

Changing Pattern of World Trade and Role of Global Supply Chains: Evidences from Recent Literature

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ABSTRACT

Recent developments in the world economy have substantially increased interdependence among nations, due to which no nation can isolate itself completely from the rest of the world. Internationalization of production has resulted to mutual exchange of goods, services, technologies, people and investment, generally called as supply-chain trade. These processes have dramatically influence structure of production networks in global economy. Traditional domestic production networks have been replaced by much modernized global ones. The trade that is taking place through international networks is associated with momentous of global economic changes. These global supply networks have several economic and non-economic effects particularly on the business organization involved and generally on the economies/nations as a whole. Trading pattern of world economy has also experiencing changes under the influence on these supply chains. This paper highlights the role of recent global supply chains in changing pattern of world trade. Evidences from literature reveal that recent global supply chains have had a significant effect on pattern of world trade as Newly Emerging Economies (EMEs) are emerging as manufacturing trading partners which was not even dreamt about few years back during 1970s and 1980s. Role of supply chain to make these changes incidental is multidimensional and immense. Paper also highlights role of transnational corporations (TNCs) in coordinating global trade through creation of global supply chains and importance of these chains as instrument of trade policies for firms in developing nations.

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Introduction

Recent developments in the world economy under the influences of globalization and trade liberalization have substantially increased interdependence among nations. It has significant impact on the horizontal and vertical spectrum of world economy. In this kind of environment, no nation can grow and develop being isolated from the rest of world as no nation has endowed with all important resources crucial for driving economic development and growth (Aggarwal, 2002). Last few decades, all countries are painstakingly participating in GVCs allured by the major initiative undertaken in new economic reforms of 1991. Generally speaking, global value chain (GVC) is the series of stages in the production of a product or service for sale to consumers. Internationalization of production has given rise to complex cross-border flows of goods, technical know-how, investment, services and people –call it ‘supply-chain trade’ for short. Policymakers considered supply chain trade as transformative. On the other economists viewed it as trade in goods that takes place by concentrated in parts and components (Grossman and Rossi-Hansberg 2008). GVCs allow to utilize the diversified resources infused across the world in most efficient and productive way in each stage of production (Elms & Low, 2013). Global supply chains (also called as global value chains) have played pivotal role in linking developing countries to global markets since the outburst of recent phase of liberalization-led- globalization. Today a large share of the production processes through global supply chains has been organized by one way or the other in developing countries. Export promotion, rather than import substitution, has become the popular development strategy in all developing and newly emerging industrial economies. Globalization has been characterized with increasing economic integration and growing economic interdependence among the participating nations (Singh, 1999). The recent explosion of the information technology and advances in innovative strategy have generated new waves of dynamism and reduced virtually the entire world into a global hub. There are varieties of opportunities and challenges that global supply chains pose in front of

the nation in which they exist (Nicita, 2013). It is generally accepted that participation into global supply chains benefit economic growth and development (Cattaneo & et al., 2013). However, there are some critical issues such as treatment of workers, interactions with local institutions and host governments etc. pertaining to global supply chains (Taylor, 2013).

The dynamic business environment supported by economic and commercial realities emerged from globalization scene have played active role in reshaping the global sourcing and trade patterns. Evolution of global supply chains has brought out three forms of international activity i.e. import, export and investment together and it has been defined as integrative trade (Malaket, 2014). The proliferation of internationally joined-up production setup has changed our economic and political landscape in fundamental ways and dramatically influenced the structure of production networks in global economy despite the trade and financial flows. GVC have transformed the world by replacing traditional domestic production networks into much modernized global ones. The trade linked to international production networks is associated with momentous global economic changes (Baldwin, 2013). Increasing importance of global supply chains has had various desirable effects on growth of companies and satisfaction of customers during recent globalized era. This phase of globalization under the auspices of World Trade Organization (WTO) has encouraged trade liberalization in world economy that has resulted manifold increase in value and volume of trade in goods and services as well of financial flows (Singh, 2014). More and more trade is taking place as part of global value chains for both goods and services (Elms, 2014). This paper brings out the role of global supply chains in reshaping trade patterns during ongoing phase of globalization through collecting evidences from recent literature.

This paper is organized into four sections. Beginning with section I that deal with introduction to the title, section II explains changing pattern of world trade on the basis of recent economic research. Section III highlights increasing role of global supply chains in changing pattern of world trade. Lastly, section IV brings out concluding remarks.

