Core and Periphery: An Analysis of the Spatial Patterns of International Trade

Abstract

The core periphery structure on global scale has persisted over the years. The structure of the relation rests upon the interaction between core economies primarily centred at the developed North, and the peripheral countries constituting the underdeveloped South. The country is believed to be the foci of the world economy if it is actively involved in international trade. Such foci are primarily advanced industrialised market oriented economies. On the other hand, peripheral countries are broadly characterised by the subsistence economy and have passive role in the world trade. Also these peripheral economies heavily rely on the centres as the source and destination of their imports and exports respectively. In this backdrop, the paper attempts regionalisation of trade flows from 1990 till 2015. A preliminary attempt is made through this paper to see if spatial structure of interaction via international trade flows conforms to core periphery structure over time. The nature of commodities traded between cores and their respective peripheries is also studied to understand the dynamics of interdependencies. Data for the present analysis has been extracted from Direction of trade statistics (DOTS Trade matrix) and UNCTADstat database. Factor analysis has been used to understand the dominant origin and destination of export and import flow pattern. The analysis broadly reveals (i) the existence of core-periphery structure in the context of international trade flows, and (ii) the functional regionalisation of international trade flows reveals primacy of North in the global economy. However, developing economies, such as, China did emerge among other dominant global traders.

The Context: Core and Periphery

The global economy is fast changing so does the underlying structural interdependencies of the countries from the cores and peripheries of the international system. How world economic system is evolving? and does the traditional centre-periphery still evident? Are worth deliberating questions, particularly, in the present time where emergence of new regional cores have pushed aside traditional cores and hence redefining the nature of interrelationship.
The earliest scholars to attempt a conceptual explanation of the existence of a centre-periphery structure on a global scale were Meier and Baldwin (1957). They were of the view that a country is at the foci of the global economy if it plays an active role in the international trade. They characterised such countries as wealthy market oriented economies chiefly having industrial or agricultural-industrial base. On the contrary, peripheral countries have market-type or subsistence type economy, which is relatively passive in the world trading network. Another common feature of a peripheral economy is its external dependence on the core as the source and destination of the large share of imports and of exports respectively (Knox, *et.al.* 2014)

Maogunje (1980) in his paper has presented a comprehensive discussion on the development of the centre-periphery concept in the global geography. In the context of the Raul Prebisch's contribution in developing the concept of centre-periphery, he noted that the concept was

used by Prebisch (1950) to partially describe the continuing economic backwardness of Latin America in comparison to North America and Western Europe. Prebisch pressed on the issue of the adverse terms of trade experienced by the economies producing primary commodities in their trade with the core countries of the global economy. Further, Maogunje highlights that the concept, since then, has been further refined and detailed, and has come to be extended to study relationships 'below the global level at the continental, national and regional scales'. At the global level, a new school of thought developed to investigate the process of underdevelopment based on the idea of 'dependency'. The Dependency theory has its roots in Latin America, evolving in part out of the liberal development economics in the 1950s. By and post 1960s it had number of supporters, Andre Gunder Frank, Samir Amin, Arighiri Emmanuel and Immanuel Wallestein, were the noted dependency theorists. Reitsma (1982) pointed out that the development of underdevelopment initiated during the colonial time, and is being persisted later at an increased rate by several neo-colonial practices. Dependency theorists believed the third world countries are underdeveloped as a result of their dependence on developed core economies. For example, the European core of world capitalism thrived only by distorting the development of the periphery. Frank believed that the core economies demand has led to the development of Latin America as a periphery, and not because of the internal capital accumulation. In one of his work *Dependent Accumulation and Underdevelopment* (1979, 2009), he has discussed three stages of world capital accumulation and the development of underdevelopment in Asia, Africa and Latin America. The detailed explanation captures how the world historical process of uneven capitalist development, trade relations and structure "drain capital from the colonised countries to the metropolis, and the transformation in the modes of production in the latter, which permit this drain but at the same time develop their own structural underdevelopment". For the centre-periphery relationship T.D. Santos (1970) assumed the spatial form of dependence. He further argued Latin America's integration into the capitalist global economy, directly via colonial powers, and 'more subtly through trade' culminated in meeting the demands of the core metropolitan countries than the local needs of the region. He also added that the dependence continues later through foreign ownership of dynamic sectors and presence of multinational corporations.

Additionally, Wallerstein in his 'world system theory' discovered a semi-periphery between core and periphery. According to the theory the spatial relations among zones are exploitative. According to Mahutga (2006) "the characteristic of world-system zones is the extent to which they are involved in core or periphery production processes". It is to be noted that the production of the Core is largely capital intensive whereas in the periphery it is primarily labor intensive or based on the export of raw materials. Mahutga pointed out that the conceptually, the core-periphery distinction is 'one of a continuum'. It is important to mention that the world-system and dependency theorists believed that the structure of the global economy led to the creation of international inequality.

Smith(1982),among others has also touched upon the third worldist theory and stated that Samir Amin has given the most refined version of the same. Amin agrees with Frank that there is a single global system, however, he further argued that within this system there are

two different modes of accumulation. Amin was concerned with both production and circulation. On the basis of production he identified two different types of social formations, namely, self-centered system of capital accumulation experienced by the core, and the peripheral system of accumulation. The latter system, as put by Amin, was not only dependent but also structurally marginalised. Amin(2006) has highlighted the 'triad' which constituted on the United States plus Canadian external province, Europe west of the Poland, and Japan (including Australia and New Zealand).

