboring countries. The trading volume has increased noticeably since the mid of 2005. The highest volume is found in trading with Japan, with the NIEs sharing relatively lower volume and the ASEAN 5 the clear laggard. Japan and the NIEs are quite comparable to one another in trading with China. China's imports from this region are indeed growing faster than its export, even after experiencing world financial crisis in 2007. In 2010, China exported approximately USD 111 billion (20.9 % increased from 2005) merchandise value to Japan, while

approximately USD 96 billion exported value to the NIEs (65.9 % increased from 2005). China imported USD 162 billion (47.7 % increased from 2005) merchandise value from Japan and USD 192 billion imported value from the NIEs (37.4 % increased from 2005). See Appendix 2 for the detailed trade volume. A breakdown of trade by technology makes some distinction among the group. We observed that China has exported a significant volume of resource-based products to Japan while the NIEs and the ASEAN 5 share a similar lower level (see Figure 2). China appears to be an important supplier of resource-based products to more advanced economies in Asia. It received trade surplus from more advanced economies in Asia. It appears that Japan and the NIEs are the major traders in resource-based products with China in the region.

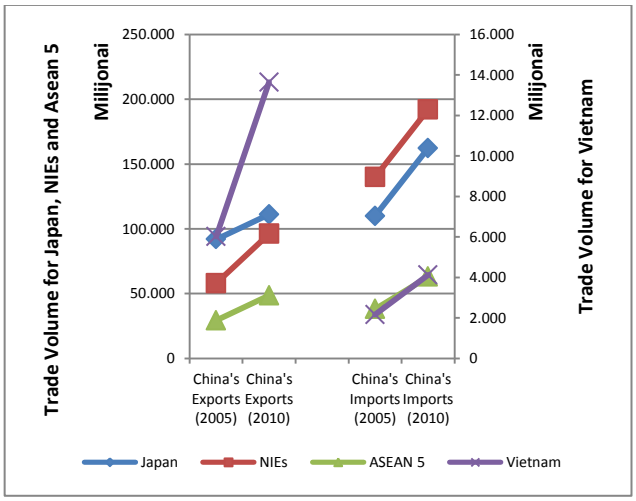

Figure 1. Total Trade (in million USD by Region), year 2005 and 2010

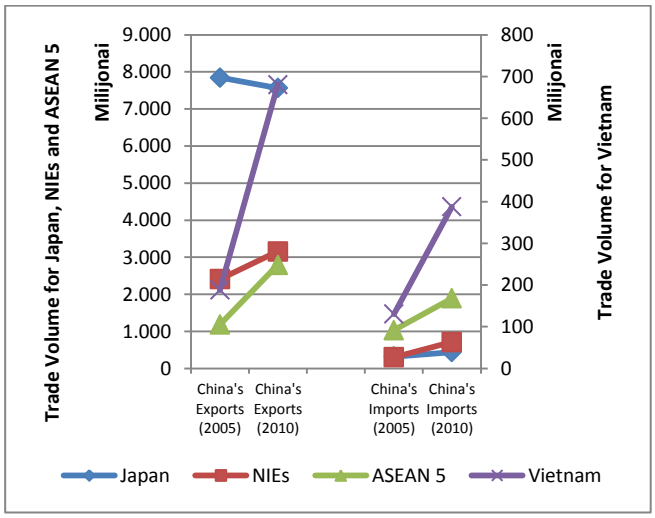

Figure 2. Total Resource-Based Products Trade by Region, year 2005 and 2010

A similar pattern of import-export growth is observed in low-tech (Figure 3). China gains surplus from exporting low tech products to Japan, the NIEs and the ASEAN5. The growth of Chinese export in low tech is remarkable, even after experiencing world slump in consumption of goods due to world financial crisis in 2007. On the other hand, the Chinese neighboring partners are exporting a relative size of low-tech products to China. They are probably selling consumer and intermediates goods for processing exports to the advanced economies (Lall & Albaladejo, 2004).

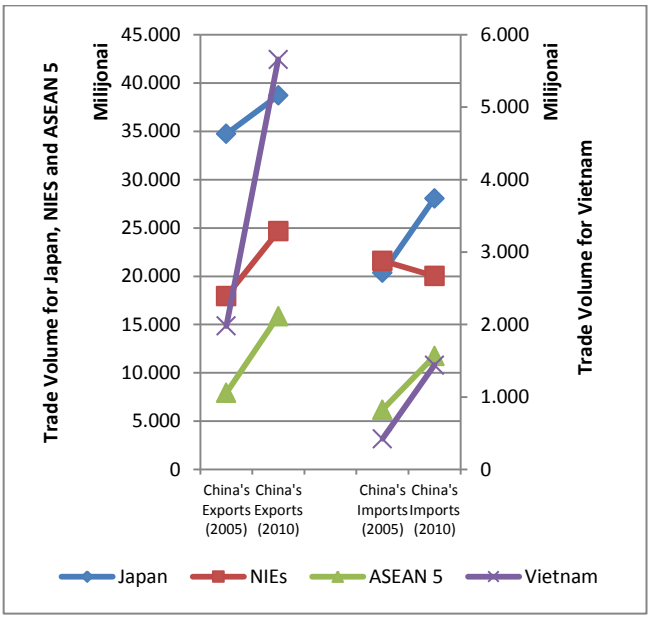

Figure 3. Total Low-Tech Products Trade by Region, year 2005 and 2010

Figure 4 and Figure 5 show the trading volume in medium- and high-tech products. The more advanced economies, particularly Japan and the NIEs, are the gainers in exporting medium- and high-tech products to China. While Japan appears to be the gainer in supplying the medium-tech products to China, the NIEs captured a high share in high-tech exporting market. Vietnam is the clear laggard in supplying high-tech products to China.

