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Evaluation of the Adequacy of the Trade Theories' Assumptions to Explain the Impact of NICs/Regions on International Trade

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Ticaret Teorileri Varsayımlarının Yeni Endüstrileşen Ülkelerin Uluslararası Ticaret İçerisindeki Etkisini Açıklama Yeterliliklerinin Değerlendirilmesi

Abstract

International trade patterns and importance of trade regions changes in the course of time according to changing needs of humankind and entrepreneurial interest in increasing return hence looking for ways to accomplish it. Several numbers of trade theories have been developed to date to explain international trade. In this paper, classical trade theories, modern trade theory, new trade theory and a number of other contemporary approaches will be evaluated in terms of their validity and ability to explain international trade, particularly the impact of NICs on international trade.

Keywords : Trade Theories, NICs, International Trade, Regional Trade.

JEL Classification Codes : F40, N70, O57.

Özet

İnsanoğlunun değişen ihtiyaçları ve girişimcilerin kendi getirilerini arttırma istekleri, uluslararası ticaret örüntülerinin yapısını ve uluslararası ticaret bölgelerinin önem sırasını zaman içerisinde değiştirmektedir. Uluslararası ticareti açıklayabilmek maksadı ile günümüze kadar çeşitli ticaret teorileri geliştirilmiştir. Bu çalışmada, Klasik Ticaret Teorisi, Modern Ticaret Teorisi, Yeni Ticaret Teorisi ve belirli sayıdaki Çağdaş Ticaret Teorileri incelenerek bu teorilerin geçerlilikleri ve günümüzde uluslararası ticareti açıklama yeterlilikleri, özellikle yeni endüstrileşen ülkelerin uluslararası ticarete olan etkileri bakımından değerlendirilecektir.

Anahtar Sözcükler : Ticaret Teorileri, Yeni Endüstrileşen Ülkeler, Uluslarası Ticaret, Bölgesel Ticaret.

1. Introduction

International trade has been growing rapidly particularly over the last two decades and the proportion of countries/regions in the cake has also changed noticeably during this period. The popular Northern regions such as the North America and the European Union (EU) have been losing their share in trade to the South's newly industrialised countries (NICs) (Lo, Yeung and Chinese University of Hong Kong, 1996) such as China, India, Turkey, Malaysia, Thailand, Mexico, Vietnam, South Africa and Brazil (Mankiw, 2006). NICs, where economies of scale are paramount, have high export potential due to having comparative advantage in production cost (Carolan, Singh and Talati, 1998). Additionally, as first the fallen cost of transportation (Carolan et al., 1998; Teece, 1998) and then the lowering of tariff and non-tariff barriers due to liberalisation of markets and trade agreements (Vachani, 1997) have been some other reasons which have made NICs countries the shining stars of the global market.

Overall, the changing trade patterns, particularly the stern change in south-north trade have given rise to question the classical trade theories. Therefore, new approaches were developed by academicians with the purpose of filling this gap and enhancing our capacity to understand international trade. The new trade theories are basically in a harmony with the classical theories; however, they are distinguished from the classics particularly due to leaving the perfect competition perspective and focusing on the effects of economies of scale, product differentiation and market structure on international trade. Nevertheless, the impact of NICs on international trade, particularly since 1990s, has produced new gaps even in new trade theories. This paper, consequently, aims to explain the reasons of the new gaps through evaluating the impact of NICs on international trade during the last three decades.

2. Classic Theories of International Trade

2.1. Absolute Advantage

According to the classic theories of trade, to start with Adam Smith's theory of absolute advantage (1776), in which unrestricted trade is supported and benefits of free trade for both exporting and importing nations is emphasised. Adam Smith argues that the main benefit from trade is not to increase the total amount of gold and silver stocks of a country, counter to what mercantilist approach claims. If a nation is an efficient producer of a good compared to other nations, then as the most efficient producer, it could expand its market to abroad, hence could be specialised in producing the good in terms of cost and quality. The importer countries, on the other hand, could also receive benefits from this trade due to the fact that it would be much costly for them to produce the same good

while a cheaper one provided by the exporter. Therefore, Smith claims that each nation should be specialised on goods they have absolute advantage and should import goods they have absolute disadvantage, consequently the world output could be maximised through using factors of production efficiently and effectively, which in turn increases the wealth of nations (Smith, 1776). Absolute advantage thus considers trade as a positive sum game, which is irrespective of the view of mercantilism as it considers the trade as zero sum game (Smith, 2010).