Further, Grotewold has also extensively worked on the regional theory of world trade. He has worked on regional theory of trade in the reference of Latin American Free Trade Association (LAFTA). He pointed that development theory fails to identify differentiated location requirements of different manufacturing industries. However, regional theory of trade did recognise manufacturing industries on the basis of locational demands. Further he relates clustering of core industries with core areas, which are also centers of global trade. For the economic development of the periphery it is important to be integrated with the cores, hence these economies predominantly trade with the centre (Grotewold, 1982). He has further pointed out in one of his writings in 1990 the emergence of more cores in the global economy, for example, Brazil, South Korea and India. He has argued that these new cores, encourages development by diversifying markets for commodities produced and traded by the periphery.

Mahutga(2006), has conducted network analysis of international trade for the period of 35 years. He has tried to study the impact of globalization and the new international division of labour on the structural inequality in the global economy. According to him, there is persistence in the hierarchical structure of the global economy and is "highly correlated with the core-periphery concept from the world system perspective."Among other findings, he further argued that the global system from1965 to 2000 remained stable in terms of core-periphery relations in the processes of interaction and production. Similarly, Subacchi(2008)has discussed new emerging power centres and new power brokers and how are they reshaping the global economic system.

Balaev(2009) has examined the relationship between democracy and international trade in post-Soviet countries. He pointed out, unlike the conventional world systems theory, the structure of core-periphery trade reveals that the core via capital investment in the periphery, intensifies the economic dependence of the periphery on the core. It gives the latter a chance to politically exploit the periphery. In this context, Balaev conclude "This core-periphery political-economic exchange broadens the existing spectrum of world-systems analysis and offers new opportunities for theoretical and empirical research."

In this backdrop, the paper attempts regionalisation of trade flows for two points of time 1990 and 2015. A preliminary attempt is made through this paper to see if international trade pattern conform to core periphery structure over time. The nature of commodities traded between cores and their respective peripheries/hinterland is also analysed to understand the dynamics of interdependencies.

Changing Structure of Global Trade:

In the past 30 years, international trade flows have expanded noticeably and, generally, at a rate faster than global output, with a doubling of the value of trade in a 10-year period since the mid-1990s. Combination of multiple factors have played key role in the recent growth of trade, the growing integration of countries and also the increasing contribution of trade to development. These include liberalization of tariff rates and other trade barriers, preferential trade access, foreign direct investment via trade, autonomous unilateral structural reforms, technological advancements in transport and communications, strategic trade policies etc.

Present day international trade rests on centuries of experience and stems from definite motivations. While deeply rooted in history, modern international trade is subject to such rapid and thorough change that we look to the distant past primarily for certain reasons which facilitate or restrict commerce. Countries exchange goods for different reasons. The size, shape, relative position, natural and human endowment, types of organization, degree of political independence, and political ideology or ideologies of specific countries are the key factors to be considered in assessing international trading behaviour (Thoman and Conkling, 1967).

The share of merchandise trade to GDP has depicted a fluctuating trend, due to the global economic boom and crisis. The trade-GDP ratio for the world has increased from 31 per cent in 1990, to 65 per cent and 50 per cent in 2000 and 2013, respectively; figures for developed economies are 29 per cent, 53 per cent and 45per cent and for developing economies as a group are 42 per cent, 102 per cent, 60 per cent in 1990, 2000 and 2013 respectively. The pattern reflects a greater openness on the one hand, and trade dependence on the other. The significance of export earnings as a source for development finance also increased.

According to Deichmann & Gill (2008) in 1910, British exports were spread almost evenly among Europe, Asia, and other regions. However, by the 1990s, about 60 per cent of British exports went to Europe and mere 11 per cent to Asia. A standard economic theory would envisage that with improved and cheaper transportation, trade with distant places would increase. Instead, trade multiplied between neighbours. The relative degree of trade integration seems to strongly differentiate economies with high growth from those with relatively slow growth. And also, as argued by Deichmann & Gill (2008), the strategies for effective regional integration are not uniform across regions of the world.

Globalisation led by trade is also manifested in the changing geography of the present global economy, such as, besides North, emergence of a dynamic South as a key driver of global trade and also an expansion in South-South trade in goods and services (UNCTAD, 2008). A significant contributing factor has been the impressive growth in the proportion of international merchandise and services trade of several dynamic developing countries such as Brazil, India, China, Mexico, the Russian Federation, South Africa, and South Korea among others. This growth has resulted in new and better opportunities for both trade and

development. Another related feature has been the dynamic rise in trade between the countries of the South as stated earlier. According to WTO (2014), since 1990, South-South trade has grown from 8 per cent of world trade in 1990 to about 25 per cent today, and is projected to reach 30 per cent by 2030. Trade corridors between Asia and North America, and between Asia and Europe, 'now outdo the old transatlantic trade corridor', while trade corridors between Africa and Asia or Latin America and Africa are rising.

Today's trade is radically more complex. The global economy is shaped by two 'powerful forces.' First, the spread of multinational corporations (MNCs). Second, is through the resurgence of region formation. Regionalization has emerged as a widespread feature of international trade. Bonapace (2005) has added in this regard that regionalization has suggested a new complementary strategy to multilateralism for developed and developing economies. In this regard, Gaulier *et.al.* (2004) argued that out of eighty sample countries more than half of their international trade is concerted within a single Triad region, namely, America, Asia-Oceania or Eurafrica. The regional concentration is particularly strong in Eurafrica, with region accounting for more than 75 per cent of foreign trade for most countries therein. Such a pattern of regional concentration is more limited in America, however, still important for US neighbours like Mexico and Canada. On the other hand, Asia-Oceania appears as the region having the weakest regional polarization, excluding large economies like Japan, China and South Korea, intra-regional trade accounts for about 55 per cent to 60 per cent of total trade. The general pattern of trade reveals that relatively more intense trade takes place within geographical regions. Hence, as stated earlier, an attempt is made to undertake functional regionalisation of international merchandise trade flows, and also to explore the underlying spatial dynamics of the global trade in the context of core-periphery debate.