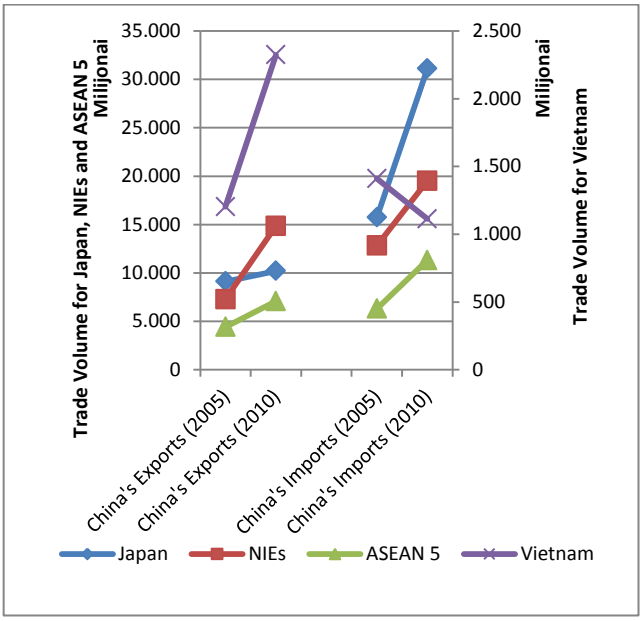

Figure 4. Total Medium-Tech Products Trade by Region, year 2005 and 2010

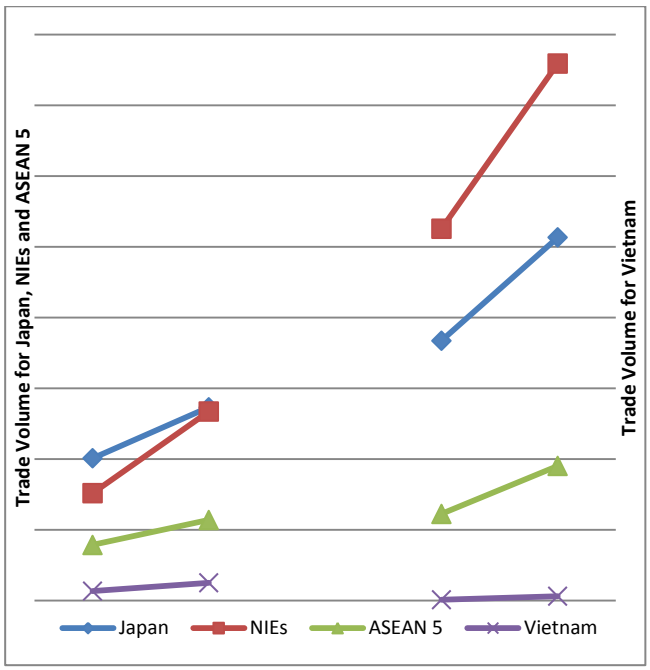

Figure 5. Total High-Tech Products Trade by Region, year 2005 and 2010

China and other emerging economies

Figure 6 shows the trading performance between China and selected emerging economies from Latin America (ELA), other BRICS members and South Asia. China appeared to have increased its trade value with all selected regions in all products from year 2005 to 2010. This trend could be seen especially in exports where the trade value doubled for all regions. Other BRICS members captured the highest trading volume with China in both exports and imports. In addition, we observed that the selected Emerging Latin American economies received the highest growth in trading with China (see Appendix 3). China received trade surplus in total products from these selected regions.

Figure 7 shows the trade volume between China and the other emerging economies for resource-based products. Other BRICS members appear to be the strongest trader with China. They have highest volume in both exports and imports. Latin American economies gain as the supplier of primary products and resource based manufactures with a relatively low degree of processing such as soya, iron ore, copper, pulp, fish meal and leather (Cepal, 2005). China imports share of these products from ELA increased about 1.8 times between 2005 and 2010. This category of imports captured around 6% of total imports of China from ELA. Therefore, we conjecture that in the short-run, Chinese demand for primary products would contribute a lot to the economic growth of ELA. However, there are concerns that this would lead to an overemphasis on the less dynamic primary sectoral development with only limited opportunities for increasing value added and technological change (IDB, 2006; Mesquita Moreira, 2007).