Although, absolute advantage shed light on understanding of international trade dynamics and be also a base model for trade theories, it has been unable to explain changing trade patterns itself due to its restrictions, particularly since the last century. One of the main restrictions is that, Smith considers labour as a homogeneous measure for the production within a country. One of the other main reasons of inability to explain trade between countries is that Smith advises that a country with an absolute advantage in the production of a good should always export it. However, it is not the case in many circumstances in the real world trade and it may not always beneficial for the advised country. Thus, David Ricardo in his work (1819) explains this situation and adds a new the term to the international trade literature; "comparative advantage".

2.2. Comparative Advantage

Ricardo (1819) argues that absolute advantage is a specific condition of comparative advantage, and claims that countries should import some goods, even though they have absolute advantage in producing those goods. He explains it through opportunity cost which means giving up producing a quantity of good in order to produce one unit of some other good (Fletcher, 2011). A comparative advantage arises when a country is able to produce a good at lower opportunity cost compared to another country (Suranovic, 2010), hence a country could be an exporter of certain goods through having comparative advantage, even though it does not have absolute advantage on it. Consequently, if countries specialised in certain products they have comparative advantage rather than merely absolute advantage, an improvement could be experienced in both allocating factor endowments efficiently and economic welfare (Acharya, 2008).

Apart from that, comparative advantage is also helpful to explain patterns of trade, since it occurs due to differences across countries in either factor endowment or technology. In the current time, some countries specialised in certain industries and export those industry goods due to endowment or technology driven comparative advantages (Acharya, 2008). For instance, while the source of comparative advantage derives from high value added and high-tech goods produces through specialisation in highly developed countries, the advantage comes from commonly labour intensive production in developing countries (the World Bank, 1989).

Yet, comparative advantage could not explain intra-industry trade which particularly occurs between developed countries and does not consider most of the factors mentioned under the title of absolute advantage in the previous pages, such as economies of scale, imperfect competition and demand side of trade. Additionally, the theory still considers labour as the only cost and exchange determinant, and also as a homogeneous production factor within the country without considering international differences in labour productivity (Suranovic, 2010). Only later did John Stuart Mill (Mill, 2009) in his work mention reciprocal demand and supply as two main determinants of domestic value of goods, cost of production instead.

2.3. Modern Trade Theory (Heckscher-Ohlin Theory)

The Heckscher-Ohlin model is composed of four critical theorems as follows; the Heckscher-Ohlin (O-H) theorem, factor price equalisation, Stolper-Samuelson theorem and Rybczynski theorem. In this study, O-H theorem will be the only one that is evaluated since the theorem is the most contributing work to the literature compared to the rest, due to the ability of explaining the reasons or causes of comparative advantage differences between countries (Smith, 2010).

The main contribution of the model is to introduce capital endowments (capital refers to the infrastructure, machinery systems and equipments) variable as a second factor to production, an addition to comparative advantage's only production factor, labour. Assumption of having two different production factors brings to light to a production reality; different factor proportions. According to the H-O theorem, countries should produce and export goods through using the two factors in different intensity, and there should be direct correlation between factor abundance in the country and factor intensity of the products will be exported. Consequently, there will be two types of goods as follows capital-intensive and labour-intensive goods; hence the capital-abundant country will export capital-intensive goods while the labour-abundant country will export labour-intensive goods (Suranovic, 2010).

Several numbers of studies have been performed over a period of time to verify H-O theory. However, Leontief (1953) made researches on the USA trade pattern with the rest of the world and found out that the USA was an exporter of labour-intensive goods and an importer of capital-intensive goods, in contrast to H-O theory. Leontief paradox was one of the triggers that forced academicians to explain the intra-industry trade, which is consisted of two-way trade in similar products, particularly between developed countries (Krugman, 1979; Krugman, 1981; Krugman, 1986; Linder 1961; Posner, 1961; Vernon 1966). The paradox has opened a new era in international trade literature named as "New International trade theories".

2.4. New Trade Theories

Particularly after the Second World War the colonial world economy has been collapsed, and thus international trade patterns has started to change noticeably. Under the changing conditions, conventional trade theories became unable to explain certain trade patterns such as intra-industry trade and even ended up being contradicted to some degree such as the Leontief paradox. Therefore, new approaches were developed by academicians with the purpose of filling this gap and enhancing our capacity to understand international trade. The new theories, therefore, relax the assumptions of comparative advantage, perfect competition and factor endowment, and reconsider the significance role of economies of scale, product differentiation and imperfect competition in international trade (Krugman, 1986).