Database and methodology:

Data for the present analysis is extracted from Direction of trade statistics (DOTS Trade matrix) and UNCTADstat database. In this paper, the regional pattern of the value of merchandise export and import flows across the world is examined. For the current paper, initially data for 208 countries was collated. Data pertains to value of merchandise export and merchandise import for 208 countries. For each country, per cent share to total merchandise trade is calculated, and those countries having share less than 0.01 per cent in 1990 are dropped from the purview of the research. Analysis initiated with a data matrix in which measurement in terms of value of merchandise export and import for each of 87 countries is collated for two points of time 1990 and 2015, with an aim to shed some light on the underlying regional pattern of trade flows. Factor analysis collapse huge data set into manageable summary. This summary helps in understanding dominant origin and destination of export and import flow pattern. This matrix can be analyzed by analyzing similarities among rows (R mode) and columns (Q mode). Applied to a flow matrix of exports/imports, the components identified by the factor analysis represent group of countries with a similar geographic structure in the destination of their exports/imports. A core is that country that has the highest factor score on the relevant factors (Poon and Pandit, 1996; McConnell, 1965;

Clayton, 1977; Mitchelson and Wheeler, 1994). Flow maps are also prepared to cartographically represent regional pattern of merchandise export and import flows for 1990 and 2015. Further an illustrative attempt is made to throw light on the structure of the trade basket of the cores and their respective hinterland. For the analysis, SITC rev.3 products, by technological categories given by Lall(2000) is used. The scope of the comparison is limited as broad categories are considered, and also only two trading partners(one from developed and developing region each) with highest share in the cores export and import are considered for illustration. The major commodity groups are as follows:

1. Primary products
2. Resource-based manufactures: agro-based
3. Resource-based manufactures: other
4. Low technology manufactures: textile, garment and footwear
5. Low technology manufactures: other products
6. Medium technology manufactures: automotive
7. Medium technology manufactures: process
8. Medium technology manufactures: engineering
9. High technology manufactures: electronic and electrical
10. High technology manufactures: other
11. Unclassified products

For the analysis, following categories are used:

1. Primary products
2. Resource-based manufactures
3. Low technology manufactures
4. Medium technology manufactures
5. High technology manufactures

These categories are basically combined the respective subcategories into broader groups; also unclassified products are not considered for the present analysis. UNCTADstat does not provide commodity data for 1990, therefore 1995 was considered, and 2015.

Regionalisation of trade flows: Merchandise export

The flow maps (Figure 1 &2) reveal that hinterland i.e. the group of economies constituting the dominant receivers or shippers are persistently dominated by a single core/country. The results of factor analysis(Q mode) reveals underlying ten factor structure in 1990, which explains 91 per cent of the variance. However, factors explaining up to 4 per cent of the variance are retained for analysis and rest are dropped. In 2015, there were eleven factors, and taken together explains around 93 per cent of the total variance. The results further shows that each region is functionally organised via trade flows around a core country. The five

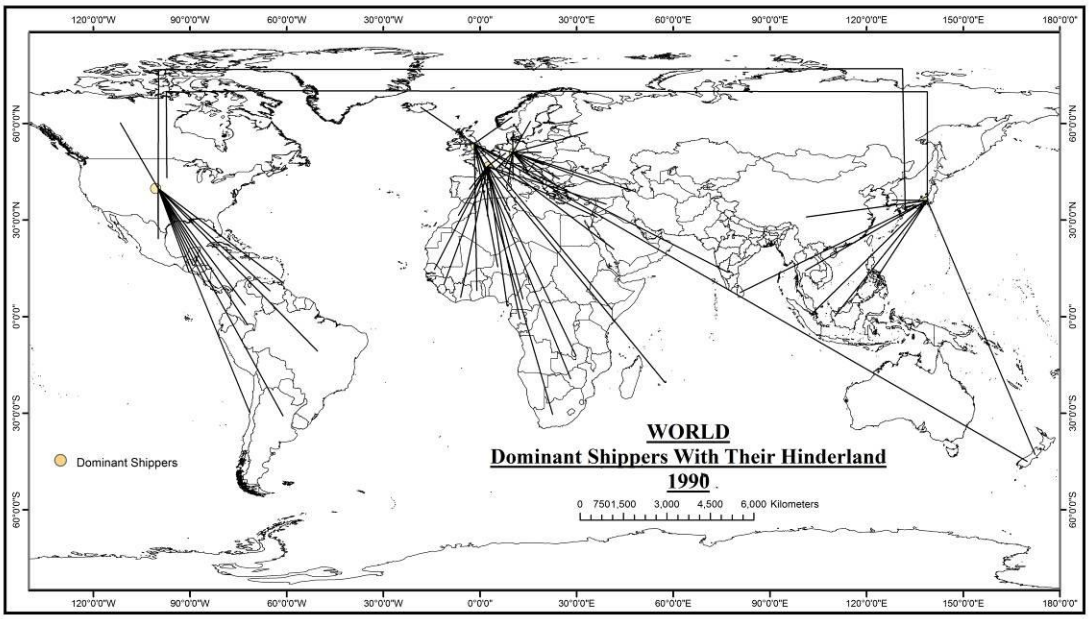
export cores in 1990 were US, Germany, France, Japan and UK[1]; however, in 2015, there were 3 core shippers, namely, China, Germany and US[2] (Figures 1 and 2).

