CHAPTER II

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2.1 Introduction

International trade is a trade between different countries. International trade like interregional trade is the result of division of labour. In both the types of trade, people specialize in producing goods in which they have a greater comparative advantage, however amidst these similarities there also exist differences between the two. These differences arise due to differences in mobility of factors of production, natural endowments, stock of capital, political sovereignty, currency system, separate markets etc.

The fundamental basis of international trade lies in the fact that countries are endowed by nature with different elements of productive power. Thus, international trade is inevitable when there are marked differences in the countries regarding materials, natural vegetation, climate and other physical and geographical conditions.

2.2 Brief Review of Theories of International Trade

2.2.1 Mercantilist view on international Trade

The economic philosophy that prevailed during the 17th and 18th centuries was that of mercantilism. The main feature of their doctrine was that a country could grow rich and prosperous by acquiring more and still more precious metals especially gold and
therefore all the efforts of the state should be directed to such economic activities that
help a country to acquire more and more precious metals. Thus, they strongly advocated
more exports with no or little imports.

2.2.2. Absolute Cost Advantage Theory
The theory of absolute advantage as advocated by Adam Smith, argued that a country
could certainly gain by trading with other nations. According to him, if one country has
absolute advantage over another in one line of production and the other country has an
absolute advantage over the first country in another line of production, then both
countries would gain by trading. He strongly supported free trade.

2.2.3 Comparative Cost Advantage Theory
The theory of comparative cost given by David Ricardo agreed with the analysis of Smith
that international trade would be of mutual advantage if the two countries are enjoying
absolute advantage in two different line of production, but he further argued that any two
countries can very well gain by trading even if one of countries is having an absolute
advantage in both the goods over another, provided the extent of absolute advantage is
different in the two commodities in question, that is comparative advantage is greater in
respect of one good than in that of the other.

2.2.4 Resource Endowment Theory
Hecksher – Ohlin theorem of international trade explains the reasons of comparative cost
differences between the two nations with respect to two commodities. They stated that
trade results on account of the different relative price of different goods in different countries. The relative price difference is the result of relative costs and factor price difference in different countries. Differences in factor prices are due to differences in factor endowments in different countries. Thus, trade occurs because different countries have different factor endowments. Their theorem states that countries, which are rich in labour, will export labour intensive goods and countries, which have plenty of capital, will export capital-intensive product (Dewett K.K., 2000).

2.3 Importance of International Trade

International trade helps the trading countries in more than one way. International specialization and geographical division of labour leads to the optimum allocation of world’s resources, making it possible to make most efficient use of them. Similarly each trading country gains when the total output increases as a result of division of labour and specialisation. These gains are in the form of more aggregate production, large number of varieties and greater diversity of qualities of goods that become available for consumption in each country as a result of international trade.

It helps in increasing the exchangeable value of possessions, means of enjoyment and wealth of each trading country and also in enlargement of world’s aggregate output. It fosters the economic welfare of each trading nation and thus increases world’s prosperity. International trade relations also help in harmonizing international political relations. It
helps the country in solving the problem of scarcity of raw materials or any other products through imports (Dewett K.K., 2000).

2.4 Export led growth hypothesis

This hypothesis suggests a causal relation between export and economic growth. It is known in the literature that economic growth can be achieved independently from the economy’s foreign trade. An outward shift of the production possibilities can manifest the economic (output) growth and this may lead to a change in the volume of exports. This process suggests that causality may run from output growth to export growth. On the other hand, there are theories proposing that higher exports may finance greater inflows of intermediate and capital goods, which may lead to economic growth. Export led growth strategy considers export as additional or alternative source of demand, which would initiate/accelerate domestic growth and/or counteract stagnation or recessionary tendencies in the home country. Hence the strategy involves export expansion. The export led growth strategy is based on the assumption of the vast international market with unlimited opportunities in terms of demands, technological advancement and efficient allocation of resources. The size of the market for growth of exports is much larger than the domestic market of the less developed countries. This strategy creates condition for efficient use of resources. This is possible because there is a large expansion of profitable activities as producers will opt for the activities which promise rapid growth and large profits and this urge for choosing profitable activities in developing countries are likely to favour labour intensive industries. This is because
labour intensive goods and services have higher demand in developed countries as these goods and services are expensive in those economies due to labour scarcity. Thus, the allocation of resources takes place as per the factor endowment of the domestic economy. Thus, export led growth strategy tends to bring a faster economic growth in the countries adopting this strategy. However, it should be kept in mind that outward orientation requires supportive macroeconomic policies.

2.5 International Trade and Economic Growth

Economic growth as a rise in output measured in quantitative terms. In another words it means increases in output of goods and services of an economy over some period of time. As a result of higher income domestically the country’s capacity to import and export changes, thus international trade is bound to increase. There always seem to be positive relationship between trade and economic growth of a country.

Metwally and Tamaschke (1980) studied the interrelationship between oil exports and income of three oil-exporting Middle-Eastern countries, namely, Iran, Iraq and Saudi Arabia. This interrelationship was examined using a simultaneous equation model consisting of three equations. These equations tested the relationship between income and exports, exports and imports and finally between import and income. The authors found no feedback effects in all three cases.
Salvatore (1983) applied a simultaneous equation model to test the dynamic relationship between international trade and growth for fifty-two developing countries during the period 1961-78. His model consisted of four endogenous variables and five exogenous variables. The model was estimated by the method of full information maximum likelihood. Salvatore found that the relationship between trade and growth was clearly positive.