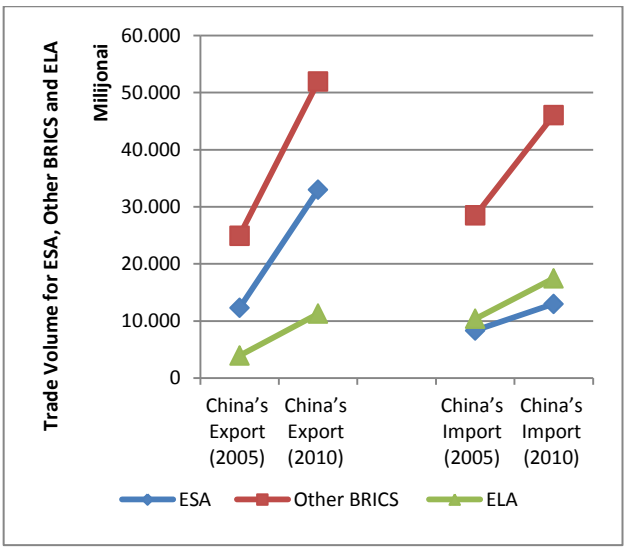

Figure 6. Total Trade (in million USD) by Region, year 2005 & 2010

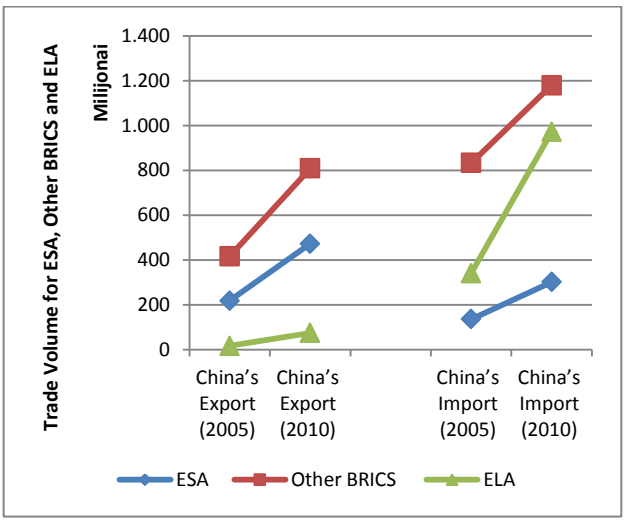

Figure 7. Resource-Based Products Trade by Region, year 2005 & 2010

China is always considered as one of the biggest competitor in exporting low-tech products (see Figure 8). Brazil suffered the highest losses of exports in low-tech industries markets, followed by the high-tech, medium-tech, and resource-based industries (Jenkins, et al. 2008). China received trade surplus from exporting more to these three selected regions. Most of imports from China are low-tech or labor intensive products but the technology level of imports is rising over time. Though, the amount of low-tech products exports out of the total exports to all regions has slightly decreased in 2010 as compared to 2005. We also observed that furniture and parts industry is ranked the highest growth in China's exports of low tech products to all these selected regions from 2005 to 2010.
We observed different trading scenarios in medium-tech products. China's exports to ESA grew more than 1.5 times between 2005 and 2010 with metalworking machinery (category-73) ranked the highest percentage in its category. China's imports from BRICS grew 66.48 percent which is around half more than its exports to BRICS between 2005 and 2010.

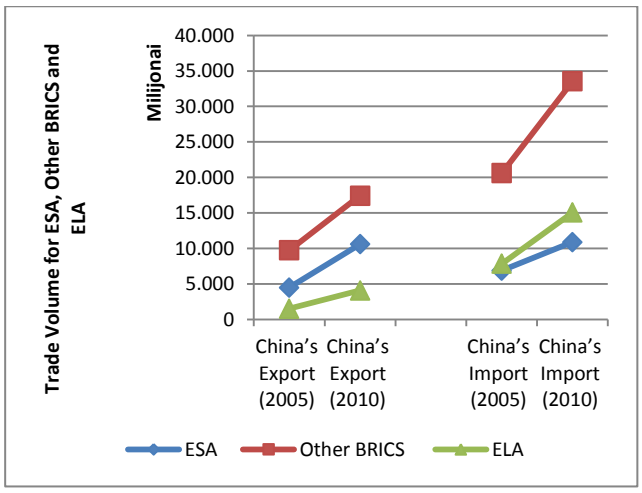

Figure 8. Total Low-Tech Products Trade by Region, year 2005 and 2010

China's exports to ELA economies increased by almost 2 times in this category of products. There is a significant increase especially in animal and vegetable oils, fats and waxes (category-4) exports. Yet, China's imports from ELA fall by 42.12 percent in 5 years period. From such achievement, we conjecture that China has extended its production system from low value-added to complex and more sophisticated manufacturing as most mid-tech products are produced from heavy industries. Furthermore, competitiveness in heavy industries is not relied upon cheap labor. Therefore, such progress suggests that there was an upgrading in the production system of China.

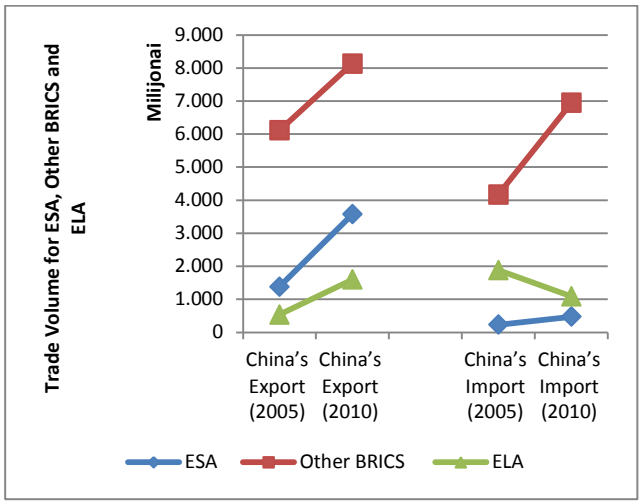

Figure 9. Total Medium-Tech Products Trade by Region, year 2005 and 2010

China gained surplus from exporting of high-tech products to these three selected regions. Figure 10 shows that the growth of exports of China rose almost 2 times in 5 years period to all selected regions above. From this observation, we conjecture that China has been gradually advancing its technology development. Such growths could be attributed to the effort in deepening and widening their technological capabilities through assimilation and adaptation of foreign technologies. Such efforts facilitated Chinese firms in competing in high-tech products exports. China gains surplus in exporting power generating machinery and equipment (category-71) to ESA and other BRICs members. It also become the main supplier for coins, armoured fighting vehicles, war firearms, etc. (category-9) for ELA economies. At the same time, exports of category-9 products fall by 85.05 % to ESA economies. Such fall may be attributed to advancement of local firms in substituting and supplying such products to their own market. We also observe that China gains in exporting services such as professional, scientific, controlling instruments, etc. (category-87) to ESA and other BRICs members (8 and 9 times over a 5 years period). This achievement may be attributed to the venturing efforts of many Chinese firms (such as Huawei and ZTE) into engineering consulting services, exporting innovative solutions to many firms abroad (Fan, 2006 and Zhou, 2008).

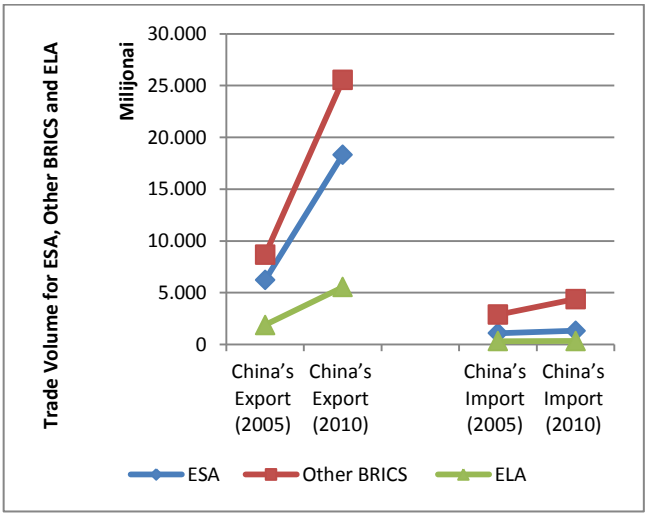

Figure 10. Total High-Tech Products Trade by Region, year 2005 and 2010

Discussion on Growth Patterns

Drawing upon the empirical materials and longitudinal study, this section provides a discussion on compositions changes in import-export performance between China and the selected economies. We examine the average growth rate of three periods of time, 2000-2005, 2005-2007 and 2007-2010. This exercise will enable us to track the changes before (2000-2005 and 2005-2007) and during (2007-2010) the world financial crisis.

