Chapter - II
CHAPTER II

REVIEW OF LITERATURE

Some important research works connected with present work were reviewed. An understanding of the earlier studies would help to comprehend the approach and the methodology to be followed. They were classified into three sections they are Section- A Liberalization of Services, Section- B Trade in Goods and Trade in Services and Section- C BRICS Countries Trade in Goods and Trade in Services

SECTION- A

LIBERALIZATION OF SERVICES

Spero (1983)\(^1\) attempted to study on Trade in Services: Removing Barriers. The problems created by barriers of services trade were compounded by the structural change. The OECD has made some useful contributions toward easing restrictions through its codes on Liberalization of Current Invisible Operations and Liberalization of Capital Movements. Similarly UN forums such as International Civil Aviation Organization, International Maritime Consultative Organization and the United Nations Conference on Trade and Development (UNCTAD) have contributed to smoothing service trade. Generally these efforts suffered from a focus which was too narrow and too technical. The result was that specialized agreements that are inadequate for managing the barriers to trade in services. The agreement at the GATT ministerial represents decision to take whether services should be integrated into the international trade regime. The study found that Barriers against the flow of services were putting a brake on the development of some of the most dynamic sectors of an increasingly interdependent world economy.

Gavin (1983)\(^2\) found that growing importance of service industries needed an international framework of rights and obligations to safeguard free trade in services. It pointed the past hundred years employment in services or knowledge industries has

---


been growing and they were the strategic sector from which industrial economies were directed. Services also play a vital role in the development process. International trade in services contribute greater interdependence and greater economic growth. Efforts to start work towards a multilateral framework for such interdependence have very limited success for political as well as economic reasons. It suggested that the present deadlock is to be broken much mutual tolerance and concrete evidence of cooperation between governments needed.

**Saigal (1986)**\(^3\) revealed that the liberalisation of trade in services should not be seen in a classical sense where exports and imports refer to international transactions of service that actually cross international frontiers. United States which was the main proponent of the idea of bringing services within the jurisdiction of GATT. Restrictions on entry of foreign enterprises (foreign investment), discrimination against foreign enterprises, including practices such as performance criteria, restrictions on repatriation of capital and profits etc considered as much a barrier to trade as non-tariff barriers to trade in goods. Concessions in negotiations pertaining to trade in goods linked to the concessions in trade in services and investment (cross linkage between trade in goods and services including trade related investments). It found that such a cross linkage enhancing the retaliatory power of the developed countries in the international trading system.

**Palocz (1988)**\(^4\) indicated new interest in the role of services in international transactions directly generated by the formation of GATT on reducing barriers to trade in services. Greater attention mainly the result of the increasingly important role of services in developed market economies. Rapid technological development of some services (information and telecommunication services) which lead to the internalization and trade ability of many services. It revealed that the development of service industries viable together with the widening of international cooperation. It brought note that development of the infrastructure with the postponement of the opening of the economy does not appear a viable method of internationalization of service industries.


Holmes (1990)\textsuperscript{5} traced the history of the breaking down of barriers to trade in goods between Australia and New Zealand, and draws some conclusions from this experience on factors conducive to liberalization of trade in services. The protocol extending the Closer Economic Relations (CER) agreement to services was discussed. New Zealand proposal for the incorporation of services in GATT in a manner likely to lead to progressive liberalization. The implications for ASEAN and other developing countries were considered. The members of both CER and ASEAN have a strong interest in international arrangements which keep channels of trade reasonably free of restriction, especially in their major markets. Their best interest of liberalization was achieved on a multi lateral basis.

Francois (1990)\textsuperscript{6} argued that local presence was to facilitate non tradable goods or services such trade really involves trade in producer or intermediate services. Which were combined with locally produced services to produce the exported goods or services. Tradable component of services tends to be capital or human capital intensive, liberalization of trade in services were exported from high cost service markets in developed countries to low cost markets in developing countries. At the same time introducing trade in services price of some services falls in these developed countries and rises in service importing low income countries. This means that pre liberalization prices were not necessarily a good indication of the potential pattern of trade.

Burgess (1995)\textsuperscript{7} showed that if a small country removes a prohibitive barrier to trade in service factors under arrangements for taxing foreign factor income. It may either gain or lose depending upon whether trade in the service factor was complementary or substitutable with trade in other factors already subject to tax. An entry of the service specific factor from abroad causes the economy to demand more of the goods specific factor. Trade liberalization in services involve a hidden benefit but if an arrival of the


service specific factor causes the demand for the goods specific factor to decrease there was a hidden cost. Whether in service factors under arrangements for taxing foreign factor income, it may either gain or lose depending upon whether trade in the service factor was complementary or substitutable with trade in other factors already subject to tax.

**Hoekman (1995)** explained the relationship between regional and multilateral agreements to liberalize trade in services. It indicated that theory cannot provide an unambiguous prediction regarding the relationship between regional and multilateral agreements to liberalize trade in services, both conceptual considerations and the available data on trade and investment flows suggested that Regional Trade Agreement (RTA) should be easier to negotiate and be more far reaching than a multilateral agreement. This suggested that the GATS were likely to be seen as being complementary to the regional arrangements by major service industries in OECD countries.

**Footer (1995)** found that progressive liberalization of services trade to continue over a longer period of time and in some sectors this approach was necessary to adjust to regulatory regimes and differences in technical standards and requirements. The number of specific commitments gradually increase and it dependent upon the results of ongoing negotiations, which was hardly surprising. It viewed in this light, despite the eight years of negotiations has taken, the results of the Uruguay Round show that it is possible for the first time in history to have a multilateral agreement for the regulation of trade in a wide range of services and this in itself is commendable. Study stated that majority of the Round’s participants have already chosen to make specific commitments on many services and it was indication of their confidence in the future of the GATS.

**Kennedy (1999)** conducted study on most market access and national treatment commitments under the GATS. It found that the market access commitments made in both the basic and enhanced telecommunication services sector, where WTO Members

---


sought and secured genuine trade liberalization. Complementary Information Technology Agreement (ITA) was significant barriers to trade in telecommunication goods and services and it have been eliminated and broad market access was achieved.

Verikios and Zhang (2003)\(^\text{11}\) used a Trade Analysis Project’ (FTAP) to quantify the possible effects on the regional and world economies of liberalising trade in services. The results of trade liberalisation depend to a large extent on how trade barriers affect the regional and global economies. The GATS identifies two types of barriers to trade in services: barriers to market access and national treatment. The former restrict the establishment and ongoing operations of all firms and the latter restrict the establishment and ongoing operations of foreign affiliates. Removal of barriers to trade in financial services benefit liberalising regions by attracting more foreign investment into their economies and increasing competition between domestic and foreign firms, which eventually provides better services for consumers at lower prices. The result showed that the mostly import sources of financial services trade liberalisation may come from increased commercial presence of foreign services providers and it was important policy implications for liberalisation of trade in other services.