Metwally (1988) studied the impact of growth in trade between Saudi Arabia and Japan during 1963-83 using a simultaneous equation model. The model used four endogenous variables namely Saudi's GDP, Saudi's exports to Japan, Japan's GDP and Saudi's imports from Japan and seven exogenous variables which included Saudi's non oil production, lagged Saudi's GDP, share of OPEC in world supply of oil, lagged Saudi's exports to Japan, Japan's export to countries other than Saudi Arabia, lagged Japan's GDP and lagged Saudi's imports from Japan. The result of the study suggested the existence of feedback effects.

Tamaschke (1990) tested the relationship between exports and income of Queensland and Alberta during 1961-83. The simultaneous equation model used in the study consisted of five endogenous variables including an export price index and an index of import prices relative to domestic prices. The results suggest a strong relationship between exports and income. It was also found that growth in services is very sensitive to growth in exports. There was no evidence of feedback effects in both cases.
Salehi Esfahani (1991) tested the interdependence of exports, GDP and imports for 31 semi-industrialised countries excluding the major oil exporters during the periods: 1960-73, 1973-81 and 1980-86. He constructed a simultaneous equation model consisting of three endogenous variables and nine exogenous variables. It was found that most semi-industrialised countries have, on an average, suffered from import shortage and their exports have mainly provided foreign exchange for relieving these input constraints.

Sprout and Weaver (1993) also performed a study to test the export and growth relationship by using a simultaneous equation, which contain three endogenous variables and eight exogenous variables. Their study covered 72 Least Developing Countries over a fifteen-year period (1970-84), and the model was estimated using the two-stage least square technique. The authors grouped the countries by the level of their income, geographic region, export composition and size. They found that the effect of export growth varies widely among different Least Developing Countries; and that Least Developing Countries with the more processed exports benefit the most from trade. They also found that the structure of the export sector plays an important role in the growth of the economy; the larger the export sector the greater the growth. The authors concluded that primary exporters who fail to diversify, experience less economic growth from export expansion than those exporters who have diversified exports.

Metwally (1993) studied the interdependence of trade and economic development in ten Asian countries for the period 1974-88. His simultaneous equations model contained four endogenous variables (the $i^{th}$ Asian country's GDP, exports to the $j^{th}$ Asian country, etc.).
imports from the \( j \)th Asian country and the \( j \)th Asian country GDP) and four exogenous variables (The \( i \)th Asian country's exports to the rest of the world, the \( j \)th Asian country's exports to the rest of the world, and lagged exports and GDP). The regression results suggest that, there is a degree of interdependence between trade and economic development in each of the considered economies.

Asseery and Perdikis (1994) analysed the trade relationship between Cyprus, United Kingdom, the rest of the European Economic Community and the Middle Eastern countries between 1965 and 1987 using a simultaneous equation model. Their model consisted of four endogenous variables and five exogenous variables. They found that Cyprus exports to United Kingdom, other EU and the Middle Eastern countries are important determinants of its income and that these exports are significantly influenced by its trading partner's income.

Cuadros, Orts and Alguacil (2001) tried to analyse both the Export Led Growth hypothesis and the FDI growth nexus in Mexico, Brazil and Argentina, which are the main recipient countries of FDI in Latin America. The study is conducted for a period between middle seventies and 1997. Their findings do not support the export-led growth hypothesis for these three countries. On the contrary, in some of the studied cases, the study found evidence for a negative causal relationship between domestic income and exports. Their results provided evidence about a positive impact of FDI on national income. Specifically, in the Mexican case FDI appeared to be an important factor in promoting growth. This outcome agreed with the conclusions of quite a few
disaggregated studies on the Mexican economy, which has found significant positive spillovers from FDI. The existence of an environment characterised by an open trade regime and macroeconomic stability could help to explain the benefits associated to inward investment in this country.

Finally, study tried to know the impact of FDI on the volume of trade. Their results suggested that FDI does played a significant influence on export expansion in two of the three analysed countries. This confirmed that most of multinational firms investment in these countries is an export-oriented investment, as they seemed to have benefited from an FDI-led export growth. In so doing, FDI has served to integrate national markets into the world economy far more effectively than could have been achieved by traditional trade flows alone.

Irwin and Tervio (2002) conclude that the countries that trade more as a proportion of their GDP have higher incomes even after controlling for the endogeniety of trade. Overall, it appears that trade contributes to improvement in real income and per capita growth, however, if trade is not combined with adequate policies to balance imports against exports, it could generate the balance of trade and balance of payments deficits leading to deterioration in the growth of real incomes.