We observed four different patterns of growth in export and import performance of China. The patterns are shown in Table 1 and Table 2. First pattern of export growth follows the form of "Λ" pattern. From this pattern, we observed that some products of China witnessed a remarkable export growth before experiencing the slowdown of world consumption due to world financial crisis in 2007. The demand for almost all type of technological products from BRICS members and the two emerging Latin American economies contracted since 2007. The consumption for Chinese resource-based and low-tech products from the Asian economies also received contraction since 2007. However, we observed a form of structural change in export to some Asian economies. China gains export of medium and high tech to Taiwan, the

ASEAN 5 and Bangladesh. These economies started consuming Chinese mid-tech products since 2007. It is seems that China has successfully caught-up with and in some sectors outperformed the advanced economies in supplying cheaper and high quality mid-tech products to these economies. The pattern of this export growth follows the form of "V" pattern. Export of high tech products to Japan, South Korea, Singapore, Malaysia, the Philippines, Pakistan, Bangladesh and Russia witnessed a contraction since 2000. China gains exports of resource-based products only to Thailand since 2000. The consistent contraction of export of high-tech products to Japan and South Korea may imply incompetency of the Chinese high-tech firms in supplying for Asian advanced market. Indigenous firms of Japan and South Korea would have better positions in producing high-tech products for their own market. In addition, the market distribution networks of Japan and Korea are highly complicated and inefficient in distributing foreign products (Chien *et al.,* 2004, p. 58). This may have discouraged the export of Chinese high-tech products to these advanced markets. China's exports of high-tech products to FDI-leveraging economies[3] like Singapore, Malaysia, Philippines, Pakistan, Bangladesh and to some extent Russia are growing slow since 2000. We conjecture that China is contracting its exports of high-tech intermediates to FDI-leveraging economies to build the final assembling process capabilities in world production chain network. Such move may have taken over many economic activities that have driven growth of FDI-leveraging economies. Table 2 shows the China's import growth patterns from the selected economies. First pattern of import growth follows the form of "Λ" pattern. We observed that most of the selected developing economies gained from exporting resource-based and low tech products to China from 2000 to 2006. The consumption for resource-based and low-tech products from the developing world contracted contraction since 2007. This contraction may due to the weakening of Chinese demand of consumption goods due to world financial crisis. Much of the goods were probably then substituted and supplied by local producers. The second pattern of import growth follows the form of "V" pattern. Most of the selected developing economies gain only from exporting mid-tech and high-tech products to China. China appears to be selective in importing products from the developing world. The composition of China's imports has changed (from RB and LT to MT and HT) as local firms are increasingly capable in supplying resource based and low tech products to their own market. China is now building its capabilities to produce medium-high and high-tech products for both domestics and international markets (Zhou, 2008; Fu & Gong, 2011; Fu *et al.,* 2012). China explores joint ventures businesses with those economies that have gained technological capabilities to acquire knowledge to build its indigenous medium and high tech firms. The success of this venturing strategy remains to be explored.

Some economies lost their market shares in China since 2000. There are Japan and Korea for RB, MT and HT, Singapore, Indonesia and Philippine for HT, Thailand for MT and HT, India and Brazil for LT and HT and Argentina for MT. Japan appears to be the most vulnerable player in the evolving chain of Asian trading system. It is the only economy that is losing its trading activities, both the import from and export to China. In addition, we observed that the competitiveness of some economies such as Singapore, Indonesia and the Philippines is being eroded by China's complimentary to multinationals for relocation of high value added assembling activities to China. Exports of high-tech intermediaries from FDI-leveraging economies are contracting since 2000s. Thailand is another economy that losses its medium and high tech export market shares in China. There are economies such as Pakistan, South Africa, Singapore and Vietnam which have gained from exporting resource-based and radioactive and associates materials (under the category of high-tech product)[4] to China since 2000. For example, South Africa appears to be the gainer by supplying for radioactive and associates intermediaries to China and Singapore appears to be an important supplier of petrochemical products to the Chinese market.

Conclusions

The findings of this paper have expanded the research on China's competitive performance in trading with the developing world. We assessed the pattern of growth of China's import-export performance by technology levels.

China gains export of medium and high tech to many developing economies. China has acquired some capabilities to compete with many advanced economies in supplying cheaper and high quality medium and high tech products to developing world. We observed that the composition of China's imports has changed from resource-based and low-tech to medium and high tech. As China upgrades its export structure, economies such as Russia, India, Pakistan, Bangladesh, South Korea, Malaysia, Taiwan, Indonesia, the Philippines, Vietnam, Singapore, Argentina, Brazil and Chile appear to be the gainers in exporting high and/or medium tech products to China. These economies could be the new parts of the evolving Chinese integrated production systems. Such development poses a competitive challenge to Japan and Thailand. They have low volume of medium- and high- tech exports to China. While many developing economies gain from China's enormous growth in imports and exports, Chinese indigenous firms may pose new competitive challenges to the developing economies as they progress into more technology-oriented productive activities. These firms may ultimately substitute the supply of high and medium tech products from the developing world[5]. The developing economies must therefore, innovate and invest in new industries to search and create niches for new market. The persistency of search and new R&D routine creation for the formation new market is essential for sustaining their economic growth

[3] FDI-leveraging economies gave priority to develop institutions that facilitate the operation of MNCs and spillover of technology between the MNCs and the local subsidiary firms (Wong & Chandran, 2012).

[4] See Kaplan (2007) for details discussion on high-tech exports performance of South Africa.

[5] We indeed, observed similar pattern of substitution in trading between China and the developing world for resource-based and low products.