Figure 1 reveals, that US oriented region predominantly consists of developing Central and South America oriented. Japan is also among these economies. This pattern is driven by multiple factors which underline dynamics of regional economic integration in the Americas. The dynamics of such integration could be explained in light of US economic strategy which offers enhanced market access to countries willing to adopt extensive economic reforms (Phillips, 2005; Shadlen, 2008). Further, Shadlen (2008) added that such preferences were institutionalized in the form of regional and bilateral trade agreements (RBTA's) which were modelled on the North American free trade agreement (NAFTA). Further, Oman (1994) has observed that with NAFTA, the United States has renewed its focus on Latin America, shifting back plants to Mexico and initiating free trade arrangements with the aim of a hemisphere free trade area. However, response to US strategy varied across the region and over time. For example, Brazil showed interest in Free trade area of the Americas only in 2003. However, according to Shadlen, (2008) "standard economic explanations based on country-size or industrial structure or export profile cannot sufficiently account for this variation, given that these potential explanatory factors are either fixed or change very slowly". Figure 2 shows in 2015, besides developing America, western Asian economies, such as, Bahrain and Saudi Arabia has emerged as markets for US export. Over the period of fifteen years, spatial pattern of US export flow indicated core-periphery structure, wherein, Canada is the only consistent developed trade partner of US over the years, and there is increasingly consistent market comprising of developing countries.

FIGURE 1: Dominant Shippers with Their Hinterland (1990)

[1] US explains about 47 per cent of the variance, Germany 16 per cent, France 8 per cent, Japan 7 per cent and UK explains abot 4 per cent of the variance

[2] China as the dominant shipper, explains about 47 per cent of the variance, followed by Germany and US, explaining the maximum variance of about 14 per cent and 10 percent respectively



Source: Based on author's calculations

Factor two identifies movements predominantly within European region with Germany as a dominant shipper (Figure 1). USSR, Turkey, and Iran are only non-European countries falling in the hinterland of German trade. Figure 2 shows, in 2015, Germany maintained its position at the second factor. However, markets of German merchandise export got further geographically concentrated with focus on the European Union members.

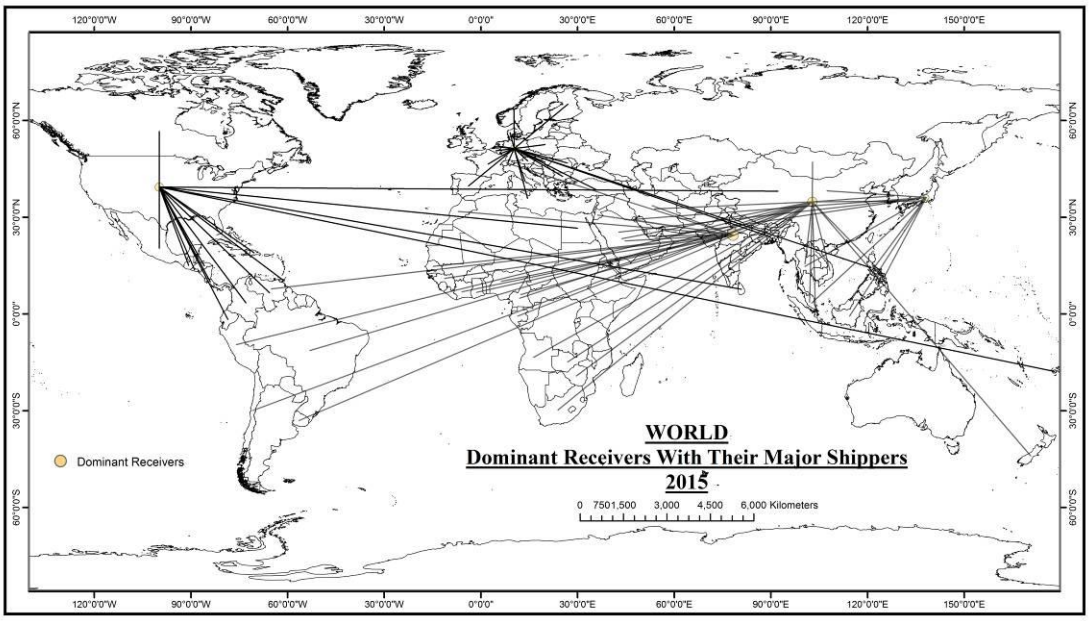
Factor three, identifies France as a dominant exporter to African countries, such as, Algeria, Gabon, Guinea, Morocco, Senegal and Tunisia, among others (Figure 1). Reason for the same could be that still France continues to play an important role in Africa, especially in its former colonies, through aid programs, commercial activities, military agreements, and cultural impact. Germany, Spain and Jordan are other key export markets. Apart from African economies, European economies, namely, Germany, and Spain were also part of the French export hinterland.

Japan's export flow (Factor four), reflects on the intraregional movement of commodities. Besides Asian countries like China, Indonesia, Philippines, Singapore, South Korea, Thailand, Sri Lanka; non Asian economies like USA and New Zealand are also Japan's markets. Poon (1997) has pointed out in this context that Japanese firms are actively pursuing a pan-Asian strategy through industrial integration in the region. He further stated that such global management of economic activities by corporations within coherent spatio-economic units is likely to increasingly shape regionalization patterns. New Zealand is the only non-

Asian economy among other Japanese key markets. In this context, Poon and Pandit (1996), added that the presence of New Zealand in the Japan oriented region is indicative of the shift of this economy's integration more with the Asian countries, than European.

