CHAPTER - II

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Regional Trade Agreements (RTAs) have a long history and along with Multilateralism it occupied the centre place in the discourse of trade theory and commercial Policy for a long time. Even after numerous theoretical and empirical studies that were carriedout to resolve regionalism versus multilateralism debate, the issue remains unsettled as the results are divided between ‘building block’ versus ‘stumbling block’ argument of regionalism on international trade. Diverse nature of Preferential Trade Agreements (PTAs) from shallow integration to deep integration agreements necessitated designing appropriate methodologies and model building techniques for measuring the static and dynamic effects of trade liberalization. Complicating this phenomenon is the proliferation of large number of bilateral Trade Agreements between members of the RTAs creating a ‘noodle bowl’ effect on trade. The present chapter of the study systematically reviewed all the theoretical and empirical developments that have happened in the area of Regional Trade Agreements (RTAs) to identify the research gap and to delineate theoretic and methodological issues that need to to be considered to place the study on the research gap.

The chapter is divided in to seven sections. The first section reviewed the various theoretical developments that had happened in the area of regional economic integration over a period of time. The second section reviewed the empirical studies that were conducted in the area based on theoretical developments. The econometric and specification issues related to Gravity Model are discussed in the third section. The Gravity based studies are outlined in the fourth section. Empirical studies pertaining to ASEAN Free Trade Area are discussed in the fifth section. Studies pertaining to India –
ASEAN trade relationship are presented in the sixth section. This was followed by major findings of the review in the last section.

2.1 Theoretical Developments in Regionalism

There have been intense theoretical expositions by trade theorists on the likely impact of regionalism on the international trade flows of commodities. The two issues primarily addressed by them are how the formation of Regional Trading Blocks impacts the welfare of the members and world at large and whether regionalism help or hinder the process of multilateral trade liberalization. Economists failed resolve on this issue concretely and there is no unanimity amongst themselves on the magnitude and direction of the impact.

The earliest work on the theory regional integration was presented by Viner (1950) in his seminal work 'The customs union issue' in 1950. The traditional notion before this pioneering work was that any kind of preferential trade encourages specialisation of production in least cost countries and hence beneficial to international trade. Viner demonstrated that preferential trade need not necessary improve the welfare of the members and sometimes it reduces it by diverting trade from low cost country to high cost country. Viner used two concepts namely 'trade creation' and 'trade diversion' to explain the economic outcome of the regional integration. 'Trade creation' means high cost domestic producer is replaced by a low cost partner firm and the consumer can buy more at cheaper prices. In 'trade diversion' the low cost rest of the world partner is replaced by a high cost partner country and there is a welfare loss for the home country. Viner explained that since PTAs liberalise trade preferentially, on the one hand, they 'create' new trade between union members while on the other, they 'divert' trade from low-cost outside suppliers to high cost within union suppliers. The 'trade creation'
is beneficial as the union partner replacing home country's less efficient industry and the consumers can avail the same commodity at a lower price. The 'trade diversion' effect arises from a union member displacing a more efficient outside supplier by taking advantage of the tariff preference it enjoys in a partner country and this is harmful. Unions which are primarily trade creating are beneficial and those that are primarily trade diverting are harmful to member countries taken together and to the world as a whole. However, it is possible for an individual member country to gain large benefits from a primarily trade diverting union by shifting the intra-union terms of trade in its favor. The Viner model had two major deficiencies. Firstly it is a partial equilibrium model which could not accommodate the modern neoclassical trade theory which is based on the general equilibrium theory. Secondly it could not explain the case of 'large' bloc countries of regionalism.

Meade (1955) outlined the modern static theory of regional integration arrangements in his book 'The Theory of Customs Union'. Meade's model is an improvement over Viners in many ways. Meade's analytical framework explicitly admitted trade by many countries in many commodities, abandoned the Vinerian assumption of constant costs of production in trading countries and recognized the necessity of ensuring equilibrium in international payments balances. These refinements to the static theory of regionalism admit the possibility of not only spillover effects of regional integration agreements on non-member countries but also feedback effects of international adjustments to the formation of regional integration arrangements on member countries. Meade focused his analysis on the economic welfare of the world economy, not simply the countries forming a regional integration arrangement.
Under a customs union or free trade area in which external tariffs and other trade restrictions are sufficiently high that the home country and the partner country trade exclusively with one another and the regional integration arrangement is completely trade diverting. This equilibrium determines the domestic and intra-block terms of trade for members of the regional integration arrangement. From the perspective of the partner country the equilibrium is superior under either protection or free trade. However from the perspective of the home country, the equilibrium is inferior to equilibrium under protection or free trade. Thus in the small union Meade model the distribution of economic gains among member countries in a regional integration agreement is extremely important for the stability of the agreement.