Changing Pattern of World Trade

The intensification of GVCs and trade patterns can be seen from the point of view of changing contribution of various countries, regions, sectors and commodities in world trade. Studies reveal that recent phase of trade liberalization has significant influence on the pattern of world trade which is incidental through creation of supply chains in the global economy. Recent changing country, regional and sectoral/commodity patterns of world trade have been presented in following discussions.

Country Patterns

Advanced nations were major trading partners in the world economy during 1970s. More than one third of world trade was constituted by only three developed economies namely United States, Germany, and Japan. There was high concentration of trade with developed nations being giant exporters and importers. Over the time by 1990, trading pattern in world economy has experienced substantial change under the influence of processes of globalization and liberalization. Since then, it has been becoming more and more diversified by entrance of several emerging market economies (EMEs), especially in East Asia (IMF, 2011). World trade underwent dramatic changes in the decade 1995-2005. Trade between developing countries (SS) now dominates world trade and is growing the fastest (Pant, 2010). A few large emerging trading firms dominated GVC trade, supported by foreign direct investment. Most important feature of changing global trade pattern since then is emergence of China as second largest trade partners in world trade market after USA, overtaking Germany and Japan. China's emergence reflects its rapid industrialization process and growing trade openness; trade accounted 57 percent of GDP in 2008 in China- almost triple the ratio of the United States. All these changes are particularly incidental due the effect of global supply chains. These global supply chains had made vertical specialization possible to execute in trading nations particularly since 1990s. Rise of China, Germany and Japan as major exporting countries has made possible due to emergence of global supply chains. In comparison, USA has characterized

by smaller increase in imported content. Among the group of advanced economies, the share of foreign content in gross exports is lowest for the United States, even if foreign content in Germany's exports from Euro Area is treated as part of domestic value added (DVA).

Regional Patterns

Present scenario exhibits that expansion of global trade that has taken place is against growing regional concentration. Interestingly, interregional trade was virtually unchanged about 12 per cent of global GDP over the time from 1980 to 2009, growth in intraregional trade patterns were found to quite strong in Europe and Asia. During the period from 1980 to 2009, Europe and Asia have been experienced highest growth in trade flows. Vertical specialization and income convergence are particularly responsible for these changes in regional and global trade patterns to be incidental. Due to the increasing tendencies of vertical specialization and intra industry trade, it is quite difficult to have an absolute estimate regarding the extent of domestic value added (DVA) exports. Because majority of the countries such as Singapore, Taiwan, and Malaysia are involved heavily in assembly and processing trade, their gross exports may be more than double as high as domestic value added that they report in balance of payment documents (Koopman et al., 2010). Thus, the extent of domestic value added is underestimated and does not represent real picture of trade pattern in this regard. In overall, some important regional patterns got emerged overtime in global trade. Manufacturing production and trade has got concentrated in Asia; agriculture production and trade in the Americas; and resource-based production and trade in Africa. Amongst all these, intra-regional trade dominates global trade with the emergence of regional hubs (Pant, 2010). It should be worth mentioned that regional dispersion in Asian supply chains has policy implications for Asian nations in particular and for world economy in general.

Sectoral Patterns

The rise in trade is primarily a rise in manufacturing trade. At least so far, services trade is growing in synch

with overall trade, but most trade still involves manufacturing. The growth of manufacturing trade has been found to be relatively higher than that of agriculture and fuel/minerals. It has also been expected that trade in services in the global economy will grow more rapidly than goods. Technology goods have registered increasing share in total world trade. Relative share of technology exports particularly high technology and medium technology exports such as machinery and transport equipment has increased. On the other, relative share of low technology exports such as textiles has declined over the period. It is already established that technology intensive exports have provide better incentives for economic growth in the future. Moreover, trade of high technology goods supposed to grow faster than average and spread larger spillover effects on skills and knowledge intensive activities (IMF, 2011). Amongst final and intermediate goods, international trade in intermediate goods occupies dominant place. Trade in intermediate goods and services has amounted more than US \$ 20 trillion constituting about 60 per cent of world trade.