Martin (2003)\(^\text{12}\) indicated that substantial reduction in trade policy and other barriers inhibiting developing country participation in world trade. It stated that integration process has been the major shift in trade relations between industrial and developing countries. Lower barriers have contributed to a dramatic shift in the pattern of developing country trade-away from dependence on commodity exports to much greater reliance on manufactures and services. In addition, exports to other developing countries have become much more important.

Harms et al. (2003)\(^\text{13}\) analyzed theoretically and empirically the determinants of trade policies in financial services. Developed a political economy model of financial


services protection takes into account the future possibility to trade market access concessions across countries. To test the model, trade policy indicators in financial services was used and by analyzed GATS market access commitments in the core banking and securities services. Unionization of workers, macroeconomic volatility, the quality of prudential regulation, and the presence of Foreign Service providers were largely significant in explaining liberalization commitments and thereby confirmed model hypotheses. Further result of the study suggested that services trade just like trade in goods seems to be strongly influenced by distributional considerations. Findings strengthen the case for multi Sectoral negotiations in which countries can exchange concessions across sectors. One implication of results was that those who seek greater access to developing country markets for financial services must do more to counter protectionism at home in textiles and other areas of export.

Rupachanda (2003)14 made study on “General Agreement on Trade in Services Implications for Social Policy-Making” and found that overall developing countries have scope to guide the GATS2000 negotiations by focusing on specific modes, sectors, multilateral provisions, and cross sectoral issues. Regulatory principles as to shape the impact of service sector liberalisation including social services in accordance with their priorities and concerns. It noted that liberalisation under the GATS should not be equated with deregulation. Liberalisation of services supported by re regulation and often stronger regulation in many services. Liberalisation that occurs in the presence of inadequate or inappropriate domestic regulation aggravates internal distortions. Study suggested that there was need for an integrated approach to social and economic policy making.

Chaudhuri (2003)15 stated that critical commitments made by India in infrastructure services such as telecommunications, financial, transport, distribution and energy. India has not scheduled transport, distribution and energy under the GATS. In the telecommunications and financial services where India has made some commitments. It found the liberalisation committed too little. The study recommended that the trust of India’s commitment should

be to further liberalise infrastructure services to dilute government monopoly and to open up
the domestic economy to greater foreign participation to enhance efficiency and
competitiveness. The liberalisation may not be shared by many readers who would like to see
the liberalisation process more critically and not to support it independent of its impact on the
country’s employment and income. After all despite the virtues of liberalisation the
developed countries have not liberalised the imports of cheap mode 4 services because of the
adverse impact on their domestic employment.

Mattoo and Fink (2004)\textsuperscript{16} made study on welfare implications of regional
liberalization in goods trade. These welfare implications cannot be straight forwardly
extended to the realm of services. Compared to the status quo, a country was likely to
gain from preferential liberalization of services trade at any particular point of time. In
goods trade tariffs were the main instrument of protection, the trade creating benefits of
preferential liberalization could be offset by the costs of trade diversion due to the loss in
tariff revenue. In services trade barriers do not generate revenue for the government.
Import tariffs were rarely used to restrict trade and barriers were often prohibitive.
Consequently there were few costs of trade diversion. It suggested that the elimination
preferences for trade in goods may lead to a relatively painless switch to more efficient
sources of supply and the entry of more efficient service providers.

Gabriele (2004)\textsuperscript{17} indicated that trade and financial liberalization policies aimed at
accelerating developing countries trade and financial integration in the world economy. Due
to the lack of policy focus a higher degree of external integration did not translate in an
overall technological upgrading and in an improvement in the countries relative position in
worldwide trade flows. As a consequence, the ultimate economic results were less than
satisfactory. During the last two decades of the XX century the share of the developing
countries in total world services exports increased progressively, reaching almost $1/4$ of the
world total in 2000. Developing countries have ability to import services also declined sharply
with serious consequences on their overall economic performances.

\textsuperscript{16} Mattoo, Aaditya and Fink, Carsten (2004), “Regional Agreements and Trade in Services: Policy
Issues” Journal of Economic Integration, Vol. 19, No. 4, December, pp. 742-779

\textsuperscript{17} Gabriele, Alberto (2004), “International Trade in Services and the Evolving Position of Developing
Countries”, Journal of Economic Integration, Vol. 19, No. 4, December, pp. 780-803
**Jansen and Piermartini (2004)**\(^{18}\) estimated the impact of liberalization for temporary movements of individual service suppliers on trade in goods and services. In particular looks fourth mode of services to provide a service on trade in services under the other three modes: cross-border service supply (Mode 1), consumption abroad (Mode 2) and commercial presence abroad (Mode 3). Estimates were obtained by using a gravity model of trade and augmented temporary movements of service suppliers. Positive and significant effect of temporary movements of service providers on merchandise trade and services trade under Mode 1 and 3. No significant relationship found between services trade under Mode 2 and Mode 4. Further observed that causality between trade in goods and services have a positive and significant effect of temporary movement of service providers (mode – 4 trade in services) on merchandise trade.

**Mattoo et al. (2006)**\(^{19}\) found that services liberalization was different from trade in goods because it involves factor mobility and leads to scale effects that were distinctive not unique. These have important positive effects on long run economic growth. It was possible to construct policy based rather than outcome-based measures of openness for the services sectors that capture these differences. Unlike in trade in goods where the policy openness measure needs to capture only the openness to foreign supply, in the case of services openness measures must capture both the policy regime toward inward flows of foreign factors and promote domestic competition. There was some econometric evidence relatively strong and robust for the financial sector and less strong but nevertheless statistically significant for the telecommunications sector that openness to trade in services influences long run growth performance. Estimated result suggested that countries with fully open telecom and financial services sectors grow up to 1.5 percentage points faster than other countries.


Eschenbach and Hoekman (2006)\textsuperscript{20} found that large differences exist across transition economies with respect to services intensity and services policy reforms. Reforms in policies toward financial and infrastructure services including telecommunications, power, and transport were highly correlated with inward FDI. It found that measures of services policy reform were statistically significant explanatory variables for the post economic performance of transition economies. These findings suggested that services policies should be considered more generally in empirical analyses of economic growth.