Lipsy (1960) looked into the welfare effect of customs union rather than merely looking the trade creation and trade diversion aspects and said welfare effects of customs union depend on the combination of its effect on the location, and hence cost of world production and on the location and hence the utility of world consumption. He delineated production and consumption effect of customs unions and said when consumption effect is allowed for, the simple conclusion that trade creation is ‘good’ and trade diversion is ‘bad’ are no longer valid. Lipsy in his model showed an increase in welfare may follow from the formation of a customs union which result solely in the diversion of trade from lower – to higher- cost sources of supply. Furthermore it will be shown that this welfare gain may be enjoyed by the country whose import trade is diverted, by the customs union area considered as a unit by the world as a whole.

The changes in intra-regional and extra-regional trade may have significant impacts on international prices for traded goods impinging on the economic welfare of both member
countries and non-member countries. In this connection Ohyama (1972), Kemp and Wan (1976) and Vanek (1965) offer an interesting theoretical perspective. The logic behind the theorem is simple. Freezing the net trade vector of A and B with the rest of the world ensures that the rest of the world can be made neither better off nor worse off by the union. Then, taking the external trade vector as a constraint, the joint welfare of A and B is maximized by equating the marginal rate of transformation (MRT) and marginal rate of substitution (MRS) for each pair of goods across all agents in the union. This is, of course, accomplished by eliminating all intra-union trade barriers and setting the common external tariff (CET) vector at a level just right to hold the extra-union trade vector at the pre-union level.

When countries involved in a PTA are large enough to affect world market prices, there are terms-of-trade effects in addition to the trade creation and trade diversion effects. A PTA is likely to improve the terms-of-trade for its members and worsen them for non-members. Lower demand for non-member imports (because imports from member countries become cheaper due to tariff preference, despite a possible cost advantage of the non-member country) may lead to lower export prices of the non-member country. Furthermore, increased trade within the PTA may lead to a decline in the availability of goods to non-members, thereby raising the price of nonmember imports from the PTA (and may force the non-member to produce such goods themselves). So even if a PTA member loses tariff revenue in connection with a diversion of trade from non-members to members, these losses may be outweighed by improved terms-of-trade vis à vis non-members.
Baldwin (1993) developed the Domino theory of Regionalism to answer the question of why countries prefer regional integration than multilateral liberalization. Baldwin points out idiosyncratic shocks such as deeper integration of an existing regional block can trigger membership requests from countries that were previously happy to be non members. The stance taken by the Government regarding membership is the result of a political equilibrium that balances anti-membership and pro-membership forces. Among the pro integration forces are firms that export to the regional block. Since closer integration reduces the profits of non-member firms, the exporters in the non member country initiate greater pro-regional political activity. This extra activity may tilt the balance in favor of regional integration in a county which otherwise remained neutral to it. As the block enlarges, the cost to the non-members increases since they now face a cost disadvantage in an even greater number of markets. This will bring more pro-regional political activity in non-members countries resulting in further enlargement of the bloc. Hence Regionalism spreads fast and wide across the globe.

The Juggernaut theory of Baldwin (2005) suggests that liberalisation leads to liberalisation, and once the liberalisation process sets in, it is difficult or impossible to stop it. Announcement of multilateral tariff-cutting talks based on the principle of reciprocity make exporters lobby for domestic tariff cut to gain access to foreign markets. The tariff cuts at home and abroad alters the economic landscape and this generates a sort of political economy momentum and eventually liberalise the sector which is included in the tariff-cutting talks. Baldwin says the interaction between the domino theory and juggernaut theory suggests that regional trade blocs are building blocs toward free trade – at least in most cases. But he cautioned some limiting cases especially South-South FTAs which cannot generate domino and juggernaut effects. Baldwin (2008) critically
evaluated theoretical literature in an attempt to identify the insights that are useful for thinking about regionalism’s systemic impact in the new century. Baldwin observed regionalism is here to stay and there is need for deep multilateral integration. The paper suggested that there is a need to move the literature’s focus from the high theory of shallow integration to a more policy-relevant issue – the theory and empirics of deep integration in regional versus multilateral contexts. There is also a need to advance the profession’s thinking on how the liberalisation in RTAs can be made to be more supportive of multilateral liberalisation, i.e. on how one can promote convergence/harmonization of RTAs.