Table 1

China's Export Growth Patterns

Pattern of Growth	Japan	The NIEs	ASEAN 5	Emerging South Asian Economies	Other BRICS members	Emerging Latin American Economies
2005-2007 2000-2005 2007-2010	Japan (LT)	Korea (LT) S.pore (LT,MT)	Malaysia(RB, LT) Thailand (MT) Indonesia (RB) Philippines (RB)	Bangladesh (RB)	India (RB, LT, MT, HT) Brazil (LT, MT, HT) S. Africa (RB, LT, MT, HT)	Argentina (RB, LT, MT, HT) Chile (RB, LT, MT, HT)
2000-2005 2007-2010 2005-2007		Taiwan (RB, LT, MT, HT) Singapore (RB)	Malaysia (MT) Thailand, (LT, HT) Indonesia (MT, HT) Philippines (MT) Vietnam (RB, LT, MT, HT)	Pakistan (RB) Bangladesh (LT, MT)	Russia (LT, MT) Brazil (RB)	
2000-2005 2005-2007 2007-2010	Japan (RB, MT, HT)	Korea (RB, MT, HT) Singapore (HT)	Malaysia (HT) Indonesia (LT) Philippines (LT, HT)	Pakistan (LT, MT, HT) Bangladesh (HT)	Russia (RB, HT)	
2007-2010 2005-2007 2000-2005			Thailand (RB)			

Note: *RB- resource-based products, LT- low tech products, MT- medium tech products and HT- high tech products*

Table 2

China's Import Growth Patterns

Pattern of Growth 2005-2007	Japan	The NIEs	ASEAN 5	Emerging South Asian Economies	Other BRICS members	Emerging Latin American Economies
2000-2005 2007-2010	Japan (RB, LT)	Taiwan (RB)	Malaysia (RB, LT, MT) Indonesia (RB, LT) Philippines (LT) Vietnam (RB, LT)	Bangladesh (RB)	India (RB) S. Africa (LT,MT)	Argentina (RB) Chile (LT, MT)
2000-2005 2007-2010 2005-2007		Koreea(RB, LT, MT, HT) Taiwan(MT) S. pore (MT, HT)	Malaysia (HT) Thailand(RB,LT) Indonesia(MT) Philippines (RB,MT) Vietnam(MT)	Pakistan (LT, MT, HT) Bangladesh (LT, MT, HT)	Russia (RB, LT, MT, HT) India (MT) Brazil (RB, MT) S. Africa (RB)	Argentina (LT, HT) Chile (RB, HT)
2000-2005 2005-2007 2007-2010	Japan (MT, HT)	Taiwan(LT, HT) S.pore (LT)	Thailand (MT, HT) Indonesia (HT) Philippines (HT)		India (LT, HT) Brazil (LT, HT)	Argentina (MT)
2007-2010 2005-2007 2005-2007		S.pore (RB)	Vietnam (HT)	Pakistan (RB)	S. Africa (HT)	

Note: *RB- resource-based products, LT- low tech products, MT- medium tech products and HT- high tech products.*

Appendix 1

The detailed list of products under each category

		RB	LT	MT	HT
0. Food and live animals chiefly for food	00. Live animals chiefly for food	√			
	01. Meat and preparations	√			
	02. Dairy products and birds' eggs	√			
	03. Fish, crustacean and molluscs, and preparations thereof	√			
	04. Cereals and cereal preparations	√			
	05. Vegetables and fruit	√			
	06. Sugar, sugar preparations and honey	√			
	07. Coffee, tea, cocoa, spices, and manufactures thereof	√			
	08. Feeding stuff for animals (not including unmilled cereals)	√			
	09. Miscellaneous edible products and preparations	√			
1. Beverages and tobacco	11. Beverages		√		
	12. Tobacco and tobacco manufactures		√		

		RB	LT	MT	HT
2. Crude materials, inedible, except fuels	21. Hides, skins and furskins, raw		√		
	22. Oil seeds and oleaginous fruit		√		
	23. Crude rubber (including synthetic and reclaimed)		√		
	24. Cork and wood		√		
	25. Pulp and waste paper		√		
	26. Textile fibres (not wool tops) and their wastes (not in yarn)		√		
	27. Crude fertilizer and crude minerals		√		
	28. Metalliferous ores and metal scrap		√		
	29. Crude animal and vegetable materials, nes		√		
3. Mineral fuels, lubricants and related materials	32. Coal, coke and briquettes			√	
	33. Petroleum, petroleum products and related materials			√	
	34. Gas, natural and manufactured			√	
	35. Electric current			√	
4. Animal and vegetable oils, fats and waxes	41. Animal oils and fats			√	
	42. Fixed vegetable oils and fats			√	
	43. Animal and vegetable oils and fats, processed, and waxes			√	
5. Chemicals and related products, nes	51. Organic chemicals				√
	52. Inorganic chemicals				√
	53. Dyeing, tanning and colouring materials				√
	54. Medicinal and pharmaceutical products				√
	55. Oils and perfume materials; toilet and cleansing preparations				√
	56. Fertilizers, manufactured				√
	57. Explosives and pyrotechnic products				√
	58. Artificial resins and plastic materials, and cellulose esters etc				√
	59. Chemical materials and products, nes				√
6. Manufactured goods classified chiefly by materials	61. Leather, leather manufactures, nes, and dressed furskins		√		
	62. Rubber manufactures, nes		√		
	63. Cork and wood, cork manufactures		√		
	64. Paper, paperboard, and articles of pulp, of paper or of paperboard		√		
	65. Textile yarn, fabrics, made-up articles, nes, and related products		√		
	66. Non-metallic mineral manufactures, nes		√		
	67. Iron and steel		√		
	68. Non-ferrous metals		√		
	69. Manufactures of metals, nes		√		
7. Machinery and transport equipment	71. Power generating machinery and equipment				√
	72. Machinery specialized for particular industries				√
	73. Metalworking machinery			√	
	74. General industrial machinery and equipment, nes, and parts of, nes			√	
	75. Office machines and automatic data processing equipment				√
	76. Telecommunications, sound recording and reproducing equipment				√
	77. Electric machinery, apparatus and appliances, nes, and parts, nes				√
	78. Road vehicles			√	
	79. Other transport equipment			√	
8. Miscellaneous manufactured articles	81. Sanitary, plumbing, heating, lighting fixtures and fittings, nes		√		
	82. Furniture and parts thereof		√		
	83. Travel goods, handbags and similar containers		√		
	84. Articles of apparel and clothing accessories		√		
	85. Footwear		√		
	87. Professional, scientific, controlling instruments, apparatus, nes				√
	88. Photographic equipment and supplies, optical goods; watches, etc				√
	89. Miscellaneous manufactured articles, nes				√
9. Commodities and transactions not classified elsewhere in the SITC	91. Postal packages not classified according to kind				√
	93. Special transactions, commodity not classified according to class				√
	94. Animals, live, nes, (including zoo animals, pets, insects, etc)				√
	95. Armored fighting vehicles, war firearms, ammunition, parts, nes				√
	96. Coin (other than gold coin), not being legal tender				√
	97. Gold, non-monetary (excluding gold ores and concentrates)				√