2.4.1. Product Life Cycle

Posner (1961) in his work, International Trade and Technical Change, claims that each country has different level of technical skills as an influencing factor of production, therefore the country who has the technical advantage and used it in production is more likely to be the first exporter of that good for a certain period of time. However, the comparative advantage of the exporting country most probably be eroded when another country sets up local production units and consequently, the first exporter will end up being an importer of that good.

Vernon (1966) extended Posner's argument (1961) and developed a product life cycle (PLC) model with the purpose of explaining trade patterns. The model is composed of three stages of product development. The PLC model claims that, innovations in certain kinds of products associated with high income are likely to be implemented and commercialised initially in the target market, (meanwhile first target is the home market). The first stage is "new product" where the innovative country starts low level exportation soon. At this stage, the exporter country rapidly expands exports through exploring the advantages of monopolistic market structure and growing demand from abroad, consequently the product steps up to the second stage and becomes mature. At the second stage, competitors from different countries enter the game; from now product differentiation efforts intensify in order to avoid price competition in the global market. Vernon (1966) argues that, at the advance stage, due to the standardisation of certain products, the production location usually shifts to less-developed countries in order to survive in the growing price war, which is named as "production relocation". In fact, the shifting industrial location for certain industries from the western countries (the north) to eastern countries (the south) verifies the PLC approach.

2.4.2. Trade between Similar Countries and Intra-Industry Trade

As to Ricardo, international trade occurs due to differences in labour productivity or technology whereas Heckscher-Ohlin model links it with differences in factor endowments through introducing the second production factor as capital. However, if trade were occurred as it is anticipated in the traditional theories; countries would be exporting only the products they have absolute or comparative advantage in. The fact is that, considerable amount of total world trade is performed between developed countries and the countries both import and export certain products belong to same industry (Linder 1961, Vernon 1966). The situation could not be explained through classical theories where there is no assumption of two way trade of a same product between countries, particularly in where a country has a comparative advantage.

Linder (1961) explains the situation through "representative demand" and claims that intra-industry trade occurs between countries in where similarities in per capita income exist. This is due to the fact that, a product is developed through considering target consumer preferences which is likely to be similar between countries having similar per capita income. Of course, Linder takes into account several contemporary approaches such as economies of scale and product differentiation in his approach, however, could not segregated intra-industry trade from inter-industry trade on a sufficient concept.

Distinction of industries into intra-industry and inter-industry was firstly considered by monopolistic competition approach in order to explain trade between developed countries. Several studies explain the situation through considering the global market under imperfect competition conditions and claims that economies of scale is the crucial base to explain trade flows in differentiated products (Krugman, 1979). Linder (1961) defined the economies of scale as reducing the cost per unit through increasing total amount of production. He further argues that, demand for each differentiated product exists in each industry in which scale of economics is significant. Hence, the demand-oriented competitive market conditions pushes firms to be specialised in different product types which in turn lead to lower cost of production. Consequently, due to each country will be specialised on same product with different features (Krugman, 1980), consumers from different countries with different preferences will demand those differentiated products and intra-industry trade will occur according to monopolistic competition approach. In fact, researches in the field have enabled academicians to explain intra-industry trade which occurs due to increasing productivity through specialisation in mass production.

2.4.3. Economic Geography

It is claimed that in industrial clusters, positive externalities (spillover) and synergies are naturally generated from other producers, which attract more firms to enter the cluster with the purpose of decreasing transaction cost (Biggeri and Mehrotra, 2007). Transportation cost, as a critical influencing factor of transaction efficiency, introduced by Krugman (1980) as an additional factor to the increasing return framework (Krugman, 1979), afterwards the trade theory and the economic geography have been mentioned together. Krugman (1980) claims that if production cost of two countries are the same, then the country closer to the larger market has a comparative advantage over the other country in terms of transportation cost and becomes more profitable. Hence, the advantageous country is chosen to locate production, which is named as '*the home market effect'*. Furthermore, countries with relatively high domestic demand for a certain product are expected to be the exporter of that product.