Macmillan and Grady (2007)\textsuperscript{21} found that significant progress in dismantling barriers was achieved might well depend on factors such as whether parties abandon or stay with the current Agreement to Internal Trade (AIT). Good progress could also be made with the creation of bilateral and plurilateral agreements such as the Alberta-B.C. The study summarized that knowledge on internal barriers to trade in goods, services and flows of capital examines their cost to the economy and presents some options for addressing the important barriers.

Arnold et al. (2007)\textsuperscript{22} analyzed the relationship between services liberalization and downstream manufacturing performance. It captured services liberalization in four ways: (i) using an index of policy reforms created by the European Bank for Reconstruction and Development (EBRD) taking into account all aspects of services liberalization, including both the domestic and the international dimension; (ii) considering the share of services output provided by foreign-owned firms; (iii) focusing on the share of services provided by private and privatized firms; and (iv) considering the extent of competition in services sectors. Study found that services policy matters for manufacturing performance as manifested in the strong correlation between services sector reform and the productivity of local producers relying on services as intermediate inputs. This finding was robust to


several different econometric specifications, including controlling for unobservable firm heterogeneity and for other aspects of openness. Another finding suggested that opening services sectors to foreign providers is a key channel through which services reforms affect downstream productivity in manufacturing. This finding was robust to instrumenting for the extent of foreign presence in services industries.

**Banga and Golda (2007)** observed the contribution of services to output growth and productivity in Indian manufacturing in the pre and postreform period. For this purpose, a CLEMS (Capital Labour Energy Material Service) production function was estimated, explicitly recognizing services as an input to production. Study was taken Panel data for 148 industrial groups fourth period 1980-81 to 1997-98 were used to estimate the production function. The results brought out those services as an input to production in the manufacturing sector increased considerably in the 1990s as compared to the 1980s. Use of services in manufacturing grew at an accelerated pace in the 1990s. The trade liberalisation undertaken in the 1990s which increased competition in the domestic market was found to be responsible to a certain extent for the increase in the intensity of use of services in the manufacturing sector. It appears from the empirical results that the increasing use of services in manufacturing in the post reforms period had favourable effect on industrial productivity. Findings of the study suggested that the use of services was growing rapidly in the industrial sector and the increased use of services was contributing both output and productivity growth in the industrial sector. There was a possibility that the Indian services sector might not only succeed in sustaining its own growth but might also help in improving the growth rate of industrial sector in the near future.

**Francois and Hoekman (2010)** conducted study on service trade and policy. There was increasing evidence that services liberalization was a major potential source of gains in economic performance, including productivity in manufacturing and the coordination of activities both between and within firms. Services were very

---


heterogeneous and span a wide range of economic activities. Conceptually this diversity makes a fundamental function that many services perform in relation to overall economic growth and economic development. They were inputs into production. One dimension of this input function was that services facilitate transactions through space (transport, telecommunications) or time (financial services) Another dimension was that services were frequently direct inputs into economic activities and thus determinants of the productivity of the fundamental factors of production labour and capital that generate knowledge, goods and other services. It suggested that the performance of service sectors and services policies are an important determinant of trade volumes, the distributional effects of trade and overall patterns of economic growth and development.

Barattieri (2011) used a structural gravity model to shows that service trade liberalization lagged behind goods trade liberalization, and quantify the extent of this asymmetry. The study focused on the interplay between the comparative advantage of the U.S. in services and the asymmetric trade liberalization process in goods trade versus service trade. Most obvious policy implication was that liberalization of trade in services represents a possible margin of adjustment that might alleviate global imbalances without necessarily implying a large depreciation of the dollar. The market for services in China has significant growth potential in both the short and long term. China imposes restrictions in a number of services sectors that prevent or discourage foreign suppliers from gaining or further expanding market access. It concluded that not only a greater opening of Chinese service sectors might clearly help the process of rebalancing but also a greater service trade liberalization in other developed and developing countries such as the EU, Japan, Brazil or India, might play a non negligible role.

Marel (2012) looked into the determinants of comparative advantage in services. Using a country sample of 23 countries, which represent the bulk of services trade that takes place in the world. Harmonize regional jurisdictions which can compensate to a substantial degree the loss of services trade due to geographical trade

costs as happens within the EU. Services deregulation needs to go hand in hand with good governance and a better regulatory framework that pushes for private policy development. Liberalization and deregulation of services markets was not enough since these service markets need qualitatively better government and regulatory governance to develop comparative advantage. It found that compared to goods not all types of regulation appear to be a more important source of comparative advantage in services. Services were often used as inputs of further production.

**Prabirde (2013)**\(^{27}\) has performed an empirical analysis of the linkages between India's services trade flow and the barriers it faces. The results of the analysis showed that the linkages between services exports and services trade barriers were multiple and complex. It indicated that the income of the partner country (importing country) was crucial for services exports from India. The findings of the study suggested that improved services trade facilitation helps unlock unrealized trade potential. The results cleared that services trade facilitation reform was a key factor affecting services exports from India. It can be said that India expand its services exports by signing on professional qualification with partner countries, particularly with developed countries where India's services export market was largely concentrated. India may also ask its trading partners (or region) to relax barriers on services exports such as aviation tax on air services, foreign ownership caps and restrictions on types of commercial presence. Study found that prolonged barriers on services exports lead to India having a large trade imbalance, as happened with China.

SECTION- B

TRADE IN GOODS AND TRADE IN SERVICES

Markusen (1983)\textsuperscript{28} pointed out that imports of service inputs can increase exports. The study assumed that there was no domestic production of services and all services have to be imported and were available at world prices in the absence of any distortions. Their model suggested that while imports of producer services were expected to stimulate goods exports, this may not occur if the imported services were used mostly in the non-traded sector. This leads to the possibility that service imports decrease goods exports this was due to a Rybczynski type effect, which occurs because the expansion of the non-trade sector due to the inflow of services draws resources away from the traded sector.

Bhagwati (1987)\textsuperscript{29} has pointed that the dispute between developed and developing countries over the inclusion of services in the Uruguay Round of Trade Negotiations which reflects critical differences in perspective on substantive issues. In particular, these substantive divisions arise from the differences between services and goods in matters such as regulation and the requirement in many instances of freedom to move productive factors across national boundaries. It observed that developing countries have possible export advantages in the service sector and have much gain by joining actively in negotiating a services compact that permits them to exploit these advantages.