Figure 1 also depicts United Kingdom (factor five) as a dominant shipper with export flowing towards European, African and Asian economies. Ireland and Norway are the major European markets; African countries like Kenya, Ghana, Nigeria, South Africa, Zambia, Zimbabwe; India and Saudi Arabia are significant Asian markets. European countries have trade relation with its former colonies as stated earlier with reference to France.

FIGURE 2: Dominant Shippers with Their Hinterland (2015)



Source: Based on author's calculations.

Figure 2, shows the emergence of China (first factor) as the export core in 2015. The China-oriented region predominantly includes developing Asian and African economies, such as, India, South Korea, Malaysia, Thailand, Philippines, Vietnam, Indonesia, Bangladesh, Pakistan, Iran, Jordon, Kenya, Nigeria, Guinea, Cameroon and Senegal. Developed economies like Sweden and Japan are also among the major markets for Chinese export. It reveals integration of China chiefly with the developing 'South' economies, indicating at the mounting significance of the South-South trade and also emergence of China as an alternative to traditional developed cores for developing economies trade.

Figure 1 and 2 clearly bring out the existence of intra-regional trade flows in either years of reference. From the pattern analyzed in 1990 and 2015, roughly three trading hubs could be seen, viz., Pan-America, Pan-Europe and Pan-Asia. In this background, Loughlin (1996) has put forth that in view of the German school of Geopolitik, dominated by Karl Haushofer, a stable equilibrium could be produced and maintained by the division of the globe into three zones-Pan-America (North and South America), Pan-Europe (Europe, the Middle East, and Africa), and Pan-Asia (Asia and Australasia). Each would comprise of a core and a periphery, and this complimentary trade relationship would reduce the necessity to trade outside the blocs. Bonapace (2005) has also noted that regionalism has become a key component of the new international order. According to him, regionalism is a complex process which is inextricably linked to political objectives, cultural affinities and historical perspectives.

REGIONALISATION OF TRADE FLOWS: MERCHANDISE IMPORT

In 1990, there were ten significant factors, which taken together account for about 92 per cent of the variance in the spatial pattern of import flow. In 2015, there were seventeen factors, cumulatively account for about 93 per cent of the variance. For analysis, factors explaining upto 4 per cent were retained for analysis. Figures 3 and 4 shows selected five factors each for 1990 and 2015. Dominant receivers were US, Germany, Japan, France and former USSR in 1990[3]; and US, Germany, China, Japan and India in 2015[4]. The rise of developing emerging economies, such as, China and India indicates new cores in the emerging global economic system. According to Subacchi (2008), the debates regarding shift of economic power has gained popularity to the 'point of cliche' mainly due to the China influence.

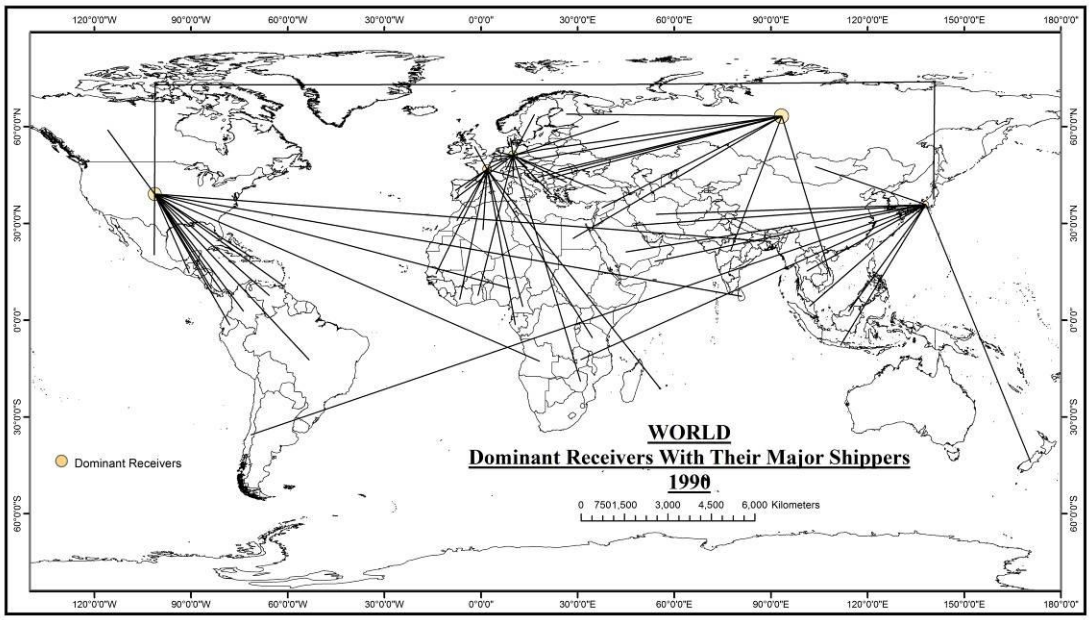
[3] United States accounts for 45 per cent of variance, Germany- 17 per cent, Japan- 8 per cent, France -6 per cent and former USSR- 5 per cent

[4] US explains 39 per cent of the variance, Germany-16 per cent, China-11 per cent, Japan- 5 per cent and India-4 per cent

Subacchi, further highlighted that the reason behind rise of countries like, China and India, from periphery to the core of the global economy with centre like US, Europe and Japan, is not only their large sizes but also the potential to affect international relations. The share of China's merchandise export to world export has increased from 2 per cent in 1990 to 14 per cent in 2015; however, India's share to world merchandise export inched up from 0.5 per cent in 1990 to 2 per cent in 2015.