Appendix 2

Trade Volume and growth rate for Japan, NIEs, ASEAN 5 and Vietnam (2005 and 2010)

	Exports		Imports		% Change (2005-2010)	
	China's Exports (2005)	China's Exports (2010)	China's Imports (2005)	China's Imports (2010)	EX	IM
Total Trade						
Japan	91,870,697,041	111,092,201,552	109,833,700,805	162,205,532,161	20.92%	47.68%
NIEs	57,924,997,417	96,089,201,325	139,776,335,351	192,073,496,444	65.89%	37.41%
ASEAN 5	29,246,836,126	48,523,093,599	38,001,949,556	62,965,315,146	65.91%	65.69%
Vietnam	6,014,059,444	13,638,682,398	2,159,749,748	4,123,364,582	126.78%	90.92%
RB						
Japan	7,844,147,324	7,567,097,321	318,518,646	440,868,835	-3.53%	38.41%
NIEs	2,409,759,268	3,155,810,471	300,643,418	712,227,279	30.96%	136.90%
ASEAN 5	1,183,805,010	2,794,984,911	1,030,458,613	1,891,382,117	136.10%	83.55%
Vietnam	188,199,579	680,136,048	130,393,264	387,614,730	261.39%	197.27%
LT						
Japan	34,733,561,180	38,701,852,816	20,356,646,787	28,050,159,880	11.42%	37.79%
NIEs	17,942,644,376	24,670,129,776	21,602,284,940	20,033,012,084	37.49%	-7.26%
ASEAN 5	7,939,657,530	15,873,036,704	6,195,166,584	11,737,805,545	99.92%	89.47%
Vietnam	1,980,224,473	5,658,327,846	424,055,308	1,439,450,473	185.74%	239.45%
MT						
Japan	9,118,068,942	10,203,989,147	15,731,400,871	31,100,879,865	11.91%	97.70%
NIEs	7,272,553,328	14,849,072,572	12,817,639,396	19,518,084,606	104.18%	52.28%
ASEAN 5	4,418,907,365	7,089,193,660	6,301,737,447	11,316,588,960	60.43%	79.58%
Vietnam	1,202,757,353	2,323,690,599	1,410,557,720	1,113,223,993	93.20%	-21.08%
HT						
Japan	40,174,919,594	54,619,262,269	73,427,134,501	102,613,623,580	35.95%	39.75%
NIEs	30,300,040,446	53,414,188,506	105,055,767,598	151,810,172,475	76.28%	44.50%
ASEAN 5	15,704,466,221	22,765,878,325	24,474,586,911	38,019,538,525	44.96%	55.34%
Vietnam	2,642,878,039	4,976,527,905	194,743,455	1,183,075,385	88.30%	507.50%

Appendix 3

Trade Volume and growth rate for Emerging South Asian, Other BRICS and Emerging Latin American Economies (2005 and 2010)

	Exports		Imports		% Change (2005-2010)	
	China's Export (2005)	China's Export (2010)	China's Import (2005)	China's Import (2010)	EX	IM
Total Trade						
ESA	12,302,101,678	32,988,168,286	8,344,235,064	12,986,535,800	168.15%	55.63%
Other BRICS	24,933,280,255	51,913,828,797	28,501,082,762	46,055,271,113	108.21%	61.59%
ELA	3,947,286,873	11,293,962,524	10,405,241,660	17,473,848,337	186.12%	67.93%
RB						
ESA	218,110,384	472,607,025	136,287,684	302,221,143	116.68%	121.75%
Other BRICS	416,315,466	808,618,730	832,742,138	1,179,411,731	94.23%	41.63%
ELA	16,840,547	75,151,856	340,899,004	971,837,595	346.26%	185.08%
LT						
ESA	4,486,997,304	10,607,430,478	6,888,871,192	10,888,772,554	136.40%	58.06%
Other BRICS	9,734,242,629	17,424,404,930	20,603,141,564	33,548,784,024	79.00%	62.83%
ELA	1,517,102,317	4,076,735,413	7,854,333,204	15,074,071,285	168.72%	91.92%
MT						
ESA	1,376,661,374	3,572,853,357	231,503,472	471,750,776	159.53%	103.78%
Other BRICS	6,113,956,226	8,132,872,394	4,171,252,125	6,944,454,869	33.02%	66.48%
ELA	535,046,006	1,595,600,277	1,880,358,462	1,088,292,142	198.22%	-42.12%
HT						
ESA	6,220,332,615	18,335,277,425	1,087,572,716	1,323,791,327	194.76%	21.72%
Other BRICS	8,668,765,934	25,547,932,743	2,893,946,934	4,382,620,489	194.71%	51.44%
ELA	1,878,298,003	5,546,474,977	329,650,989	339,647,314	195.29%	3.03%

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Kinijos įtaka besivystančiame pasaulyje: nauji augimo modeliai Kinijos importo-eksporto veikloje