Markusen (1989)\textsuperscript{30} developed and analyzed a model of trade in which trade differentiated or specialized intermediate products produced with increasing returns. It found that increasing returns characterized both capital intensive intermediate manufactures and knowledge-intensive producer services. Permitting trade only in final goods was an imperfect and inferior substitute. Results of the study have special relevance about the liberalization of trade in services particularly trade in producer services. These services were very likely to have the complementarity property. Because


of the need to move people and or establish a foreign presence, trade in producer services tends to fall under restrictions imposed by immigration and foreign investment laws. In most countries, these laws tend to be significantly more restrictive than barriers to trade in goods.

**Polese and Verreault (1989)** explained how regions develop export advantages in information intensive services. The study contended that trade in services is based on comparative advantage just as trade in goods, that the development of competitive advantage in the service sector was not fundamentally different from that in the manufacturing sector. Services do not offer a short-cut to developing export advantages. It specifically examined the role of technology (knowledge), work experience, external economies and public policy in the development of export advantages in information intensive services.

**Djajic and Henryk (1989)** attempted to study with some of the positive issues related to trade in services associated with the maintenance of durable goods. If services were labour-intensive, the type of durable demanded in relatively labourabundant countries tends to require relatively more servicing per unit of time. They considered two economies and allowing them to trade under two of a number of possible trade regimes. In one case, only commodities can be traded internationally, in the other, the firms exporting durable goods and also service the units sold abroad. The volume and direction of trade were shown to be determined not only by the relative factor endowments of countries, but also by whether or not services were tradable.

**Melvin (1989)** analysed simple model of service trade and found that the principle of comparative advantage and the Heckscher-Ohlin theorem requires interpretations different from those in its the standard model. It observed that in service trade model service exporting country have merchandise trade deficits. Such deficits should not be seen as a problem but rather a reflection of a comparative advantage in the service sector.

---


Jones and Ruane (1990)\textsuperscript{34} focused on particular issue in service trade, namely the effects on economic welfare and income distribution trade at the product level or trade at the factor level. It found that four results; first result of the study was that in the context of simple competitive model, opening up trade in either the service factor or the service product improve economic welfare. This result was independent of the country's relative factor endowments and whether or not it has a technological comparative advantage or disadvantage in services. Second result pointed out that the extend of welfare gain depend on which trading option was selected, if technologies differ at home and abroad. Third result related to the process of gradually opening up the service sector to trade that was first to allowing trade at one level, then subsequently at both levels (completely free trade). In this case, when technologies differ across countries, relative factor endowments do not influence trading patterns, technological superiority in services lead to complete specialization in production of services, while technological inferiority in services results in complete specialization in manufacturing production. Final result was that either option for opening up trade results in welfare gains, the rewards were not distributed equally across factors, and the extent of differences in relative rewards depends on the trade option chosen. Larger welfare gain involved the greater disparity in changes in relative factor rewards.

Francois (1990)\textsuperscript{35} discussed some of the ways in which trade in producer services affects production of goods and emphasized the relationship of producer services to the realization of increasing returns from specialization. This has been done in the context of a one sector, two countries. It found that the cost of producer services was also important to the specialization process and observed that liberalization of trade in services has effects similar to those of growth leading to changes in the production techniques selected by firms in the service importing and exporting countries. Both service importing and exporting countries stand to gain from liberalization of trade in producer services. The gains associated with comparative advantage were augmented by the


returns associated with a greater division of labour. Redistribution of the increased income that results from trade assures that both skilled and unskilled labour gain from such liberalization. With the introduction of additional sectors to the model, such liberalization would still be desirable from a world point of view, though additional transfers may be necessary to ensure that both service importing and exporting countries share these welfare gains.

Ray (1991) examined the historical experience and the alternative hypotheses about the pattern of trade in services. It focused on a sector specific for certain major types of services (engineering and construction, computer software, banking and insurance, technology services and other professional and consultancy services) to identify areas of mutual benefit between developing and the developed countries and the appropriate policy responses needed. There were areas within the services sector where the Developing countries (DCs) develop comparative advantage with proper policy support at domestic, regional and international levels. Further all services were not low productivity areas providing sources of employment in DCs. Some of the new services particularly producer services, hold the key to productivity, efficiency and growth of all countries, including the DCs. More a country was able to produce high quality service inputs for its manufacturing processes and products, its manufacturing and agro processing industries became more internationally competitive and it also be able to expand services exports by using its strength in these services.

Drake and Nicolaidis (1992) have indicated that throughout the 1980s a multilateral debate raged about whether international trade in services should be governed by the rules of the General Agreement on Tariffs and Trade (GATT). It noted that the growth of services activities was one of the most distinctive features of the ongoing global economic restructuring. The services sector presently accounts for about

---


70 percent of gross domestic product (GDP) in the industrialized world and up to 50 percent of GDP in much of the developing world. While only 10 to 15 percent of services were rendered commercially across borders, services exports nevertheless were generally estimated to be worth over $700 billion per year and to make up 25 to 30 percent of world trade. But quantitative indicators do not reveal the qualitative importance of services in general and of business services in particular. The strategic use of these services by increasingly globalized Transnational Corporations (TNCs) affects corporate performance and market structures across the agricultural, manufacturing, and service sectors. This is because many services, especially those of an infrastructural nature, such as telecommunications, play dual roles as both inputs for other activities and outputs or products in their own right. Hence whether services would remain governed according to traditional regulatory regimes.

**Norman and Venables (1995)** used Heckscher-Ohlin-Samuelson framework not only to analyse the pattern of trade, but also whether trade occurs and in which goods and factors be traded. It argued that occurrence trade in goods or trade in factors depending on which give the greater reduction in international factor reward differences; a statement which was perfectly analogous to condition. A major insight to be gained from this approach was that trade in goods and factor movements interrelate in a nontrivial fashion. The interrelationship also means that changes in relative transactions costs could have dramatic and surprising effects on the pattern of trade. Conversely liberalization of goods trade may depending on the relative positions of the goods and factor trade boundaries be sufficient to remove the incentive for factor movements. Economic liberalization which reduces transactions costs for both goods and factors which could result in either more or less international trade. It revealed that the interaction between goods trade and factor mobility can the effects on production and trade.

**Chandra (2000)** estimated the index of comparative advantage of export of major services by the developing country groups using Revealed Comparative Advantage

---


(RCA) index. The value of RCA indicated whether the country or region have relative comparative advantage in exports compared with the world average. Developing countries have revealed comparative advantage in freight and travel while industrialised countries have RCA in passenger services, other transfers services.