The success of the regional integration efforts in creating additional trade depends on numerous factors. Some of the factors which got profound influence on trade are the complementarities in trading Nations, level of initial protection, domestic trade liberalization measures, size of the economy and rule of origin. The risk of trade diversion is lower if the PTA being formed is between countries that are already major trading partners, indicating that trade flows are consistent with least-cost sourcing. Moreover, the greater complementarity in import demands between PTA members, the greater the potential gains from a PTA. Trade creation is more likely to dominate trade diversion if there is greater difference between unit production costs within the PTA and the smaller the difference in costs between the PTA and the rest of the world. The higher the initial level of protection, the greater the benefits, if the members reduce the protection after joining in a PTA. Inclusion of a highly protected sector in trade agreements brings out substantial gains for the members. Clearly, trade diversion is minimised when the PTA’s have lower external trade barriers.
Trade liberalization measures can increase the welfare of a country by removing distortionary trade practices followed by it and in this sense joining in a PTA enables further welfare gains for PTAs members. Moreover, non-trade-related deep integration policies adopted in connection with a PTA may also enhance the welfare impact of the agreement. The economic size of the participating countries in a regional trade agreement can influence the trade flow and economic welfare. But this depends on the extent to which the world price and thereby the terms-of-trade of the countries involved will be affected due to integration efforts. Whether a trading country is small or large depends on the product in question and is therefore typically an empirical question. If the rules of origin are liberal, some of the benefits of liberalised trade within the PTA may be transmitted to non-members. If they are restrictive, on the other hand, such rules may pose an additional form of protection and thereby work against the liberalisation by making it more costly or more difficult.

There are excellent studies on the theoretical development and literature review on regionalism (Panagaria, 2000; DeRosa, 1998; Lloyd and Maclaren, 2004; Piermartini and Teh, 2005). Panagaria (2000) based on systematic economic analysis argued strongly in favour of multilateral trade liberalization than regional agreements as PTAs can divert trade and lower welfare for the participating nations. The paper suggested measures to minimize adverse effects of PTAs which include placing moratorium on the expansion of PTAs (except those in advanced stage of negotiation), modify the GATT Article XXIV to bind its tariffs to the pre FTA level, changes in Article XXIV relating to antidumping and safeguard measures and finally there be no rule of origin on a product in a member country with the lowest tariff in the Union on that product. DeRosa (1998) extensively reviewed the static theory of regional integration arrangements and considers the
economic impact of such arrangements, based on recent quantitative studies of customs unions and free trade areas. The theoretical developments in the area of regional integration and the empirical substantiation of the theoretical developments are carefully analysed in the paper. Lloyd and Maclaren (2004) surveyed the theoretical and empirical aspects of regional integration and shown how member and nonmember countries gains and loses due to trade liberalization in goods by forging free trade area or a customs union.

Piermartini and Teh (2005) provided a non-technical explanation to two important trade policy models namely CGE and gravity models and explained theoretical underpinning, model requirements and computational procedures required for these models. The paper surveyed large number of studies based on CGE, and gravity models and their analytical strengths and limitations also discussed. The survey is useful in conveying a sense of how results can vary depending on what goes into the models by way of their structure and data, emphasizing the importance of judicious, critical interpretation. De Groot, Liners, Rictveld and Subramanian (2004) explicitly investigated the effect of institutions and found that institutional quality has a significant positive and substantial impact on bilateral trade flows. Generally good governance lowers transaction costs for trade between high income countries, while trade between low-income countries suffers from high insecurity and transaction costs. This creates possibilities that countries with similar levels of institutional quality may be familiar with each other’s business practices and trade more.

Zissimos (2002) argued that free trade agreements (FTAs) are regional because, in their absence, optimal tariffs are higher against (close) regional partners than (distant)
countries outside the region. Optimal tariffs shift rents from foreign firms to domestic citizens. Lower transport costs imply higher rents and therefore higher tariffs. So regional FTAs have a higher payoff than non-regional FTAs and regional FTAs may yield positive gains when sponsoring a FTA is costly. Naive best response dynamics show that 'trade blocks can be stepping blocks' for free trade. Caldentey and Ali (2006) presented an alternative treatment to RTA using a two country model (leader-follower). The model shows that free trade can in fact accentuate differences and growth disparities among countries. More importantly it asserts, that the follower economy can catch-up to the leader economy only if the ratio of the income elasticity of demand for the follower country's exports by the rest of the world to its income elasticity of demand for imports is greater than the ratio of the induced productivity of the leader to that of the follower country. According to the paper, this golden rule is useful for policy design and determining the extent to which an RTA can be beneficial to its signatory member states.