A Study by Doganlar M. (2004) on Export-led growth hypothesis in Asian countries tried to investigate the causal relation between export and output growth for eight Asian countries for the period before 1997 Asian crises. The countries are India, Pakistan,
Philippines, Singapore, Srilanka, Thailand and Turkey. The empirical methodology involves investigating a co-integrating relationship between exports and output growth and specifying an error correction mechanism to detect a causal relation between export and output growth is bi-directional for Turkey, South Korea, Singapore, Philippines and India. This means that export and economic growth mutually reinforce each other in these countries. The study means that expansion of exports was an integral part of economic growth in these five countries in the pre-crisis period. However, the causality runs from output to export growth for Pakistan and Srilanka, which, meant that exports in these countries are output driven. For Thailand causality runs from export to output growth, this is the only finding of the study supporting evidence for exports-led growth hypothesis.

Rahman (2003) in his study makes an attempt to provide a theoretical justification for using the gravity model in the analysis of bilateral trade and apply the generalized gravity model to analyse the Bangladesh’s trade with its major trading partners using the panel data estimation technique. The study estimated the gravity model of trade (sum of exports and imports), the gravity model of export and the gravity model of import. The results showed that Bangladesh’s trade is positively determined by the size of the economies, per capita GNP differential of the countries involved and openness of the trading countries. The major determinants of Bangladesh’s exports were the exchange rate, partner countries’ total import demand and openness of the Bangladesh economy. All three factors affected the Bangladesh’s exports positively. The exchange rate, on the other hand, had no effect on the Bangladesh’s import; rather imports were determined by the inflation rates, per capita income differentials and openness of the countries involved in
trade. Transportation cost was found to be a significant factor in influencing Bangladesh's trade negatively. Also Bangladesh's imports were found to be influenced to a great extent by the common border between India and Bangladesh. The country specific effects showed that Bangladesh would do better by trading more with its neighbouring countries.

Chowdhury and Mavrotas (2005) in their study tried to examine the causal relationship between FDI and economic growth. They used time-series data covering the period 1969-2000 for three developing countries, namely Chile, Malaysia and Thailand, all of them major recipients of FDI with a different history of macroeconomic episodes, policy regimes and growth patterns. Their empirical findings clearly suggested that it is GDP that causes FDI in the case of Chile and not vice versa, while for both Malaysia and Thailand, there is a strong evidence of a bi-directional causality between the two variables.

Sharma and Panagiotidis (2004) tried to investigate the following hypothesis: (i) whether exports, imports and GDP are cointegrated using the Johansen approach, (ii) whether exports and GDP are cointegrated using the Breitung test (iii) whether export growth Granger causes GDP growth, (iv) and whether export growth Granger causes investment. For the first two cases, strong evidence is found against the cointegration hypothesis. Result from the Johansen approach did not negate the results obtained from using the Breitung method. In their analysis they failed to find support for the hypothesis that export Granger cause GDP, using two measures for GDP (GDP with exports and GDP
without exports). The same holds for the relationship between exports and investment. Finally, they have utilized the concept of Impulse Response Function inorder to investigate how the system responds to a macroeconomic shock. This approach allowed them to simulate the effect of a given (predetermined) shock on the economic system. The study concluded that relatively ‘big’ shocks in real exports do not generate significant responses. This strengthens the argument against the Export Led Growth hypothesis for the case of India and strengthens the argument that inspite of reforms, it still retains some characteristics of an import substituting economy. Thus nonparametric integration test that they carried out and the use of Impulse Response Function significantly strengthens their results as opposed to a simple application of the Johansen technique for empirical analysis. Since aggregate export data for India includes sectors such as software exports, the euphoria about perceived successes in the ICT(Information and Communication Technology) sector for India seem somewhat premature, given that at an aggregated level there is little evidence to support the export led growth hypothesis, which brings into doubt the implicitly assumed productivity differentials and resulting positive spillovers into the rest of the economy.

This section reviewed the studies on international trade and economic growth. Various studies have been undertaken on different economies to study the relationship between international trade and growth using mainly the simultaneous equations model, Granger causality test and Johansen cointegration techniques.
The major determinants of trade across the different studies have been found to be income of a particular country, income of the major trade partners, foreign direct investment, openness of trading countries and exchange rate. The studies in general supported the export-led growth hypothesis. However, there are some studies, in which the Export led growth hypothesis, have not found empirical support.

2.6 Liberalisation in International Trade and Economic growth

International trade cannot be fully beneficial unless it is liberalized. The goods and services need to move freely between the two or more trading partners if the volume of trade and the benefit derived from it have to be maximized. Reduction of trade barriers which exist in terms of tariffs, Quotas, exchange controls, visa restrictions etc. only tends to reduce the volume and value of trade, thus reducing the economic welfare of the nation. A complete free trade may not be possible or purely advantageous for developing economies but still liberalizing the trade especially in the sectors of their comparative advantage can definitely benefit them.

Dollar and Kray (2004) have found that the countries who have liberalized have shown acceleration in their real income and in the 1990s, globalising developing countries grew at 5% per capita, rich countries at 2.2% and non-globalising developing countries at only 1.4%. Their view is that the countries, which have gone on globalisation path, are catching up with rich countries while non-globalisers are lagging behind.
Parikh and Stirbu (2004) conducted a study on the relationship between trade liberalisation, economic growth and trade balance over three decades and about 42 developing economies dispersed over three geographical regions of Asia, Africa and Latin America. The findings of the study showed liberalisation contributed significantly to economic growth, openness and investment rates over the period 1970-1999. Liberalization was found to worsen trade deficits while it seemed to improve current account deficits for the said period.