Deardorff (2001)\(^{40}\) assumed that lot of significance in the context of trade in goods and trade in services linkage. It examined the special role that trade liberalization in services in service industries can play stimulating not only trade in service itself, but also in enhancing gains from trade in goods. Study found that trade liberalization in services can yield benefits, by facilitating trade in goods, which were larger than one might expect from analysis of service trade alone and trade liberalization in services can also stimulate fragmentation of production of both goods and service, thus increasing international trade and gains from trade even further.

Freund and Weinhold (2002)\(^{41}\) found that the expansion of trade in services has important implications for growth around the world. The standard gains from trade can be expected. Resources reallocated to their most productive uses and welfare was increases. The results of the study suggested that Internet development abroad has begun facilitating increased exports of services to the United States. Specifically, found that the short-run impact was about 1.7 per cent-point boost to growth for a 10-percent increase in the internet variable. This implied that Internet affect growth directly through its impact on productivity, it should also increase growth indirectly via its effect on openness.

Langhammer (2002)\(^{42}\) examined that trade in services in general and developing countries exports in services in particular were dynamic segments of world trade. Success episodes such as increase in Indian computer and data processing services were found to be outliers. Developing countries continue to rely on relatively slowly growing exports of relatively labour abundant consumer services relating to movements of goods and

persons. Interestingly financial services originating from the banking centres Hong Kong and Singapore play a minor role, probably because offshore banking services were not included in the statistics. It argued that for the time being over proportionate growth of service exports from developing countries remain limited to country episodes, but not have the same wide country coverage growth of manufactured exports.

Bagawati et al (2004)\(^{43}\) analysed trade in services and focused attention on the supply side effect on the growth of the service sector and called the supply side Specialization plus Splintering. According to him, there were two groups of services, first one was that require the physical proximity of the user and the provider, and second group was of those services which were not essentially dependent on the physical proximity because of technical advancement. The second type of services like banking and insurance was more in demand. Outsourcing was fundamentally just a trade phenomenon hence there was no need in applying a different approach from trade in goods when analyzing trade liberalization process in service.

Stafford (2005)\(^{44}\) noticed that the differences between services and goods. These differences suggested that advertising strategies for goods cannot be automatically applied to services. Services were the fastest growing segment of the expanding global market and to compete effectively across cultural boundaries. These businesses need to understand appropriate marketing and advertising strategies designed especially for services.

Francois and Wooton (2005)\(^{45}\) examined interaction between goods trade and market power in domestic trade and distribution sectors. Theory suggested that linkage between service sector competition and goods trade. This supported by econometrics involving imports of 22 OECD countries with 69 exporters. This point to linkages between market access conditions for goods and the structure of the service sector. Competition in services affects the volume of goods trade. Interaction between tariffs and

---


competition, the market structure of the domestic service sector becomes increasingly important and tariffs were reduced. Empirically service competition important matters for exporters in smaller and poorer countries. Finally the results suggested that GATS based service liberalization may boost goods trade as well.

A study by Lennon et al. (2006) showed that trade in certain services has a specific feature that does not necessarily apply to goods. Services trade must use interactively inputs from both exporting and importing countries and it should be affected in the same manner by their respective costs. To test analytical framework was used on macro dataset of bilateral trade in services and a specific industry dataset on Air passenger international transportation. Getting results consistent with theoretical framework. Policy and non-policy factors affecting the use of inputs in both the exporting and the importing country and have a symmetric impact on the bilateral flow of services between those countries.

Ceglowski (2006) estimated gravity equations for bilateral services trade in a sample of 28 countries. It found that the standard gravity variables of economic size and geographic proximity were significant factors in services trade. It also revealed positive effects of linguistic ties on services trade and a positive link between regional trade arrangements and services trade. Much of that effect appears to reflect the impact of bilateral goods trade on services trade. This implied that efforts to enhance goods trade (bilateral or multilateral) should lead to more services trade as well.

Kimura and Lee (2006) assessed the impact of various factors on bilateral services trade, relative to that on bilateral goods trade. It used the standard gravity model and ran regressions on bilateral services trade and goods trade between 10 OECD member countries and other economies (including OECD member and nonmember countries) for the years 1999 and 2000. One main and interesting result was that services trade was better predicted by gravity equations than goods trade. Another interesting

result was that there was a complementary relationship between goods exports and services imports. Study showed that unexplained variation in service exports was not accompanied by unexplained variation in goods trade (either in goods exports or in goods imports), unexplained variation in goods exports was accompanied by unexplained variation in service imports. This result may reflect the existence of trade in factor services which helps increase the exports of goods.

Karvis and Lipsey (2006) found that goods industries represents a response to differences in labor cost much greater extent than the more rapidly growing investment by service industries. The service industries less able to allocate different types of production to different areas of the world, probably because services were less tradable than goods, they must more often be produced where they were consumed or consumed where they were produced.

Francois and Woerz (2007) combined panel regressions on trade in goods and services with cross countries. It found that services as embodied in goods exports and also the possible impact of service sector liberalization on the performance of goods sectors. It indicated that while goods dominate direct trade data, services were often the most important activities contributing to final exports. In addition increased import penetration by producer services has a positive effect on the skill and technology mix of exports with greater openness in producer service sectors. Overall results of the study pointed that service sector openness as a potentially positive factor in the evolution of efficiency in the most technology intensive manufacturing industries.

Nag an and De (2008) found that during the 1990’s India’s service sector grew at an average annual rate of 9 per cent, ahead of the growth rate of industry at 5.8 per cent per annum and that of agriculture at 3.1 per cent per annum. In India, the service sector


contributed approximately 68.6 percent of the overall average real GDP growth (Service Value Added) in the past five years between 2002-03 and 2006-07. In 2006-07, it was growing at 11.2 per cent on year; services (including construction) constituted 61.5 per cent of Indian GDP. Significant fact was that service sector growth in India was broad-based. Data from India’s National Accounts Statistics indicated that the share of communications sub-sector increased from 1.7 per cent to 7.5 per cent, while banking and insurance sub-sectors increased their share from 9.2 to 11.3 per cent this contrast obviously with the fact that shares of all other traditional services either declined or at best remained same.

Miroudot et al. (2009)\textsuperscript{52} analysed trade flows in intermediate goods and services among OECD countries and with their main trading partners. Bilateral trade in intermediate goods and services was estimated according to the industry of origin and the using industry for the period1995-2005. Trade in intermediate inputs takes place mostly among developed countries and represents respectively 56% and 73% of overall trade flows in goods and services. The study was used Gravity regressions for comparison to trade in final goods and services. Imports of intermediates were more sensitive to trade costs and were less attracted by bilateral market size.