In fact, the home market effect currently exists, however in a transformed format compared to few decades back when transportation cost used to be a major concern in trade. This is mainly due to the fact that, the effect of decreasing both transportation cost and custom duties increasingly makes the physical distance to target market a less significant concern, particularly where increasing returns exists. Therefore, NICs are progressively receiving increasing amount of international capital regardless of the strength of their domestic demand. Because, NICs are gradually becoming the hubs of the global mass production system with the contribution of MNEs, and since the target market of the production is the global market, the domestic demand is considerably low.

3. Trade Performance of the Regions during the Last Two Decades

As mentioned in the introduction part, the North America and the EU as representatives of "the North" part of the trade both have been losing their shares gradually against newly industrialised countries (NICs) of "the South" in international trade (Lo et al., 1996) and the reasons of this change in trade shares have identified in the earlier paragraphs of this paper as the economies of scale (Krugman, 1986; Linder, 1961), the declining transportation and communication cost (Andersen, 2006; Carolan et al., 1998; Teece, 1998), liberalisation of the markets, the lowering tariffs (Vachani, 1997) have all combined together and have created a reasonably appropriate environment for MNEs to invest in particularly in NICs.

Figure: 1
Regional Share in the World Export

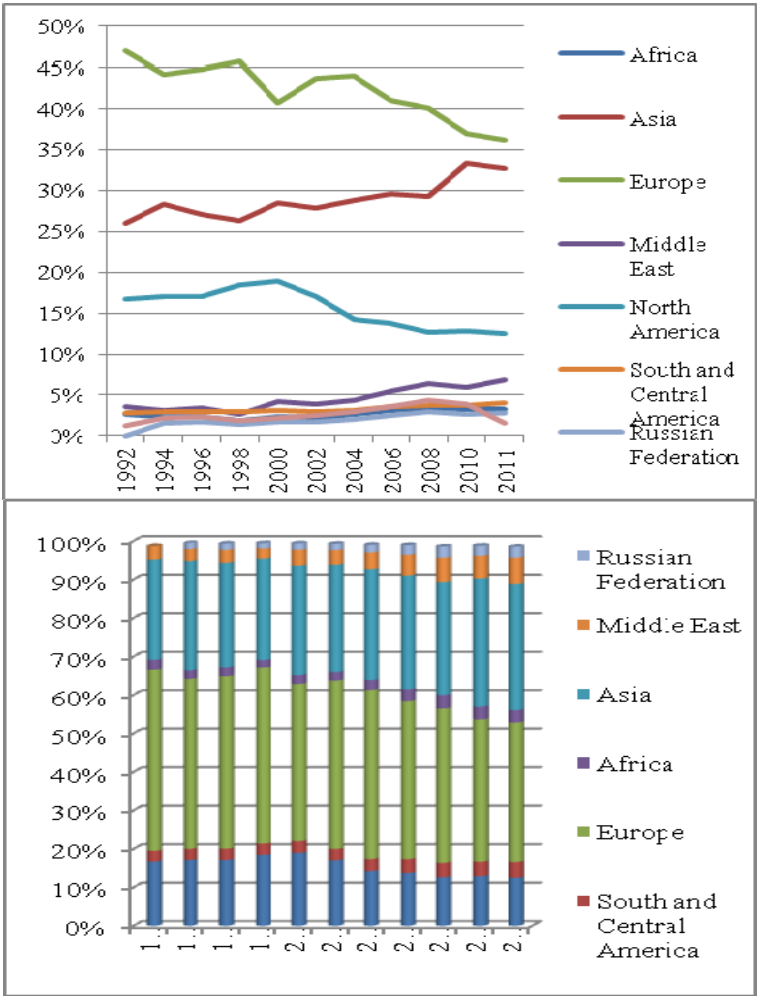
World	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
North America	16,7	17,1	17,1	18,4	19,0	17,0	14,2	13,7	12,6	12,9	12,5
South and Central America	2,8	2,9	3,0	3,0	3,1	3,0	3,1	3,6	3,7	3,8	4,1
Europe	47,1	44,1	44,8	45,7	40,8	43,7	43,9	41,1	40,1	37,0	36,2
Africa	2,6	2,2	2,3	1,9	2,3	2,2	2,6	3,1	3,5	3,3	3,3
Asia	26,0	28,4	27,1	26,4	28,5	27,8	28,8	29,5	29,3	33,3	32,7
Middle East	3,5	3,1	3,4	2,6	4,2	3,8	4,4	5,4	6,3	5,9	6,9
Russian Federation	*	1,6	1,6	1,4	1,6	1,6	2,0	2,5	2,9	2,6	2,9
Others	1,3	2,1	2,3	1,9	2,2	2,4	3,0	3,6	4,4	3,9	1,5