Their country level study did not permit them to reach unambiguous conclusions. For five countries, liberalisation had a positive and significant effect while for twelve countries, trade balance tends to worsen with liberalisation. Liberalisation indeed had a positive effect on growth in many economies. They examined the relationship of trade balance to GDP and current account to GDP percentage while including control variables namely terms of trade, liberalisation, advanced countries' growth rates and interactions of each of the variables with liberalisation. They found that trade balance obviously deteriorated with liberalisation and economic growth and hence countries had difficulty in reaching potential or planned growth in the subsequent periods after liberalisation. Deterioration in trade balance had impact on economic growth in subsequent periods. Current account balances, however, did not deteriorate with the impact of liberalisation and economic growth for many economies. The limitations of the model are that it is static and does not include lags in economic behaviour.
This study by Winters (2004) surveys the recent literature on trade liberalisation and economic growth. While there are serious methodological challenges and disagreements about the strength of the evidence, the most plausible conclusion is that liberalisation generally induces a temporary (but possibly long-lived) increase in growth. A major component of this is an increase in productivity. It also stresses the importance of other factors in achieving growth, such as other policies, investment and institutions, but argues that many of these respond positively to trade liberalisation. It also considers the implementation of liberalisation and notes the benefits of simple and transparent trade regimes. This paper has documented the strong presumption that trade liberalisation contributes positively to economic performance.

The study by Santos-Paulino and Thirlwall (2004) used panel data and times series/cross section analysis to estimate the effect of trade liberalisation on export growth, import growth, the balance of trade and the balance of payments for a sample of 22 developing countries that have adopted trade liberalisation policies since the mid-1970s. The study found that liberalisation stimulated export growth but raised import growth by more, leading to a worsening of the balance of trade and payments. The impact of liberalisation differed according to whether countries start highly protected or whether they already had relatively low levels of protection. The positive effect of liberalisation on import growth and the negative effect on the trade balance and balance of payments were all greater in the more highly protected countries. It appeared that liberalisation has had a net positive effect on income growth but the balance of trade consequences may reduce growth below what might otherwise have been, had a balance between exports and imports been
maintained. The study concludes by suggesting that countries need to take great care in the sequencing of the liberalisation of exports and imports to achieve a better balance between export and import performance if countries are to realise their potential growth performance. The study also concludes that free trade and flexible exchange rates are no guarantee that unemployed domestic resources would be easily converted into scarce foreign exchange.

Parikh (2004) made an attempt to study the impact of liberalisation on trade deficits and current accounts of developing countries. It was expected that trade liberalisation would promote economic growth from the supply side by leading to a more efficient use of resources, by encouraging competition, and by increasing the flow of ideas and knowledge across national boundaries. Trade liberalisation could lead to faster import growth than export growth and hence the supply side benefits may be offset by the unsustainable balance of payments position. This study used panel data of 42 countries (both time-series and cross-section dimension) to estimate the effect of trade liberalisation and growth on trade balance while controlling for other factors such as income terms of trade. The major finding of the study is that trade liberalisation promotes growth in most cases, the growth itself had a negative impact on trade balance and this in turn could have negative impacts on growth through deterioration in trade balance and adverse terms of trade. The study concludes that trade liberalisation could constrain growth through adverse impact on balance of payments.
The objectives of the study by Parikh (2004) were to examine the impact of liberalization on trade deficits and current accounts for developing economies. Attempts to liberalize trade could lead to increases in imports in the short run both directly and indirectly, through the promotion of growth; and so cause both trade and current account deficits in countries that adopt rapid liberalization. The study examines the data of 64 developing economies over the period 1970–99 and conducts a panel data study on the relationship between trade balance (as percentage of GDP) and the growth rates while controlling for other factors. Similar analysis is conducted using the current account to GDP percentages in the panel data framework. Liberalization on its own increases trade deficits and liberalisation combined with income terms of trade also increases trade deficits. The impact of improvements in the terms of trade and the higher growth in developed countries seems to play a greater role in improving trade balances than the corresponding deterioration induced by higher growth in developing economies.

Francois, Meiji and Tongeren (2005) examined the impact of multilateral liberalization, developing possible trade liberalization under the Doha Round, starting from a realistic ‘baseline’ including Chinese WTO Accession and the 2004 EU enlargement. This allowed understanding the effects specifically attributable to trade liberalization under the Doha Round and the potential impact of the Doha Round itself. The study employed a globally applied general equilibrium model, featuring imperfect competition and variety effects. Scenarios included agriculture, manufactures, and services liberalization, as well as trade facilitation. The study concluded that active developing country participation in terms of market access concessions is critical to their prospects. If developing countries
continue for the most part, with business as usual after the round, in terms of trade policy, there is little scope for actual benefits accruing to developing countries. South-South trade liberalization is key to the ‘development’ part of the Doha Development Agenda.