Lennon (2009)\textsuperscript{53} used disaggregate data on trade in services and explored two things First, what extent trade in services differs from trade in goods and second the existence of complementarity between bilateral trade in goods and bilateral trade in services. The effects of variables related to physical geography (distance, contiguity and landlocked status) were significantly lower when explaining trade in Other Commercial Services. In contrast for language variables, which can be considered as cultural and or informational proxies, the impact was significantly higher for the services trade case. Results were consistent with the hypotheses that Trust and contract enforcement, Networks, Countries level of education, Labour markets regulation and Technology of


\textsuperscript{53} Lennon, Carolina(2009),“Trade in Services and Trade in Goods: Differences and Complementarities”, Working paper No 53 ,Pantheon-Sorbonne, (CES) and Paris-Jourdan Sciences Economiques ,April, pp. 1-19
communication were more important when explaining trade in Other Commercial Services than when explaining trade in goods. Finally showed that trade in goods and other commercial services reinforces each other. Bilateral trade in goods explains bilateral trade in services the resulting estimated elasticity was close to 1. Reciprocally bilateral trade in services affects positively bilateral trade in goods 10% increase in trade in services raises traded goods by 4.58%.

Deepali and Sudarson (2009) attempted to understand whether trade in goods cause trade in service or vice versa. The study is based on country level data collected over a 21 year period. Granger causality test is employed to determine the nature of causality between trade in goods and service for countries in different income groups. Out of 20 countries selected for causality test, in 13 countries trade in goods is causing trade in service. The result also revealed that differences in income do not play a role in determining the direction of casual relationship. It has certain conclusions such that liberalization of trade in goods at GATT or WTO level has been an important factor for the growth of trade in service in recent years.

Breinlich and Criscuolo (2010) provided a novel set of firms engaging in international trade in services. Used unique data on firm level exports and imports from the world’s second largest services Exporter, the United Kingdom (UK). The study showed that only a fraction of UK firms engage in international trade in services and that trade participation varies widely across industries and that services traders were different from non traders in terms of size, productivity and other firm characteristics. It provided detailed evidence on the trading patterns of services exporters and importers such as the number of markets served, the value of exports and imports per market and the share of individual markets in overall sales. Interpret these facts in the light of existing theories of international trade in services and goods. Results demonstrated that firm level heterogeneity was a key feature of services trade. It found that many similarities between

---


services and goods trade at the firm level and conclude that existing heterogeneous firm models for goods trade good starting point for explaining trade in services.

**Ariu (2011)**\(^{56}\) analyzed how import and export of Belgium vary across firms and across countries. Tried to understand similarities and differences across these two forms of trade as well as how a liberalization process would affect both. Firms differ in terms of values traded mainly because of a difference in the extensive margins. Big firms exporting or importing make many more transactions sell or buy many more products or services, were present in many more foreign markets than small traders. The main difference between firms trading services and goods was in the role of the intensive margin while big exporters and importers of goods tend to make smaller transactions per market product than small traders. Big importers and exporters of services tend to make bigger transactions per market service than small traders. The cross firm analysis suggested that firm level flows inside the EU were more homogeneous in terms of extensive margin with respect to firm level flows outside the EU but they were more heterogeneous in terms of intensive margin. Finally study found that introducing the transaction dimension was crucial aspect for understanding deeply the features of both trade in services and trade in goods.

**Fan (2011)**\(^{57}\) examined the impact of the global financial crisis on the People’s Republic of China’s (PRC’s) services trade and discussed policy responses by the government. The main findings of the study as follows: Global economic and financial crisis produced a synchronized recession leading to a contraction in the PRC’s services trade. The crisis has had a moderate effect on the PRC’s trade in services because of the lower internationalization of services. The PRC’s trade surplus in goods decreased and its trade deficit in services increased after the crisis. Structural reforms were urgently needed to help support the recovery of output and trade. A possible solution to rebalancing the trade balance (trade surplus in goods and trade deficit in services) would be to expand

---


trade in services. The degree of openness for services was lower than for goods in the PRC. Further liberalization in services trade was the appropriate policy choice for the government. Continued policy and regulatory reform in favour of services trade vital to supporting economic recovery. It suggested that decreasing trade and investment barriers would help expand services trade and investment and increase PRC involvement in the globalization of services.

Dasz and Saha (2011)\textsuperscript{58} analysed link between trade in services and growth of the services sector. The central question of the study was how openness in trade in commodities and services may affect the growth of an economy especially services sector. The study explored a particular channel through which trade may affect economic growth. Analysis showed that compared to manufactures, services were a luxury good, less essential such that the income elasticity of demand for services was greater than unity. It was shown that the impact of free trade in commodities and services on growth depends on the pattern of comparative advantage in producing manufactures and services.

Cebula et al. (2011)\textsuperscript{59} conducted empirical study on US Trade and Access to Trade Facilitating Services in Partner Countries. It analysed impact of trade in services on manufactured goods trade. If services were used more intensively in the traded sector, then effect of service imports should definitely be positive. If the traded sector used imported services less intensively as compared to the non traded sector, then the effect of service imports is ambiguous. It could even be negative if the imported services intensity of the non- traded sector is considerably higher as compared to the traded sector. This also contributed debates over whether service trade and goods trade were substitutes or complements. Service trade can be either a compliment or a substitute to goods trade, depending upon whether imported services were used more intensively in the trade good sector or in the non-traded sector. More specifically using U.S. data, the empirical results indicated that service imports in general were more important for developing nations as


compared to industrialized nations in terms of providing essential inputs required for either production or for the trading process itself. Business services promote exports to the U.S financial services seem to have a negative effect on such exports. This could be because they were used more intensively in the non-traded sector in developing countries.

Yane (2013)\textsuperscript{60} assessed how the same factors, such as economic size and trade costs can significantly affect intermediate final goods and services trade flows differently. With the technological development in ICT and transportation, trade in intermediates and trade in services have been increasing their prominence in international trade. Trade in intermediate inputs was more sensitive to trade costs compared to trade in final products. Compared to trade in goods, trade in services is much more resilient to the financial crisis. This may be explained by the findings that trade costs and market size has a much smaller impact on services trade. Services production and trade were affected less by external trade costs and market size. The results were the same even when compared to agricultural and manufacturing sectors, especially more so for intermediate services trade. One important characteristic of services trade to note was that sharing the official language was a big factor for two countries to engage in trade.