** Data for Russia Federation has been available since 1994.*
Source: The World Trade Organization.

The Figure-1 above indicates a 25 and 23 per cent decline in the global exports shares of North America and the EU respectively since 1992, whereas 26, 46, 97 per cent increases observed in Asia, South and Central America and, the Middle East respectively. As an exception, the immense rise of Middle East share has mainly caused due to rocketed average annual oil prices from around $20 in 1990s to $110 in 2010s (OPEC Basket Price, 2012).

According to the Figure-2, the change deserves much credit after 2000. Due to the fact that whereas the share of the south (here, Asia, Middle East, Africa, South and Central America) has been increased on a regular bases from around 35per cent to 46 per cent, the share of the north (here, North America and Europe) has been regularly dropped from around 64 per cent to 49 per cent. Moreover, as it could be seen from the Figure-2, the share of Asia, the red line, was almost half of Europe, the green line, in 1992 and from that year forward the gap has almost been filled.

Figure: 2
Regional Shares Trends in the Total World Export



Source: The World Trade Organization.

The statistical data in Figure-3 below, in regional import shares also indicates declining share of the north against the south, however the change is less impressive in import compared export. For instance, although North America has considerably lost her leading position in export, the share of the region has approximately remained the same during the last two decades. Therefore, it could be stated that, the region is still a

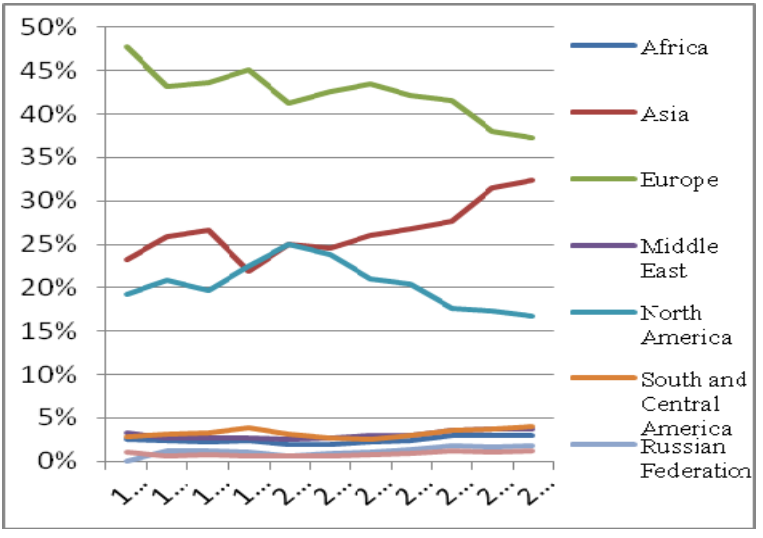
significant customer for other exporters at the current time. On the other hand, the share of Asia has risen as much as the share of Europe has dropped, proximately 10 per cent.

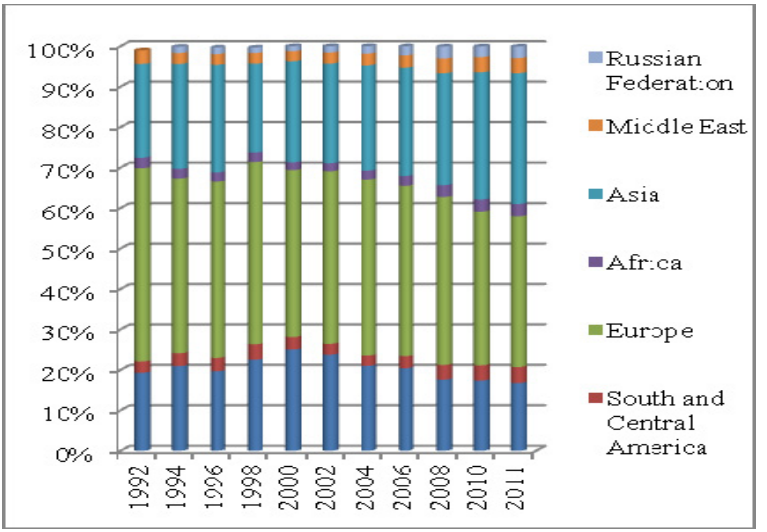
Figure: 3
Regional Share in the World Import