Increasing Role of Global Supply Chains

As more and more countries are participating into globalization and reframing their trade polices moving towards export promotion outward orientation, movement of goods across borders in form of exports and imports has been exponentially enhancing over last three decades. Global supply chains are playing important role in organizing and executing all these processes of global production and trade. IMF (2011) has quantified comprehensive role of global supply chains in reshaping pattern of world trade by various ways. Study reports that regional concentration of trade in global economy is the outcome of vertical specialization that can be executed through global supply chains. There was a significant increase in foreign value added (FVA) content of exports between 1995 and 2000. Exponential growth of exports from China and Germany is particularly attributed to their integration with regional supply chains. China and Germany have emerged as a downstream and upstream assembly centers respectively. More than 50 per cent of foreign value-added content (FVA) that Chinese exports contain has come from its

Asian counterparts. Similarly, more than 70 per cent of foreign value-added content (FVA) that Germany's exports contain, is coming from advanced Euro Area countries, Russia and European Trade Association countries.

There are some interesting characteristics of contemporary global supply chains at aggregate level. Advanced economies have attained upstream status and that of EMEs emerged as being downstream in global supply chains. Apart from global supply chains, regional supply chains have also role to play in Asia, NAFTA and Europe. EMEs constitute relatively larger imported content in their exports as compared to advanced countries. Secondly, EMEs have a little share in their indirect exports that they are directing towards their third country destinations (Koopman et al, 2010).

SMEs have also seen as the backbone of employment and poverty reduction in ASEAN economies and expanding its global production networks in East Asia. Greater participation of SME in global production networks with multinational corporations (MNCs) and its direct exports can generate untapped potential in accelerating the means of technology transfer, spillovers and economic development (Ferrantino, 2012).

China has been emerged as manufacturing factory in global economy and global supply chains have played pivotal role over the time, particularly in case of trade in high technology goods trade. China has attained downstream position in supply chain and exports of intermediate goods particularly high-technology ones from China have contributed importantly to high technology exports of advanced countries. Its imports of services have also contributed to export growth of advanced countries.

Process of internationalization has increased the interdependence among nations participating into trading activities and thus over the time trade inter connectedness in the world economy has also been enhance up to a larger scale. Global supply chains (GVCs) have had a great role to play to make this incidental. In this regard, Saito (2013) has highlighted the role of global supply chain in the process of increasing trade interconnectedness in the world economy. It has asserted that the growing importance of GVCs in international trade has been accompanied by a reduction in

the use of traditional protectionist measures. Higher value-added exports, part of which result from participation in GVCs, are associated with higher growth rates.

Johansson and Olaberría (2014) have identified the increasing role of global value and supply chains in reshaping pattern of world in next 50 years i.e., up to 2060. Findings asserted that trade pattern around the world will continue to shift from OECD to non-OECD countries, reflecting faster growth in these countries. Multilateral trade liberalization launched by recent international trading order will raise the world trade by 15 per cent relative to present situation and regional liberalization among OECD country group only would raise world trade by 4 per cent due its trade diversion. It has pointed out that trade policies based on increasing tariffs can cause waste and be counter-productive in the context of trade integration and expanding value chains of intermediate inputs affecting relative productive activities. This effect would be strong in industries characterized by long supply chains such as electronics and the auto industry.

Global Supply Chains as an Important Determinant of Trade Policies

The growth, employment, and distributional impacts of standard trade can be magnified through the GVCs. GVC trade makes entry multiple times across the borders. Still, about half of world trade appears to be related to GVCs (Elms & Low, 2013). Very recently, global supply chains are considered as important tool effecting trading policies of trading countries. Blanchard et al. (2016) presented global supply chain as important determinant of trade policy. The authors stated that global supply chains play pivotal role in production of final goods in global economy by providing easy and assured access of domestic and foreign value-added contents. Foreign value-added accounts for 20 percent of the value of final manufacturing output in many countries, and more than 50 percent in some countries and sectors. In turn, imported final goods contain substantial domestic value added, as exported intermediate inputs return home embodied in foreign-made final goods. It is concluded that when domestic content in foreign final goods is high, a country has a reduced

incentive to manipulate its (final goods) terms-of-trade, leading to lower import tariffs. When foreign content in domestic final goods is high, some of the benefits of protection are passed back up the supply chain to foreign suppliers. This mechanism further lowers optimal tariffs. There are evidences in support of both of these predictions in two distinct settings: when countries discriminate across trading partners by lowering protection through bilateral tariff preferences, and when countries discriminate by raising protection through the adoption of temporary trade barriers. These results demonstrate the empirical importance of specific channels through which global supply chains shape governments' trade policy choices.