Tanna and Topaiboul (2005) tried to investigate the causal links between human capital, openness through trade and FDI, and economic growth using quarterly data for Thailand over the period 1973:2- 2000:4. A number of hypotheses have been investigated including, in particular, FDI-led growth and export-led growth, as well as the reverse linkages from growth to FDI and exports. The importance of human capital is highlighted as complementary to trade and FDI inflows, underlying the importance of technology adoption. The study found that, after controlling for domestic investment, government expenditure and imports, support for FDI-led growth was not as strong as export-led growth, although allowing for the joint interaction of FDI and human capital revealed a positive FDI effect above a minimum threshold of human capital, estimated to be around 4.5 years of average secondary schooling attainment. The study using multivariate causality tests conducted within a vector error correction framework, found a significant effects of domestic investment and trade openness, providing support for import-led growth, but direct support for FDI-led growth as well as growth-led FDI was again relatively weak, reinforcing the conclusion that trade openness had played a more significant role than FDI in influencing Thai economic growth. But the results revealed a subtle role for technology transfer through the complementary effect of trade on FDI, and FDI on government expenditure, which thereby influences human capital development with spillovers onto domestic investment and growth. This lead the authors to argue that
there was a potential role for FDI interacting with human capital in influencing the future
development of the Thai economy, given its recently active policy of FDI promotion.

Aizenman and Noy (2005) investigated the intertemporal linkages between foreign direct
investment and disaggregated measures of international trade. They outlined a model
exemplifying these linkages, described methods for investigating two-way feedbacks
between various categories of trade, and applied them to a data set of 81 countries for the
period of 1982 to 1998. The study found that the strongest feedback between the sub-
accounts was between FDI and manufacturing trade. The empirical results presented in
this study are consistent with the notion that the feedback effects between trade and FDI
are stronger in developing than in industrialized countries. This result is in line with the
conjecture that the bulk of the FDI to developing countries has been vertical. This result
also provided a partial motivation for the deep trade and financial liberalizations
undertaken by developing countries in recent years. Their analysis also suggested that in
an era of rapidly growing trade integration countries couldn't choose their capital account
policies independently of their degree of openness to trade.

The studies in the above section have used time series and cross section data. The
analysis are mostly based on panel data fixed and random effect modeling, the dynamic
relation between the variables have been analysed with the help of panel data dynamic
models using GMM techniques, multivariate causality tests has been conducted within a
vector error correction framework.
Panel data modeling has been used to estimate effect of trade liberalization, on export and import growth, balance of trade and balance of payment of developing countries. The different studies show that liberalization has helped economies in accelerating their real income. It helped in bringing out faster economic growth. Regulated trade in service industries tends to create additional costs and barriers to international trade. Studies have also suggested developing countries to take care in sequencing of liberalization as free trade and flexible exchange rate do not guarantee increase in foreign exchange reserves, something which developing countries look forward to in international market. This is because trade liberalization can constrain growth through adverse impact on balance of payment.

2.7 Service sector specific studies

Service sector has been contributing significantly to GDP of most of the economies especially of developing economies. Knowledge based and human resource oriented services have helped the developing countries to increase their share in world trade. In the past, services had been considered non-tradeable and so never received much attention even as far as research is concerned.

The work of Goldsmith (1969), stressed the role of financial services in channeling investment funds to their most productive uses, thereby promoting growth of output and incomes. Goldsmith uses the ratio of the value of financial intermediary assets to GNP to determine financial performance and enters it in a regression with economic growth as
the dependent variable. He finds a "rough parallelism" between economic growth and development. However, his approach suffers from endogeneity problems and from not including other growth controls in his regressions.

A study conducted by Fieleke N.S. (1995) on US bilateral trade with its 17 major trade partners was based on simple regression log-log equation model. As expected the study showed that trade in services clearly rises with rise in trade in merchandise. There was no enough evidence to accept the second hypothesis that trade in services is positively influenced by use of common language (English) between the trading nations.

Brown, Deardorff and Stern, (1996) examined the importance of various characteristics of services for the modelling of the effects of trade liberalization in services. The analysis took two forms. First, they used computable general equilibrium (CGE) modelling framework to compute the effects of a hypothetical liberalization of trade barriers in service industries, as this would affect trade, output, and employment in an eight country model of the world economy. The analysis was repeated four times, incorporating varying assumptions about the roles of product variety, increasing returns to scale, and the nature of competition in the services industries. Comparing across these model solutions, they found that these particular industry characteristics make very little difference for the calculations of the effects of liberalization on services.

The authors also tried to know the roles that other service industry characteristic may play in determining the effects of liberalization. Many distinctive features of services
production and trade have been suggested over the year as setting services apart from goods. These include the movement of factors internationally to permit onsite production of services, the perishability of services, the distinctive nature and size of transport costs in services, the role of traditional comparative advantage in determining patterns of services trade, and the embodiment and disembodiment of services into and out of goods. For all of these features, their analysis suggested that they either are not of special importance for the issue at hand, the effects of trade liberalization, or in some cases, that they are important but are not distinctive to markets for services. They conclude, then, that in almost all respects, the widely discussed differences between services and goods, though of course very interesting and important in their own right, are not of critical importance for the particular issue of determining the effects of trade liberalization in services.