Hamanaka (2013)\textsuperscript{61} examined the level of services trade integration in Asia in comparison with Europe and North America. The main empirical findings of the study were (i) the regional bias of services trade in Asia was high or higher than in Europe and North America; (ii) in Asia, the regional bias of services trade is higher than that of goods trade, which was in sharp contrast to Europe and North America, where the regional bias of goods trade is higher than that of services trade; and (iii) while Asia’s regional bias of goods trade shows a declining trend, that of services trade remains high, although in the future its decline was expected. Asia’s relatively high-level of regional bias of services trade can be explained by the following factors: (i) a relatively high prevalence of a shared language (Chinese), which was essential to services trade but not to goods trade and (ii) the

\textsuperscript{60} Yane, Haruka (2013), “Prospects for Trade in Intermediates and Trade in Services: What Does the Gravity Model of Bilateral Trade Tell Us?, Osaka School of International Public Policy Discussion paper, Osaka University, February 22, pp. 9-31

archipelagic nature of the region, which inhibits goods trade more than services trade. In order to deepen Asia’s services trade integration suggested one policy was that effective regional services agreements were critical to enhancing the level of integration.

François et al. (2013)\(^6\) examined the value added linkages between services and goods. It used panel approach and offers the opportunity to extend impact of service sector openness and cost structures on shifts in the pattern of production and trade. Services trade constitute one third of trade on a value added basis and much of this was concentrated in margin services (transport, logistics) linked to trade in goods. Producer services were part of the value added contained in traded goods. This was especially true in high income countries, where services account for roughly 70 percent of value added.

SECTION- C

BRICS COUNTRIES TRADE IN GOODS TRADE IN SERVICES

Havlik et al. (2009)\(^6\) assessed relationship between BRIC’s and the Triad’s (mainly the EU) in trade in goods and services. It elaborated on their global trade positions in geographical and sectoral trade composition. Findings showed a shrinking Triad global market share as well as their share in the BRIC’s market. It has been proven that the EU still plays a substantial role in the BRIC’s trade especially by being Russia’s main export partner and China’s import partner. From an industrial competitiveness point of view, only China can represent a possible threat for the EU’s producers. In terms of GDP shares, trade in services represents a minor but an increasing role in BRICS economies. Their services exports showed faster growth rates in comparison to the Triad’s exports.

Groot et al. (2011)\(^6\) used international transaction data of firms between 2002 and 2008 and found that the number of firms exporting to and importing from the BRIC


\(^6\) Havlik, Peter, Olga Pindyuk and Roman Stollinger (2009), “Trade in Goods and Services between the EU and the BRIC”, Vienna institute for international Economic studies, research Reports 357, November, pp 22-59.

countries was rapidly increasing. Especially China and India stand out in this respect. This was different from trading partners with more stable markets like the US. Most firms trading with the BRIC countries do not survive in these markets. This also occurred with trade between other countries of origin and destination, but entry rates in the BRIC countries were higher more firms survive in these markets in the end.

**Yuan and Zhao (2011)**\(^{65}\) focused on trade in goods of BRICS countries with special implications on China. The analysis shows quite high trade dependencies for China and rest of BRICS countries. Based on the findings, most exports from China, South Africa and Russia were concentrated on developed countries, while exports from India and Brazil were focused on developing markets. Regarding imports, apart from Russia, BRICS mostly import from developing markets.

**Cakir and Kabundi (2011)**\(^{66}\) conducted analysis on BRICS’s trade with a focus on South Africa. It applied the global VAR model to examine the trade interactions and shock transmissions between South Africa and BRIC countries. The analysis showed export shocks from single BRIC countries having a positive effect on South African imports and output (China and India result in short term impacts, while Brazil and Russia have long-term effects). Simultaneously import shocks from Brazil and India also have a positive impact on South Africa. Overall, a smaller impact was observed for imports. Further conducted the same analyses for BRIC as a single market. From this perspective, the results indicated positive export and import shocks to the South African economy but not to its output. The outcomes of the VAR analysis confirmed that growing importance of trade relations between South Africa and the rest of the BRIC groups.

**Ahearn (2011)**\(^{67}\) indicated that among the BRIC China’s weight in the world economy has increased between 1995 and 2010, but the other three BRICs have also seen their shares grow. In 2009 China’s economic output of $3.3 trillion (based on market

---


exchange rates) was one-fourth the size of U.S. GDP ($13.2 trillion). But according to a projection by Carnegie Endowment researchers, China’s GDP may be almost 20% larger than the U.S. GDP by 2050 ($46.3 trillion for China versus $37.6 trillion for the United States). In purchasing power parity terms, China ranks as the second-largest economy in the world and was projected by the Carnegie researchers to be almost twice the size of the U.S. economy by 2050.

Report of **IMF (2011)**\(^{68}\) found that bilateral trade between BRICs and LICs has increased. BRICs have become increasingly important trade partners for LICs accounting for about 20 percent of total LIC exports in 2009, a sharp increase from 12½ percent in 2000 and 7¾ percent in 1995. BRICs as a source of LIC imports and it sharply increased. It used trade complementarity to provide a measure of overlap between the composition of LIC exports and those of partner country imports. Export complementarity was generally higher between LICs and China or India than between LICs and the United States or the European Union. It used a gravity model and it confirmed that importance of LIC-BRIC trade complementarity for overall LIC exports. The gravity model also suggested that LIC imports from China and India were higher and complementarity in trade structures for Russia and Brazil on LIC tradewas less robust.

**Sharma and Kallummal (2012)**\(^{69}\) investigated the higher level of trade relations among BRICS and the free trade agreement (FTA). It tested the impacts of such an agreement made with BRICS and nonBRICS economies using the Global Trade Analysis project Model (GTAP) model simulation. It observed that the removal of the import tariffs scenario would have an overall more or less positive effect on welfare and macroeconomic indicators for all BRICS. The impact on trade at the aggregate level showed positive signs for exports as well as imports for BRICS and negative for non BRICS regions. Further found higher positive change in imports than exports would result in a negative trade balance for all member countries apart from Russia.

---


Silva and Peruffo (2012)\textsuperscript{70} analyzed bilateral trade between Brazil and the other BRICS countries and point out some general trends. The first one was that the large increase in levels of trade between Brazil and other countries in the last decade. The second was that Brazil has a surplus in bilateral engagements except in trade with India. The third was the concentration of total Brazilian exports in a few products, usually of agricultural or mineral origin, that is, with low added value. Results suggested that bilateral trade between Brazil and the other BRICS countries, which cannot be characterized as traditional trade partners.