Figure 3 shows that US receives its import from diverse sources spread across America (Canada, Brazil, Colombia, Mexico, Panama, Honduras, Venezuela, etc), Asia (Japan, Bangladesh and Sri Lanka) and Africa (Angola, Nigeria and Guatemala). In 2015, the remained at the position of first factor (Figure 4). The pattern more or less remained same, though, China has replaced Japan over the period of fifteen years as an significant trade partners for both developed and developing economies also.

FIGURE 3: Dominant Receivers with Their Major Shippers/Origins(1990)



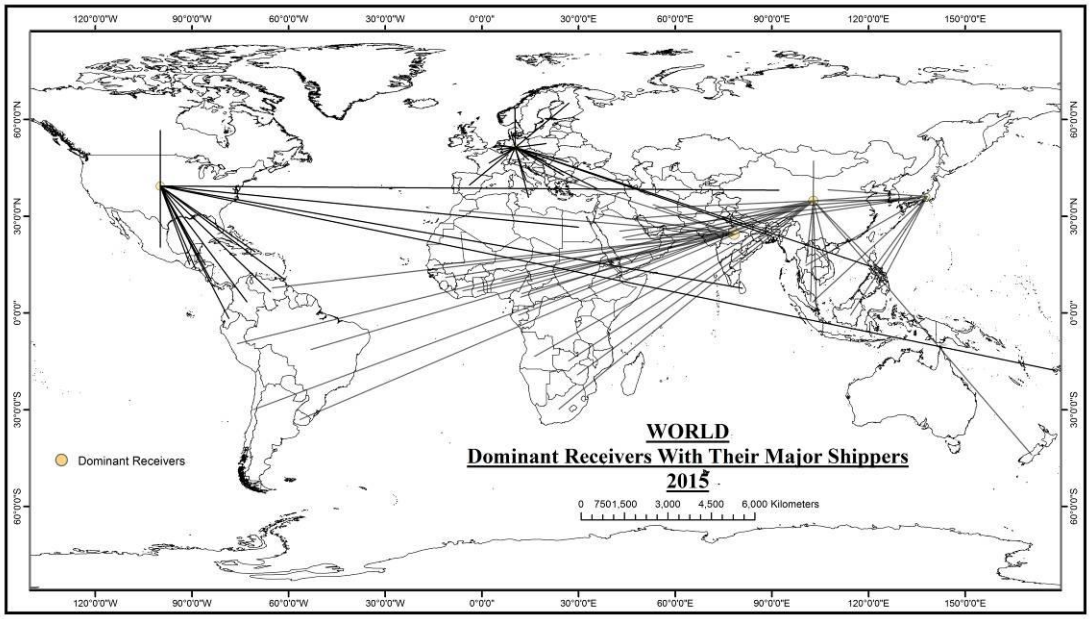
Source: Based on author's calculations.

Germany at the second factor, largely receives import from European economies, particularly, such as, Austria, Belgium-Luxembourg, Bulgaria, Denmark, France, Greece, Italy, Malta, Netherlands, Portugal, Switzerland, Poland, and Sweden; USSR and European-Asian economy Turkey and also couple of African countries, viz., Ghana and Zimbabwe. It is important to note that there is preponderance of EU

members among group of shippers; and it is also important to mention even Turkey is getting benefited mainly because of EU-Turkey customs union (1995) and free trade agreement with the EU (2004), however without full membership. In 2015, broadly, Germany's trading pattern became more Euro-centric. Bangladesh is the only developing Asian economy that has emerged in the group.

Japan(third factor), as seen in Figure 3, is the dominant receiver for merchandise commodities predominantly from Asian economies, spread across southeast (Indonesia, Thailand, Malaysia), east (Mongolia, South Korea) and oil based west (Saudi Arabia, UAE, Kuwait). Japan has emerged as an important core in the Pacific, with its influence extended to the Middle East and Africa and Asia, with an exception of Chile and New Zealand. In 2015, as figure 4 shows, Japan(factor 4) oriented region got more Asia centric, with the rise of China. In 2015, Japan slipped to the fourth factor.

FIGURE 4: Dominant Receivers with Their Major Shippers/Origins (2015)



Source: Based on author's calculations.

Further, figure 3 shows in 1990, France (fourth factor) was also the dominant receiver of shipment from European countries like Belgium-Luxembourg, Germany, Italy, Portugal, Spain, and United Kingdom; and African economies, such as, Algeria, Cameroon, Cote d'Ivoire, Gabon, Mauritius, Morocco, Senegal and Tunisia. This reflects upon the fact that France not only retains strong regional trade ties but also has political and economic influence in its former African colonies. Also, in 1990, former USSR was also among major import cores with eastern European economies, and India, Syria and Egypt.

China and India has evolved among traditional cores in 2015 (Figure 4). It is worth to note that the Chinese economy has not only grown emerged as the Japanese import partner, but also as the nodal receiver in the global trade (. China import structure highlights that the economy largely import from developing world, constituting Asia(Iran, Malaysia, Singapore and Thailand), Africa(Angola and South Africa) and Latin America (Brazil, Chile and Peru).This is reflective of proliferating South-South trade and also gaining significance of emerging economies in the global market, reshaping the spatial organisation of international trade. Figure 4, shows rise of India as the new import core in 2015. Switzerland is the only developed economy the India oriented group. The hinterland of India's import primarily consists of peripheral economies from the developing Asia, Africa and Latin America. China and India import region significantly exhibit intra periphery trade structure.