Levine (1997) adopts a functional approach to the link between financial development and growth. He identifies five major functions that financial systems perform which help in minimizing transactions costs and improving the allocation of real resources. These functions include facilitating the trading of risk, allocating capital to productive uses, monitoring managers, mobilizing savings through the use of innovative financial instruments and lastly, easing the exchange of goods and services. However, the author admits that research in this area does not sufficiently account for the role of international trade in financial services.
Kulendran and Wilson (2000) tested three hypotheses that 1. Business travel leads to international trade. 2. International trade leads to international travel and International travel, other than business, leads to international trade. They found support for their hypotheses using cointegration and Granger Causality techniques in analyzing aggregate international trade and travel flow data for Australia and its four main trading partners of US, UK, New Zealand and Japan. They discovered that real exports from Australia Granger cause holiday travel to UK and US. Support was also found for the hypothesis that international travel, other than business travel, leads to international trade. However, limited evidence was found that imports influence international travel.

The study conducted by Deardorff (2000) examines the special role that trade liberalization in service industries can play in stimulating not only trade in services itself, but also in enhancing gains from trade in goods. International trade in goods requires inputs from several services industries such as transportation, insurance, and finance in order to complete and facilitate international transactions. Restrictions on the ability of national service providers to provide these services across borders and within foreign countries create additional costs and barriers to international trade above those that would arise in otherwise comparable intra-national exchange. As a result, trade liberalization in services can yield benefits, by facilitating trade in goods, which are larger than one might expect from analysis of the services trade alone. The study also shows that, trade liberalization in services can also stimulate fragmentation of production of both goods and services, thus increasing international trade and the gains from trade even further.
A study was undertaken by Chadha R. (2000) to estimate the index of comparative advantage of export of major services by the developing country groups. Revealed Comparative Advantage (RCA) of a service for a country/region is the ratio of share of export of this 'service' in a country/region's services exports to the share of world export of this 'service' to total world services exports. The value of RCA indicates whether the country/region has relative comparative advantage in such exports compared with the world average. Thus study showed that developing countries have revealed comparative advantage in 'freight and travel' while industrialised countries have RCA in 'passenger services, other transfers and other services.'

Francois and Wooton (2001) in an attempt to study Trade in International Transport Services concentrated on the role of competition and market structure in the sector for the distribution of gains from trade and benefits of trade liberalization. The study in addition to involving maritime nations also included the interest of consuming nations. It showed that the presence of an imperfectly competitive intermediary can have significant effect on trade flows and the allocation of gains from trade. Trade liberalisation in the absence of some form of deregulation of the shipping industry will inhibit the producer and consumers to get the increased benefits as shipping firms alone due to their monopoly power are likely to take away the major portion of gains from trade. The authors suggest that a healthy competition in the maritime transport services is required if the benefits of trade liberalisation has to be shared equally by producer, consumer and transport service providers and more so between the trading nations.
A study by Matto, Rathindran and Subramanian (2001) based on cross-country regression for a sample of 60 countries for period of 1990-99, concludes that services liberalization is different from trade in goods because the former involves factor mobility and leads to scale effects that are distinctive though not unique. Second, it is possible to construct policy-based rather than outcome-based measures of openness for the services sectors that capture these differences. Third, there is some econometric evidence relatively strong for the financial sector and less strong but nevertheless statistically significant for the telecommunications sector that openness in services influences long run growth performance. Their estimates suggested that countries with fully open telecom and financial services sectors grow up to 1.5 percentage points faster than other countries. The authors suggested that the above results, however, need to be refined by incorporating more information in the construction of indices of openness and testing whether they hold for other services sectors.

A study by Freund and Weinhold (2002) on Internet and International trade in services used detailed data on US ‘other private services’ from 31 countries and 14 industries compiled by the Bureau of Economic Analysis for the period of 1995-99. The study hypothesized that internet has significantly affected international service trade. The results indicated the positive and significant effect of internet on service trade growth. Countries that have greater internet penetration also have had higher growth in service trade in recent years.
A causality test conducted showed a bilateral causality between trade in services and adoption of internet services. The test indicated increasing trade in services leads firms to adopt the internet to facilitate that trade and greater internet penetration causes firms to use the internet for trade in services. The study also showed that an increase in internet penetration abroad increases US imports in business, professional and technical services. But there was no evidence to suggest that internet penetration abroad has increased US exports of services.

Sekkat (2002) in his study investigated the linkages between liberalization and performance of "backbone" services on the one hand and trade and FDI in the Middle East & North African region on the other hand, based on annual data of 1990 to 1999 for a sample of 71 countries. It provided a conceptual analysis of the ongoing liberalization in "backbone" services and its potential impact on trade and FDI. The study also conducted an econometric investigation of the relationship between telecommunication services performance and manufactured exports, intermediate good exports and FDI inflows in the Middle East & North African region.

The econometric analysis showed that, after controlling for other determinants, good telecommunication services have a significant and positive impact on both manufactured and intermediate good exports and on FDI inflows. Given that the Middle East & North African is among the low performing regions of the world in terms of telecommunication services, these results shed light on the well documented observation that the region is lagging behind other regions in the world in terms of manufactured exports and FDI.
inflows. The analysis suggests that policy aiming at improving the performance of "backbone" services in the Middle East & North African region can entail important gains in terms of exports and FDI inflows and complement other policies (e.g. trade and exchange rate policies) undertaken in the region.