Developing countries are in dire need of improving efficiency of their business entities and trade policy can play important role in this regard by making them competitive in global market. Nicita (2013) stated that the trade policies were determining the competitiveness of enterprises in developing countries by providing them preferential market access. But in today's globalized environment characterized by existence of well-organized supply chains, there are varieties of factors that determine competitiveness through the quality of policies that influence overall business environment. As presently national policies are not supporting, developing and low-income economies would continue to participate in the environment provided by global supply chains. These supply chains are playing important role in providing low value-added components that have a limited contribution to their development.

Transnational Corporations (TNCs), Global Supply Chains and World Trade

The centrality of transnational corporations (TNCs) is another important aspect of recent changing pattern of world trade that is incident particularly due to global supply chains. Taylor (2013) has highlighted the role of transnational corporations in reshaping pattern of world trade through variety of global supply chain networks. Majority of the global supply chains are typically coordinated by transnational corporations. As creation of supply chain requires huge capital investment, smaller corporations can not capable of undertaking these activities due to their limited

resources and coverage. They are transnational corporations that can be able to create and coordinate global supply chain by making foreign direct investments in other countries. In fact, these are the handful of transnational corporations that coordinate and carry out the overwhelming responsibility of exchanging goods among nations through some combination of owning foreign subsidiaries, contract manufacturing, franchising, or arm's length buying and selling arrangement from local firms. Empirical evidence shows that 70 to 80 per cent of export volume has been exported by only the top 10 per cent of exporting corporations. In United States, these figures touches to 96 per cent of total exports, where about 2200 firms most of which are TNC parent companies of foreign affiliates accounted more than 80 per cent of total trade. In majority of the countries now-a-days, international production networks shaped by transnational corporations and their affiliates account for large share of their merchandise trade. UNCTAD (2013) on the basis of these macro indicators of global production and form level evidence asserts that international production networks of TNCs undertakes about 80 per cent of global trade in terms of gross exports.

Global Supply Chains and Impact of Vulnerabilities

Global supply chains are also attributed to variety of systematic risks that can emerged from natural calamities. All these have important influence on global trade as they may cause damage to infrastructure, sources of raw material production and economic conditions of customers. These vulnerabilities may hamper the efficiency of recent global supply chains and may disrupt trade flows among countries in particular and at global level in general. AIG (2013) has explained that recent occurrences of tsunami in Japan, floods in Thailand; superstorm sandy and Icelandic volcanic ash clouds have posed several systematic risks in front of today's global supply chains which cause ripple effects. Ripple effects are the outcome of these disruptions at the end of key customer, supplier, or a supplier of supplier in supply chain and ultimately, they affect manufacturers, customers, other suppliers in the chain and even the business entities. Organisations have different

strategies to tackle minor disturbances, but recent events have highlighted vulnerabilities that could not be handled and were either dismissed or ignored in many corporations' lust for achieving efficiency and rapid corporate growth. Apart from natural ones, man-made disasters also create challenges for today's supply chains. Moreover, political and economic crisis have had a lot in their sphere to adversely influence global trade flows by disrupting supply chain networks.

Concluding Remarks

Based on the evidence from recent literature, paper reveals that globalization has increased interdependence among nations and global production networks as well supply networks are the manifestation of that interdependence. These networks are playing pivotal role in reshaping production and trade patterns in world economy. Global supply chains have been playing an increasing role in changing pattern of world trade. It is a major source of socio-upgrading opportunities and a new path for development. Supply chains have enabled Developing countries particularly China and EMEs to emerge as important player in world trade. Moreover, increasing economic integration of Asia is particularly due to the existence of supply chain networks. In overall, global supply chains are the medium through which exchange of goods and services takes place. Without global supply chains, globalization cannot be even expected about. GVCs have intensified the effects of standard trade integration. Spread of technology and technology exports as well as import is another important role that global supply networks are performing. Availability of recent technologies in the developing economies in the clear-cut indicator of existence of supply chains into these processes. Transnational corporations have had a special role to play in the whole drama of globalization as originator and organizer of global supply chains. TNCs having control over global supply chains are being managing majority of world production and trade. There are several systematic risks emerging out of natural calamities effecting supply chains. These systematic risks have had lot in their sphere to lay adverse effect on the value and volume of trade in short run. But on the other, these risks have also been opening new vistas of finding their solutions and expanding production and trade through

well- organized global supply chains at a larger scale than recent past.

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