The trends in bilateral EU–BRIC trade were also studied by Castro (2012)\textsuperscript{71} with an evaluation of various trade indices such as RCA, trade intensity, complementarity, similarity and trade introversion. It discussed the idea of BRICS forming a union under a PTA (Preferential Trade Agreement). According to the findings, improving indices for most of the BRICS advocate the establishment of PTA among the five countries.

Borta (2012)\textsuperscript{72} observed that both imports and exports of the EU with each these five countries were represented by a certain category of products. Thus, the EU’s imports were dominated by primary products (especially, agricultural products, and fuels and mining products) and manufactured products (machinery, transport equipment etc.). From Brazil it were raw materials (especially, oil and gas), from Russia it were industrial and consumer goods, from China it were fuels and mining products, machinery and equipment, and other semi manufactured goods from South Africa. The EU’s exports to BRICS countries were dominated by manufactured products to Brazil, agricultural products, machinery, transport equipment and chemicals to Russia, machinery and equipment, chemicals, aircraft, and motor vehicles to China and chemicals, machinery and equipment, and other semi-machinery to South Africa. The EU-India trade was characterized by primary products, manufactured products etc. it was found that the trade barriers of BRICS Countries which affect also the European Union’s exports.

\textsuperscript{70} Silva, Andre Luiz Reis da and Peruffo, Luiza (2012), “The Impact of the International Crisis on Brazil's Trade with the other BRICS (Russia, India, China and South Africa)”, Austral: Brazilian Journal of Strategy & International Relations, Vol.1, No.2, Jul-Dec , pp.169-200


Gouvea et al. (2013)\textsuperscript{73} made study on BRIC national export performance: a portfolio approach. It revealed that the most diverse export portfolio (represented in China) was closely represented global productivity. It make several conclusions about the impact of BRIC countries on the global political economy: (1) export portfolios can be used as a measure of geo-political influence, (2) BRIC countries export performance approximates the economic behaviour of a global ‘middle class,’ and (3) China’s dominance among the BRIC countries, particularly its diverse profile largely represents the global economy.

Report of IDC (2013)\textsuperscript{74} revealed that combined exports of the BRICS to the world at large reached USD3.2 trillion in 2012, from USD494 billion in 2001. Their overall imports amounted to USD2.8 trillion last 2012 compared to USD417 billion in 2001. China was clearly the largest trading member of the BRICS, with a 62.5% share of the BRICS aggregate trade (exports plus imports) with the world in 2012. The USD309.3 billion surplus generated by the BRICS through their external trade in 2012 was largely due to contributions from China (USD295.6 billion surplus), Russia (USD208.6 billion) and to a much lesser extent, Brazil (USD19.4 billion). India and South Africa, in turn, recorded trade deficits amounting to USD199.4 billion and USD14.9 billion, respectively. The study showed that the composition of the BRICS export basket has also changed significantly over time, with the contribution made by capital goods exports rising from 14% of the total in 2001 to 24% by 2012. Consumption goods, in turn showed their share of overall BRICS exports decline from 34% to 28% during the same period.

Saran et al. (2013)\textsuperscript{75} stated that trade in goods and services provide multiple sectoral opportunities for cooperation among the BRICS countries, which can be mutually beneficial. Brazil was a major producer of bio-fuels and may eventually be a major energy provider to the Chinese and Indian economies, which have significant energy demands. Brazil dominates the export of agrochemical products, which feature


prominently in the import baskets of Russia, India and China. Russia’s vast natural gas and oil reserves can help sustain the energy demands of the other BRICS economies. India's robust service sector growth gives it a competitive advantage. China's export of manufactured goods, machinery and textile products feeds the global consumer markets. South Africa holds vast mineral deposits essential for industrial development in other countries, and its growing service sector makes it an increasingly investment friendly destination.

Report of **UN ECA (2013)**\(^{76}\) stated that the successful experience of the BRICS and other emerging economies (Chile, Hong Kong, China, Malaysia, Singapore, the Republic of Korea, Taiwan, China, and Thailand) over the past half century has amply demonstrated that trade can be an important stimulus to growth. Africa’s trade response has been strong and trade with the BRICS has grown faster than with any other region in the world. Most such trade was in primary commodities with few linkages to the rest of the economy and with most export earnings going to foreigners and Africa’s development and employment receive few gains.

**Castro (2013)**\(^{77}\) showed that importance of BRICS emerging markets was reflected in their increasing shares of the world’s exports. Statistics showed that that BRICS’s export shares towards BRICS and to other world markets were rising. BRICS mutual exports have recorded some improvements, which could imply closer trade cooperation between BRICS. Results indicate that BRICS exports to non Triad markets consist of less significant product groups in terms of value. The export trends of single BRICS trade partners differ (sometimes are even contradictory). South Africa recorded positive export intensities with Asian economies, while Russia showed above average intensities with the EU and opposite for China and the EU. The export intensity assessment provided evidence that BRICS’s current behaviour seems to be rather independent and it was a result of several bilateral relations rather than a development of export intensities among BRICS as a group. These findings thus do not provide firm confirmation of the assumption of closer trade integration among all BRICS markets within the past decade.


Onyekwena et al. (2014)\textsuperscript{78} has examined trade relations between South Africa (SA) and the rest of BRICS. It showed that SA trade became more dynamic at the turn of the millennium and intensified after SA’s admission to the BRIC grouping. SA exports to the other BRICS countries has increasingly important role and they have surpassed exports to the EU. Trade with India was the most intense in respect of both imports and exports, with China rapidly catching up in both categories. This pattern was simulated by the trade complementarity indices as India’s import demands coincide most closely with SA exports.

Chatterjee et al. (2014)\textsuperscript{79} used a series of analytical tools, illustrated the trends in trade and competitiveness between the BRICS countries as well as its implications for India. It has revealed that there were many product categories in which India was competing with other BRICS countries and also some products India was enjoying comparative advantages. The study looked at Degrees of Similarity in Export Structures (Finger-Kreinin Index) and Relative Export Competitive Pressure Index of different pairs of BRICS countries. It found that BRICS group of countries, India was poised to become a major trade open country in the world. Therefore given the fact that by the end of the next decade the BRICS group was expected to account for almost 50 per cent of world’s GDP growth and the centre of gravity of the global economy was expected to be located somewhere between India and China.

Dani (2015)\textsuperscript{80} studied degree of concentration of export products and market evolved during the period 200-2008 under consideration of BRIC. It was used index of concentration and index of geographic concentration respectively. The assessment of export performance of these countries carried out for major product group with major partner countries. Study found that varying result for each of the countries in the BRIC group, in terms of degree of commodity and market concentration or diversification exports.