A study by Aradhyula and Tronstad (2003) on Impact of tourism on cross-border trade estimates a simultaneous bivariate qualitative choice model of Arizona agribusiness firm's propensity to trade and visit as a tourist to the cross-border state of Sonora and Mexico. With the help of Arizona Department of Agriculture and a Technical Advisory Committee, 130 agribusiness leaders were identified. Based on cross-sectional data, the result supported the hypothesis that both formal and casual exposure of cross-border business opportunities impact trade positively. Business venture visits were found to have greater influence on firm's trade than traditional variables such as firm's age and size. Tourist visits by themselves have a lower impact on creating cross-border trade unless combined with other factors like geographical diversity, age, foreign language fluency and firm's size. Result also suggested that there is a role for government agencies to play in overcoming imperfect information related to trade opportunities by facilitating exploratory business venture and tourist visits. The conclusion of the study is that the travel or tourist visits does help in increasing international trade.

Donghui Li, Moshirian and Sim (2003) in light of the growing significance of trade in financial services, and the emphasis placed on trade in financial services during the Uruguay round of trade negotiations, studied the determinants of intraindustry trade (IIT)
in insurance services. The study analyzed and measured the magnitude of IIT in insurance services for the United States. The following seven hypotheses capture factors identified as the key determinants of IIT in insurance services: (1) difference in per capita income, (2) market concentration in goods and services, (3) trade imbalance in goods and services, (4) differences in financial market size, (5) foreign direct investment in insurance services, (6) service flows between U.S. MNCs and their foreign affiliates, and (7) market openness.

The empirical results support all the above hypotheses. This result indicates that the IIT model of insurance services has captured the key factors that are important in increasing the volume of IIT in insurance services accurately. The empirical results of the determinants of IIT indicate that foreign direct investment in insurance services (FDI) is a significant contributor to the volume of trade in insurance services. These empirical findings confirm the new theoretical trade models that, unlike the traditional trade theory that considered trade and foreign direct investment in insurance services as substitutes, trade and FDI complement each other and hence multinational insurance companies are contributing to an increase in the volume of trade in insurance services. Furthermore, this study showed that trade intensity between the United States and its trading partners leads to product differentiation in insurance services and hence an increase in consumer welfare.

A study by Jansen and Piermartini (2004) tries to estimates the impact of liberalization of temporary movements of individual service suppliers on trade in goods and services. Estimates were obtained using a gravity model of trade augmented for a measure of
temporary movements of service suppliers. Estimates of the size of a country's Mode 4 trade in services are based on specific information regarding the number of temporary foreign workers occupied in the service sector and their estimated average earnings, thus overcoming the limitations of traditional measures of Mode 4 based on remittances or compensation for employees. The study found a positive and significant effect of temporary movements of service providers on merchandise trade and services trade under Mode 1 and 3. No significant relationship was found between services trade under Mode 2 and Mode 4.

The main purpose of paper by Kimura and Lee (2004) was to assess the impact of various factors on bilateral services trade, relative to that on bilateral goods trade. To accomplish this purpose, using the standard gravity model, they ran regressions on bilateral services trade and goods trade from 10 OECD member countries to other economies (including OECD and non-OECD member countries) for the years 1999 and 2000. The results show that the gravity equation for services trade is as strong as gravity equation for goods trade, and that there are some differences between services and goods trade, with regard to the elasticities of the explanatory variables.

Among others, they found that geographical distance is consistently more important for services trade than for goods trade. This result may indicate that the cost of transport for tradable services is “in general” higher than that for goods. But there is a need of further investigation using the disaggregate services trade data to find out why geographical distance is more important for the flows of traded services than for goods trade. They also found that membership in the same regional trade arrangement has a significant impact
on both services trade and goods trade. The results suggest that even though many of the regional trade arrangements to date fail to include services explicitly, they certainly facilitate services trade at least as much as it facilitates goods trade. Another interesting result is that both goods trade and services trade are positively affected by economic freedom but the effect is much stronger for services trade. This implies that as countries moves toward economic liberalization, services trade will grow faster than goods trade, and hence services trade will play even more important role in the global economy. Lastly, they showed that while service exports and goods imports are not complements, goods exports and service imports are complements. This result may reflect the existence of trade in factor services which helps increase the exports of goods.

Amiti and Shang-Jin Wei (2005) tried to study the impact of recent outsourcing of services by developed nations to the developing nation on the level of sectoral employment in these developed nations especially in United States and United Kingdom. The study presented a body of evidence that suggested most developed countries are not generally more outsourcing-intensive (when adjusted for economic size) than many developing countries. In any case, many developed countries tend to run surpluses – i.e., the rest of the world outsources more to them than the reverse mostly in the categories of business services and computer and information services. In fact, the United States and the United Kingdom have been running the largest and second largest surpluses in services trade in the world in recent years. Using data on 78 sectors in the United Kingdom, the study found that job growth at the sectoral level is not negatively related to outsourcing.
A study by Jansen and Piermartini (2005) tried to study the possible trade creating effects of service trade liberalization via Mode 4. The authors tried to test for the potential positive effects of temporary movements of people by including the number of H-1B beneficiaries in the United States into a gravity model explaining trade flows between the United States and the home countries of the H-1B beneficiaries. They found that workers being temporarily active in the United States have a positive effect on both imports from and exports to host countries. The results indicated that Mode 4 liberalization could have welfare promoting effects in addition to the standard welfare effects of trade through its effect on transaction costs for trade in goods. The analysis is restricted to skilled workers.