Broadly, it could be seen that the analysis captures regionalization tendencies in 1990 for some nodal receivers, and the pattern gets further intensified in the last fifteen years. The core import regions also reflect strong historical tendencies, for example, the relationship between European countries like United Kingdom and it ex-colonies, the common cultural traits of Latin America (LAIA), and the former communist bloc of the USSR/Eastern Europe (Poon, 1997).

COMMODITY COMPOSITION OF TRADE BASKET:

An attempt is made in this section to capture the structure and nature of interdependencies between the cores and their hinterland. This part of the paper is primarily illustrative in nature and highlights commodity exchange between the core

and two countries in the group, one from each developed and developing part of the world[5]. Table 1 shows per cent share of cores export and import of five major categories to their hinterland economies. It is to be noted that due to the relative change of the dominant hinterland economies, it is difficult to do temporal analysis of hinterland countries. It is explicit from the table that the US predominantly export manufactures, in particular out of the total export to Canada, about 50 per cent comprise of medium technology manufactures in 1995. US receive about 41 per cent medium technology manufactures from Canada. The trade structure is similar. From the total US export to Mexico, about 39 percent was medium technology manufactures and 22 per cent high technology manufactures; and receives 41 per cent of medium technology manufactures from Mexico. However, in 2015, US export to Canada in medium technology manufactures has registered slight dip to 47 per cent though still the predominant product among others; per cent share of primary commmodities imported from Canada has increased to 31 per cent in 2015 from 17 per cent in 1995, medium technology manufactures registered a relative decline in the share from 44 percent to 35 per cent, although remained top US import product from Canada. However commodity composition of trade between US and Mexico shows further intensification of medium technology manufactures in 2015.

In 1995, Germany export about 44 per cent medium technology manufactures to France, and its import is tilted towards low technology manufactures with 67 per cent. Germany export and import medium technology manufactures to and from Turkey, which account for 55 per cent and 38 per cent respectively. In 2015, new partners, such as, Austria account for export of 41 per cent medium technology manufactures and it import about 45 per cent medium technology manufactures. Trade basket of Germany and Bangladesh is highly concentrated, out of total German export about 68 per cent is medium technology manufactures,and low technology manufactures accounts for as high as 98 per cent of import. In the case of Netherlands, Germany exports predominantly manufactures, with medium technology manufactures accounting for 32 per cent and high technology manufactures 24 per cent. On the other hand, Germany import is relatively diversified with natural resource based manufactures accounting for 28 per cent, primary products 22 per cent, medium

[5] Country with relatively highest per cent share in core's world export/import is considered, one each from the developed and developing economies in the group.

technology manufactures and high technology manufactures with about 20 per cent each. Table 1 shows that out of total French export to Algeria, 49 per cent is the medium technology manufactures, followed by 22 per cent share of high technology manufactures. On the other hand, primary products registered share of about 77 per cent in French import from Algeria. It is further, interesting to note that France and German trade is visibly titled in the favour of medium technology manufactures.

Table 1 shows in 1990, Japan export primarily medium technology manufactures, however the proportional share varies across trading partners. Out of the Japanese merchandise export to these individual economies, South Korea receives 44 per cent, US 53 per cent, Indonesia 66 per cent and Saudi Arabia 69 per cent. Japan's import from the partners is diverse, for example, Korean export to Japan comprised of medium technology manufactures (36 per cent) and high technology manufactures (30 per cent),US aacount for high technology manufactures(30 per cent), primary products(23 per cent) and medium technology manufactures(21 per cent). Developing Asian economies largely account for Japan's import of primary products, for example, 58 per cent from Indonesia and 86 per cent from Saudi Arabia. In 2015, Japan has remained as the import core, and Table 1, shows developing economies, such as, China and Saudi Arabia are among the top sources of merchandise import. It is quite clear that Japan export medium technology manufactures (47 per cent), followed by high technology manufactures with 27 per cent to China; in the case of import relies on manufactures of different technology levels, 36 per cent high technology manufactures, 32 per cent LTM and 22 per cent medium technology manufactures. It is quite reflective from Table 1 that China has set a new example and revealed potential of developing economies position in the global supply chain as exporters of both manufactures and commodities. This was also highlighted in several studies, for example, Subacchi's (2008) work on evolving new economic order.

UK's export to India, as Table 1 shows comprises of resource based manufacture (46 per cent) and medium technology manufactured products(31 per cent); and imports about 61 per cent low technology manufactures, such as, textile, garment and footwear. Merchandise export to Ireland includes low technology manufactures (24 per cent), medium technology (27 per cent) and high technology manufactures (22 per cent; UK receives resource based manufactures (32 per cent) and high technology manufactures(31 per cent) from Ireland. Saudi Arabia is the market for predominantly manufactures as the Table 1reveals, though with relatively higher share of medium

technology manufactures with 39 per cent, and UK import consist of medium technology manufactures and high technology manufactures with shares hovering around 34 per cent each. Table 1 shows that USSR (former) merchandise export to Finland significantly comprise of resource based manufactures (44 per cent) and imports medium technology manufactures(33 per cent), resources based manufactures(25 per cent) and low technology manufactures (21 per cent). India is the developing trading partner of USSR (former), and account for about 39 per cent of medium technology manufactures and 37 per cent low technology manufactures out of the total export to India; import consist of primary products(39 per cent).