World	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
North America	19,3	20,9	19,7	22,5	25,0	23,8	21,0	20,4	17,6	17,4	16,8
South and Central America	2,8	3,2	3,3	3,8	3,1	2,7	2,6	2,9	3,6	3,8	3,7
Europe	47,7	43,2	43,6	45,0	41,3	42,6	43,5	42,1	41,6	38,0	37,3
Africa	2,6	2,4	2,3	2,3	1,9	2,0	2,2	2,4	2,9	3,0	3,0
Asia	23,2	25,9	26,6	22,0	25,0	24,6	26,0	26,8	27,7	31,4	32,3
Middle East	3,3	2,7	2,7	2,6	2,5	2,7	2,9	3,0	3,6	3,8	3,7
Russian Federation	*	1,2	1,2	1,0	0,7	0,9	1,0	1,3	1,8	1,6	1,8
Others	1,0	0,5	0,7	0,7	0,6	0,6	0,8	0,9	1,3	1,1	1,2

** Data for Russia Federation has been available since 1994.*
Source: The World Trade Organization.

Figure: 4
Regional Shares Trends in the Total World Import





Source: The World Trade Organization.

Figure-4 above shows that, Europe used to import half of the total world exports in the beginning of 1990s and currently importing roughly one in third of the total exports. According to the positive trend of Asian import, it also could be expected that Asia, the light blue line, could catch up with Europe, the green line, in a few years and may even overtake.

4. Conclusion

Overall, the fact is that the northern hub as the only significant one in the world trade has started to split into two hubs since the eastern countries have realised their comparative advantage. Of course, several other reasons, which were mentioned earlier in this part, have combined with comparative advantage of southern countries and accelerated this split.

To start with comparative advantage, southern countries, in which particularly NICs, derive the advantage not only from labour intensive production but also increasingly from high-tech and value added production as well (Lall, 1998). This situation is an absolute contrast to O-H model. Namely, international capital endowment allocation through FDI has become an accelerator particularly for southern countries in terms of growth (Brooks, Roland-Host and Zhai, 2008). Basically, lack of capital problem for the production have been eliminated by FDI, and consequently through combination of ‘‘cheap’’ labour factor with capital factor these countries/regions have started producing

‘‘cheaper’’ capital-intensive goods as well. Additionally, the NICs have shifted from light manufacturing to durable consumer goods and machinery products and have begun investing in high-technology industries. According to Lall (2000), patterns of technological and trade specialisation in different production areas has been transformed considerably in Eastern Asia countries due to both activities of MNEs and increasing commitments of national governments in improving competitiveness (cited in Uchida and Cook, 2005).

Indeed, the possibility of locating the production units elsewhere and delivering from that location at lower cost is mentioned by Vernon, however this option is considered as low due to the cost of international transport, import duties and opportunities of external economies in the developed market (Vernon 1966). Conversely, most of the barriers to trade have declined to a considerable extent, particularly in transportation cost and tariff barriers, owing to liberalisation of various national markets (Andersen, 2006; Carolan et al. 1998; Teece, 1998) particularly since 1990s.

PLC approach could explain the situation of relocation of production towards NICs to a certain extent; however, moderately sophisticated goods have been increasingly produced in developing countries as a first location rather than as the latest location as it proposed by PLC (Andersen, 2006; Carolan et al., 1998; Puga and Trefler, 2010). Indeed, various numbers of manufacturing plants in developing countries have been moving from one developing country to another or from one region to another within the same country (Krugman, 2009) rather than only from developed countries to developing countries, which indicates that PLC currently in progress within the developing countries, itself. For instance, electronic industry has reached the last stage of PLC in Hong Kong, and therefore shifted to China and the shifting is in progress from developed regions to less developed regions within the country itself (Lo et al., 1996).

Furthermore, the results of trend analyses demonstrated in both Figure-3 and Figure-4 point out that are the southern countries not merely increase their shares about export, but significantly in import as well, consequently, the south gradually becomes an elegant purchaser simultaneously. Moreover, even though, there may be differences in per capita income between the north and south, demand comes from the top 5% of income group of the south, through taking into consideration the high population, may account for a reasonable amount to consider from the firm perspective. As one of the most significant outcomes of this paper, NICs will be considered as not only production locations, but also target markets by organisations in the near future.