Santrauka

Kinija pasiekė didelę ekonominę pažangą ir greitą industrializaciją. Gerovei pasiekti ji panaudojo gamybos orientavimo į eksportą politiką ir pritraukė vyraujančias daugianacionalines koorporacijas, kad jos perkeltų savo darbui surinkimo gamyklas į Kinijos eksportui skirtas gamybos zonas. Kinijos atviros rinkos politika ir didėjantis eksportas pateikė besivystančiam pasauliui ir galimybių, ir grėsmių. Iš vienos pusės, besivystančių šalių pramonės šakos gali rizikuoti savo verslu tiekdamos savo prekes augančiai viduriniajai klasei Kinijos rinkoje. Iš kitos pusės, Kinijos sėkmė eksporte gali gąsdinti daugelį besivystančių šalių, kurios, kaip savo eksporto privalumu, pirmiausia remiasi mažu darbo užmokesčiu. Be to, laipsniškas vietinių Kinijos įmonių perėjimas prie technologijų panaudojimo gamyboje taip pat meta iššūkį šalims, gaunančioms didesnes pajamas ir turinčias dominuojančias pozicijas Kinijos vidutinių ir aukštųjų technologijų gaminių vietinėje ir tarptautinėje rinkose. Šiuo tyrimu siekiama atlikti konkurencingumo analizę ir įvertinti eksporto augimo duomenis remiantis Amsden (2001), Lall ir Albaladejo (2004), Macerinskiene ir Sakhanova (2011), Gumilar ir kt. (2011), Bruneckiene ir Paltanaviciene (2012) Fu ir kt. (2012). Taip pat, siekiant papildyti ankstesnių tyrimų duomenis, šiame tyrime neapsiribojama vien tik ribotu Kinijos eksporto augimo aspektu. Tyrimo ribos yra išplečiamos į analizę įtraukiant importo augimą, kad būtų galima įvertinti kitų besivystančių šalių konkurencingumą. Šis tyrimas pateikia prekybos tarp Kinijos ir besivystančių šalių pokyčių per dešimtmetį apžvalgą. Intelektualiame „besivystančių šalių“ kontekste, mes nagrinėjame Kinijos importo - eksporto veiklos nuo 2000 iki 2010 metų augimo modelį. Šis tyrimas sutelkia dėmesį į kylančių šalių ekonomikas, būtent BRICS (Brazilija, Rusija, Indija, Kinija ir Pietų Afrika), Argentiną ir Čilę, kaip dvi greitai augančias Lotynų Amerikos ekonomikas. Taip pat augančias Pietų Azijos ekonomikas (Bangladešas ir Pakistanas), besivystančias Pietryčių Azijos ekonomikas (Malaizija, Tailandas, Indonezija, Filipinai ir Vietnamas (kaip ASEAN 5 grupę)), NIE šalis (Taivanis, Singapūras ir Pietų Korėja) ir Japoniją, kaip labiausiai išsivysčiusią Azijos ekonomiką.

Siekiant paaiškinti šalies konkurencingumą, šiame darbe panaudoti importo ir eksporto augimo duomenys. Importas-eksportas išskirstytas pagal technologines kategorijas, kad būtų ištirti pokyčiai prekyboje. Gaminiai yra suklasifikuoti į 4 pagrindines kategorijas, kurios yra pagrįstos resursais (RB), žemomis technologijomis (LT), vidutinėmis technologijomis (MT) ir aukštosiomis technologijomis (HT). Ši klasifikacija yra pagrįsta Lall ir Albalajedo (2004) technologijos sudėtingumo lygių sistema. Šios kategorijos yra:

1. Pagrįstos resursais / *žemos technologijos*: Pagrįsti resursais arba žemų technologijų gaminiai reiškia mažas išlaidas moksliniams tyrimams ir projektavimo konstravimo darbams (MT ir PK), taip pat mažesnius reikalavimus įgūdžiams. Darbo kaštai gali būti svarbiausias kaštų elementas. Žemų technologijų pramonės MT ir PK išleidžia mažiau nei 1 % nuo pardavimų.
2. *Vidutinių technologijų* gaminiai reikalauja sudėtingų, bet negreitai kintančių technologijų, su vidutinėmis MT ir PK išlaidomis, bet pažangia technika bei konstravimu ir dideliu gamybos mastu. Vidutinių technologijų pramonė MT ir PK išleidžia nuo 1 % iki 4 % nuo pardavimų.
3. *Aukštųjų technologijų* gaminiams reikia didelių investicijų į MT ir PK, pažangių technologinių infrastruktūrų ir glaudžių ryšių tarp įmonių ir tyrimo įstaigų. Aukštųjų technologijų pramonė MT ir PK išleidžia daugiau nei 4% nuo pardavimų.

Tyrimui naudoti 2000 metais nustatyti importo-eksporto duomenys nominalia verte (USD). Analizėje naudoti duomenys yra gauti iš UN COMTRADE. Klasifikacija yra pagrįsta eksporto duomenimis trijų skaitmenų lygiu, SITC Versija 2. Panaudojant empirinę medžiagą ir išilginį tyrimą, šis darbas atskleidžia sudėtines pokyčių dalis importo-eksporto veikloje tarp Kinijos ir pasirinktų šalių. Nustatyti keturi skirtingi eksporto ir importo veiklos augimo Kinijoje modeliai. Pirmasis eksporto augimo modelis vyko pagal „ Λ“ formos modelį. Taikant šį modelį pastebėta, kad kai kurių Kinijos gaminių paklausa kaip tik augo tuo metu, kai pasaulio vartojimas sulėtėjo dėl pasaulinės finansinės krizės 2007 metais. Beveik visų tipų technologinių gaminių poreikis iš kitų BRICS narių ir dviejų kylančių Lotynų Amerikos ekonomikų nuo 2007 metų sumažėjo. Po to buvo stebima eksporto struktūrinio keitimosi forma kai kuriose Azijos šalyse. Kinija laimi iš vidutinių ir aukštųjų technologijų eksporto į Taivanį, ASEAN 5 ir Bangladešą. Šios šalys pradėjo vartoti Kinijos vidutinių technologijų gaminius nuo 2007 metų. Atrodo, kad Kinija sėkmingai pasivijo ir kai kuriuose sektoriuose pralenkė pažangias šalis, tiekdama pigesnius ir aukštos kokybės vidutinių technologijų gaminius toms šalims. Šio eksporto augimo modelis vyksta pagal „V“ modelį. Aukštos technologijos gaminių eksportas į Japoniją, Pietų Korėją, Singapūrą, Malaiziją, Filipinus, Pakistaną, Bangladešą ir Rusiją tik patvirtino sumažėjimą nuo 2000 metų. Augimas vyksta pagal „\“ formos modelį. Kinija nuo 2000 metų laimi iš žaliavomis pagrįsto eksporto tik į Taivanį. Modelis yra „/“ formos. Pastovus aukštos technologijos eksporto į Japoniją ir Pietų Korėją mažėjimas gali reikšti Kinijos aukštos technologijos įmonių, tiekiančių pažangioms Azijos rinkoms, nekompetentingumą. Kinijos aukštos technologijos gaminių eksportas į tokias TUI (*tiesioginės užsienio investicijos*) pritraukiančias šalis kaip Singapūras, Malaizija, Filipinai, Pakistanas, Bangladešas ir, tam tikru mastu, Rusija nuo 2000 metų, lėtai auga. Spėjame, kad Kinija sumažino savo aukštųjų technologijų tarpines grandis su TUI pritraukiančiomis šalimis, kad galėtų sukurti galutinio surinkimo proceso galią pasaulio gamybos grandinės tinkle.