The analysis further highlights emergence of new trade cores that are Asia centric, China and India, in 2015. The Chinese largely export manufactures to India, with 34 per cent of medium technology manufactures, 30 per cent of high technology manufactures and 21 per cent of low technology manufactures. On the other hand, China import from India primarily resource based manufactures (37 per cent), primary products (26 per cent) and low technology manufactures (21 per cent). Also China's trade with South Korea is predomoinantly in high technology manufactures. In the case of US, China is exporting about 37 per cent low technology manufactures and 34 per cent high technology manufactures; manufactures import from US consists of 33 per cent high technology manufactures and 31 per cent medium technology manufactures.

The commodity composition of India's trade basket shows, resource based manufactures accounts for more than half of India's export to Switzerland; however Swiss import to India is medium technology manufactures (39 per cent) and high technology manufactures (23 per cent). UAE, on the other hand, receives low technology manufactures (40 per cent) and resource based manufactures(39 per cent) from India; more than 50 per cent of Indian import from UAE account for primary products, followed by resource based manufactures (41 per cent).

TABLE 1: Commodity composition of trade basket(per cent share)

	Merchandise Export					Merchandise Import				
1990	PP	RBM	LTM	MTM	LTM	PP	RBM	LTM	MTM	LTM
U.S.A.										
Canada	6	11	12	50	20	16	22	9	44	9
Mexico	9	13	18	38	22	17	6	15	41	21
GERMANY										
France	5	13	14	44	24	12	8	67	10	3
Turkey	6	11	14	55	13	8	20	15	38	19
FRANCE										
Algeria	10	12	8	49	22	77	22	0	1	0
Germany	9	20	16	40	15	6	15	16	49	14
JAPAN										
South Korea	2	13	11	44	29	10	13	36	12	30
United States	0	4	6	53	37	23	19	8	21	30
Indonesia	1	7	12	66	14	58	27	10	3	2
Saudi Arabia	0	6	12	69	13	86	11	0	3	0
UK										
India	4	46	7	31	12	12	8	61	15	4
Ireland	9	19	23	27	22	10	32	15	12	31
Saudi Arabia	7	16	15	39	22	22	4	5	35	34
USSR										
Finland	26	43	9	17	5	6	25	21	33	16
India	6	10	8	39	37	39	16	21	9	16
2015										
GERMANY										
Austria	7	17	22	41	13	7	16	20	45	12
France	4	12	14	40	29	6	14	11	35	34
Bangladesh	2	9	5	68	16	2	0	98	0	0
Netherlands	9	19	16	32	24	22	28	11	20	19
U.S.										
Canada	11	16	13	46	13	31	18	7	35	8
Mexico	10	17	12	39	22	11	6	10	50	23
China	22	18	5	35	21	1	5	36	19	38
JAPAN										
China	4	12	10	47	27	4	9	31	22	34
Saudi Arabia	1	6	8	78	6	27	58	0	16	0
CHINA										
India	3	13	21	33	30	26	37	21	13	3
United States	1	6	37	21	34	18	14	4	31	33
South Korea	5	10	25	18	42	2	12	5	24	57
INDIA										
Switzerland	4	52	21	13	10	20	13	5	39	23
United Arab	8	33	40	13	6	51	41	2	6	1

Emirates										

Source: Author's calculation based on UNCTADstat dataset.

Note: PP- Primary products; RBM- Resource-based manufactures; LTM- Low-technology manufactures; MTM- Medium-technology manufactures; HTM- High-technology manufactures

The results highlights changing dynamics of the global economies via trade flows. The traditional cores, such as, Germany, France, U.K., Japan, still accounts for significant export in manufactures, and imports primary and low technology based manufactures from developing economies. Although new emerging cores, such as, China's trade structure more or less similar to that of traditional developed cores, and has over dependence on manufactures. Chinese largely import primary produce and resource based manufactures from India, however, exporting medium technology manufactures and high technology manufactures; in the case of trade composition with US. China is import medium technology manufactures and high technology manufactures and export low technology manufactures and high technology manufactures.

Table 1 clearly points out that India export basically resource based manufactures and low technology manufactures; import primary products and resource based manufactures from UAE, though import medium technology manufactures and high technology manufactures from Switzerland.

CONCLUSION:

The analysis has revealed the underlying regional structure of the trading pattern of the world economy. It is interesting to note that the spatial pattern of international trade is deeply rooted in history, and is also driven by definite motivations at the national and international platform. Regionalism is a process which is visible as the key feature of the international trade order. This process is inextricably connected with political interest, cultural affinities and also historical perspectives. The functional regionalisation of international trade flows reveals primacy of North in the global economy. The analysis reinforces the significance of developed traditional cores, such as, US and Germany in the global trading system, however, emergence of Asian emerging economies-China and India also stressed the mounting significance of the developing South in the world economy. The major findings are as follows:

- The existence of core-periphery structure in the context of international trade flows evident in1990, and to a certain degree in 2015, for example, Germany, US, Japan
- Developing economies, such as, China and India has emerged among other dominant global traders in 2015 and hence restructuring the global trading system. Spatial trade structure highlights intra-periphery trade linkages in case of these countries
- Commodity composition of trade highlights developed traditional cores are exporting high value manufactures to developing trading partners in exchange for commodities and low value products
- In case, of developing new cores, such as, India still reveals export dependence on resource based products and low technology manufactures, and import of high value manufactures from developed trade partners, and primary and resource based products from developing countries

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