References

Acharya, R.C. (2008), "Analysing International Trade Patterns: Comparative Advantage for the World's Major Economies", *Journal of Comparative International Management*, 11(2), 33-53.

Andersen, P. (2006), "Regional Clusters in a Global World: Production Relocation, Innovation, and Industrial Decline", *California Management Review*, 49(1), 101-122.

Biggeri, M. & S.K. Mehrotra (2007), *Asian informal workers: Global risks, local protection*, London: Routledge.

Brooks, D.H. & D. Roland-Holst & F. Zhai (2008), "Behavioral and empirical perspectives on FDI: International capital allocation across Asia", *Journal of Asian Economics*, 19(1), 40-52.

Carolan, T. & N. Singh & C. Talati (1998), "The composition of U.S.-East Asia trade and changing comparative advantage", *Journal of Development Economics*, 57(2), 361-389.

Fletcher, I. (2011), "Why It Is Wrong", *Social Policy*, 41(1), 37-46.

Krugman, P. (1979), "Increasing Returns, Monopolistic Competition, and International Trade", *Journal of International Economics*, 9(4), 469.

Krugman, P. (1980), "Scale Economies, Product Differentiation, and the Pattern of Trade", *American Economic Review*, 70(5), 950-959.

Krugman, P. (1986), "Industrial Organization and International Trade", *NBER Working Papers*, (1957), Cambridge: National Bureau of Economic Research, Inc.

Krugman, P. (2009), "The Increasing Returns Revolution in Trade and Geography", *American Economic Review*, 99(3), 561-571.

Lall, S. (1998), "Exports of manufactures by developing countries: emerging patterns of trade and location", *Oxford Review of Economic Policy*, 14(2), 54.

Leontief, W. (1953), "Domestic production and foreign trade; the American capital position re-examined", *Proceedings of the American Philosophical Society*, 97(4), 332-349.

Linder, S.B. (1961), *An essay on trade and transformation*, Stockholm: Stockh. (osv.),

Lo, F. & Y. Yeung & Chinese University of Hong Kong (1996), *Emerging world cities in Pacific Asia*, Tokyo: United Nations University Pres.

Mankiw, N.G. (2006), *Principles of economics for UCI*, Mason, OH: Thomson/South-Western.

Mill, J.S. (2009), *Principles of political economy: With some of their applications to social philosophy*, S.l.: Bibliolife.

OPEC Basket Price (2012), *OPEC*, <http://www.opec.org/opec_web/en/data_graphs/40.htm?selectedTab=annually>, 31 December 2012.

Posner, M.V. (1961), "International Trade and Technical Change", *Oxford Economic Papers*, 13(3), 323-341.

Puga, D. & D. Trefler (2010), "Wake up and smell the ginseng: International trade and the rise of incremental innovation in low-wage countries", *Journal of Development Economics*, 91(1), 64-76.

Ricardo, D. (1819), *On the principles of political economy and taxation*, London.

Smith, A.J. (2010), "The competitive advantage of nations: is Porter's Diamond Framework a new theory that explains the international competitiveness of countries?", *Southern African Business Review*, 14(1).

Smith, A. (1776), *Wealth of Nations*, Generic NL Freebook Publisher.

Suranovic, S.M. (2010), *International trade: Theory and policy*, Irvington, N.Y: Flat World Knowledge, Inc.

Teece, D.J. (1998), "Capturing Value from Knowledge Assets: The New Economy, Markets for Know-How, and Intangible Assets", *California Management Review*, 40(3), 55-79.

The World Bank (1989), "Policy, Planning and Research Department working papers", <http://www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/1989/03/01/000009265_3960927160003/Rendered/PDF/multi0page.pdf>, 3 December 2012.

Uchida, Y. & P. Cook (2005), "The Transformation of Competitive Advantage in East Asia: An Analysis of Technological and Trade Specialization", *World Development*, 33(5), 701-728.

Vachani, S. (1997), "Economic Liberalization's Effect on Sources of Competitive Advantage of Different Groups of Companies: the Case of India", *International Business Review*, 6(2), 165-184.

Vernon, R. (1966), "International Investment and International Trade in the Product Cycle", *Quarterly Journal of Economics*, 80(2), 190-207.