Importo augimo atveju, pirmasis modelis vyksta pagal „Λ“ formą. Mes pastebėjome, kad dauguma pasirinktų besivystančių šalių pelną gavo eksportuodamos pagrįstus resursais ir žemų technologijų gaminius į Kiniją nuo 2000 iki 2006 metų. Pagrįstų resursais ir žemų technologijų gaminių vartojimas iš besivystančių šalių sumažėjo nuo 2007 metų. Šis sumažėjimas galimas dėl susilpnėjusio Kinijos poreikio vartojamoms prekėms, kuris atsirado dėl pasaulinės finansinės krizės. Antrasis importo augimo modelis vyksta pagal „ V “ formos modelį. Dauguma pasirinktų besivystančių šalių pelnosi iš vidutinių ir aukštųjų technologijų gaminių eksporto į Kiniją. Pasirodo, Kinija yra išranki importuodama gaminius iš besivystančių šalių. Kinijos importo sudėtis pasikeitė (iš RB ir LT į MT ir HT), nes vietinės įmonės tampa vis pajėgesnėmis tiekti pagrįstus resursais ir žemų technologijų gaminius savo rinkai. Nuo 2000 metų, kai kurios šalys prarado savo rinkos dalis Kinijoje. Tai Japonija ir Korėja RB, MT ir HT kategorijoms, Singapūras, Indonezija ir Filipinai HT kategorijai, Tailandas MT ir HT kategorijoms, Indija ir Brazilija LT ir HT kategorijoms, ir Argentina MT kategorijai. Šio importo augimo modelis vyksta pagal „ \ “ formos modelį. Egzistuoja tokios šalys kaip Pakistanas, Pietų Afrika, Singapūras ir Vietnamas, kurios pelnosi eksportuodamos žaliavines ir radioaktyvias medžiagas į Kiniją nuo 2000 metų. Tokio importo augimo modelis vyksta pagal „/“ formos modelį. Pastebėta, kad egzistuoja žymus augimas naujausioje prekyboje *aukštų - vidutinių* technologijų gaminiais su Rusija, Indija, Pakistanu, Bangladešu, Pietų Korėja, Malaizija, Taivaniu, Indonezija, Filipinais, Vietnamu, Singapūru, Argentina, Brazilija ir Čile. Šios šalys pasirodė esančios sėkmingosios. Jos įgijo gamybos patirtį ir gavo tam tikrų technologinių galių, kad galėtų išnaudoti galimybes Kinijos rinkoje. Antra vertus, Kinija protingai pasirenka prekybos partnerius, norėdama, kad vietinė vidutinės - aukštosios technologijos plėtra didėtų. Japonija ir Tailandas atsidūrė pažeidžiamoje padėtyje. Jie prarado savo vidutinės - aukštosios technologijos gaminių eksporto rinkos dalis Kinijoje. Likusios šalys, tokios kaip Pietų Afrika, kuri matė žemą vietinės vidutinių - aukštųjų technologijų pramonės plėtrą, nebegalėjo pasiekti gamybos įvairovės, todėl ji liko kaip žaliavinių produktų tiekėja Kinijai. Kinija laimi iš vidutinio ir aukšto technologijų eksporto į daugelį besivystančių šalių. Ji įgijo kai kuriuos gebėjimus konkuruoti su daugeliu pažangių šalių tiekiant pigesnius ir aukštos kokybės vidutinių ir aukštųjų technologijų gaminius besivystančioms šalims. Kadangi Kinija tobulina savo eksporto struktūrą, tokios šalys kaip Rusija, Indija, Pakistanas, Bangladešas, Pietų Korėja, Malaizija, Taivanis, Indonezija, Filipinai, Vietnamas, Singapūras, Argentina, Brazilija ir Čilė tapo šalimis, eksportuojančiomis aukštų ir/arba vidutinių technologijų gaminius į Kiniją. Šios šalys galėtų būti naujomis Kinijos kylančios integruotos gamybos sistemos dalimis. Dauguma besivystančių šalių pelnosi iš didžiulio Kinijos importo ir eksporto augimo, vietinės Kinijos įmonės gali sugluminti besivystančias šalis naujais konkurenciniais iššūkiais, nes jos pereina prie į technologiją orientuotos gamybinės veiklos. Šios įmonės galų gale gali pakeisti aukštų ir vidutinių technologijų gaminius iš besivystančių šalių. Todėl, besivystančios šalys turi imtis naujovių ir investuoti į naujas pramonės šakas, ieškodamos ir kurdamos naujas nišas naujai rinkai.

Raktažodžiai: *importo-eksporto augimo modelis, Kinija, besivystančios šalys, technologijų galia, pramoninis konkurencingumas.*

The article has been reviewed.

Received in January, 2013; accepted in October, 2013.