Gholami, Tom Lee and Heshmati (2005) made an attempt to investigate the simultaneous causal relationship between investments in information and communication technology (ICT) and flows of foreign direct investment (FDI), with reference to its implications on economic growth. For the empirical analysis the study used data from 23 major countries with heterogeneous economic development for the period 1976–99. Their causality test results suggested that there is a causal relationship from ICT to FDI in developed countries, which means that a higher level of ICT investment leads to an increase inflow of FDI. ICT may contribute to economic growth indirectly by attracting more FDI. Contrarily, they could not find significant causality from ICT to FDI in developing countries. Instead, there is partial evidence of opposite causality relationship. The inflow of FDI causes further increases in ICT investment and production capacity.
Many studies related to trade in services and service sector growth, have been conducted in recent past. These studies have stressed on the role of different type of services in promoting growth of output and income. Most of the studies have based their estimates on panel data fixed, random and dynamic effect models. Studies have also used cointegration and causality test to study the relationship between services and its different aspects. Studies have proved relationship between trade in goods and services, between trade in services and international travel, few studies have concluded that liberalization of trade in services does help in enhancing trade in goods. Its been also observed how imperfectly competitive market can hamper the increased benefits from trade in services and infact increase the cost of transactions. Internet growth has also determined the growth of service trade, infact a bilateral causality was observed between the two. Further, to the surprise of everyone studies have shown that outsourcing has benefited more of developed countries like US and UK and not the other way round because rest of the world has outsourced more services to them. So also information and communication technology provided for increased foreign direct investment inflow in developed but not in developing countries.

2.8 Summary

Different studies have been mentioned under three categories, viz international trade and economic growth, liberalization of international trade and economic growth and service sector specific studies. It has been found that there is clear positive relation between trade and growth. The studies have mainly used two-stage least square regressions and
simultaneous equation model with the purpose of trying to know whether there exist a feedback effects between different factors considered. Though this feedback effect has not been proved in all the cases, there are many studies showing feedback effect between export and income. The studies, which could not establish a feedback effects have shown a relation between factors such as growth in services and growth of rate of exports and foreign exchange earning capacity of the country, FDI and exports of a country. Studies based on Export led growth hypothesis fail to show every time that exports will be beneficial for developing countries, as it has helped only few and not all developing countries. As per some studies India has not benefited much from export led growth strategy.

The section on liberalization of trade and economic growth is based on the concluding remark of the above section. The studies show that developing countries, which have moved faster on the path of globalization, are catching up with rich countries, while the non-globalisers are lagging behind. Though liberalization of economy is strongly advocated to maximize the benefits from trade and help increase the real income of a nation, countries have also been cautioned to take great care in the sequencing of the liberalization of exports and imports to achieve a better balance between export and import performance, if countries are to realize their potential growth performance. The studies have also concluded that free trade and flexible exchange rate are no guarantee that unemployed domestic resources would be easily converted into scarce foreign exchange. Studies also warns against the excessive liberalization especially so for the
developing countries as it may have adverse impact on balance of payment of these countries.

The section on service sector specific studies, highlights the importance of service sector and its trade in the world economy. The different studies have focused on importance of service sector as a whole and its impact on income of country, so also studies have been undertaken on sub-sectors in the service sector such as financial, insurance, tourism, travel, software etc. A study has pointed out that developing countries have revealed comparative advantage in freight and travel, while industrialized countries have it in passenger services, other transfers and other services. Studies show strong relation between trade in goods and trade in services irrespective of other factors like common language between the trading nation. The section highlights how liberalization of service industries stimulates growth not only in trade in services itself but also in enhancing gains from trade in goods. In every sub-sector of services a higher degree of economic freedom is advocated inorder to maximize gains to all trading nations. Imperfect competition in every sub sector tends to minimize, the gains from trade or atleast corner it to just one section of traders or a particular group of nations. Thus role of government in overcoming imperfect competition especially in the field of tourism and travel is advocated. Studies have found that geographical distance is consistently more important for service trade than for goods trade.

Most of the studies have shown different factors as trade in goods, foreign direct investment, gross domestic product, income of trade partner, exchange rate as important
determinant of service trade and growth in output of service sector but all these studies considering different factors have been undertaken by considering just one or few countries and one or two factors at a time, there has been no attempt observed to know the influence of all these factors on trade in services under the influence of one another. So also studies have been undertaken for a particular group of countries such as only developing nations, or nations from a particular region. Studies related to different regions at one time or impact of such factors on developing and developed countries at the same point of time has not been observed.

In the present study, I have made an attempt to see whether all the above factors influence and cause the trade in services for 82 countries taken together, representing different income groups and different geographical regions across the world. An attempt is also made to know whether the factors determining trade in services differ across developed and developing countries and across different income group's namely high income, upper middle income, lower middle income and low-income countries. The study is done with the help of different technique, which are used in estimation of panel data. The techniques of fixed effect (one way and two way) and random effect, which help in bringing out the unique feature of different units combined in either income or regional group are used.