The regionalism versus multilateralism debate has a long history and could not resolve decisively even after large number of theoretical and empirical studies on this issue. While some argue regionalism is stumbling block (Bhagwati and others; 1993, 1996) to the progress of multilateral trade liberalization which is a first best option for countries to improve their welfare others see it as a building block (Frankel, 1997, Summers, 1991 and et.al.) as it supplements and complements the multilateral process.

Multilateralists believe widespread regionalism may lead to a break-up of the World economy in to hostile blocks that divert political energies from multilateral initiatives. PTAs make it more difficult to negotiate at the multilateral level because agreements about positions need to be achieved within blocks before and during negotiations. PTAs
are by definition discriminating, and large PTA blocks may exert market power to improve the terms-of-trade of its members. Closed membership clauses may block additional members in order to preserve trade gains, while open membership clause seduce members in to protectionist regional initiatives and diverts political energies from multilateral initiatives. Protectionism of countries not involved in PTAs may increase as regionalism spreads. Use of non-tariff barriers, such as antidumping and countervailing duty actions, against non-member countries increase as weaker industries struggle to survive regional free trade. Deeper integration of policies and institutions may create or strengthen interest groups that benefit from trade diversion and have incentives to lobby against free trade. Deeper integration may introduce protection in previously unprotected markets through the adoption of common, distorting internal policies.

Contrary to the above view those who favour regionalism argue that PTAs encourage others to come to the multilateral negotiating table, ie. the prospect of ‘fortresses’ may help motivate greater efforts to achieve successful multilateral negotiations. It may be easier to negotiate multilaterally between fewer and larger PTA- based blocks than large number of individual countries. Deeper integration within PTAs can help avoid destructive trade wars. Regionalists also believe that expansion of membership based on open membership clauses will eventually lead to global free trade. Adoption of ‘open regionalism’ is a slow and definite step that can eventually lead to global free trade. PTA-induced growth can induce increased demand for extra- PTA imports thereby benefiting non-members. PTAs may be able to tackle issues too deep or complex for multilateral negotiations, and may even serve as blueprints for such issues before coming to the global level. Deeper integration of policies and institutions may help lock-in complementary market oriented policies (competitive liberalism ie. increasing regionalism creates
competition for reform and for membership of PTAs). Deeper integration among PTA members (Eg. Harmonisation of technical standards to international norms) may also promote trade both within the PTA and with third countries.

While regionalism versus Multilateralism debate hardens its stand, there is a group of analysts who believed that regional and global liberalization must proceed together to take advantage of the benefits of regional liberalization without undermining the continued vitality of multilateral system. In this context APEC initiated a new concept namely ‘open- regionalism’; (Fred Bergsten, 1997) through which regionalism can be employed to accelerate the progress toward global liberalization and rule making. Bergsten gave five possible definitions of open regionalism which includes open membership, unconditional MFN, conditional MFN, global liberalization and trade facilitation. All five definitions can be implemented simultaneously as well as independently to achieve open regionalism. The complementarity between regionalism and multilateralism is also stressed by Ethier (1998) who argues that ‘the new regionalism’ is in good part a direct result of the success of multilateral liberalization, as well as being the means by which new countries trying to enter the multilateral system compete among themselves for direct investment.

The hypothesis of ‘natural – trading partners’ enunciated by [Wonnacott and Lutz (1989) and espoused by Summers (1991) and Krugman (1993)] envisage that the more two countries trade with each other relative to the outside world, the less likely that a union between them will be harmful. It has been suggested that neighbouring countries or countries whose relative resource endowments are highly complementary in both cases, giving rise to appreciable initial levels of trade should be expected to expand their trade
Bhagavati and Panagaria (1996) and Shiff (1996) argue that under this case the tariff revenue loss will be substantial and the economic gains from forming a trade block are likely to be smaller.

Wonnacott and Wonnacot (1981, 1992) used the concepts of foreign trade barriers and transport costs to explain the formation of regional trade agreements. Foreign trade barriers and transport costs drive a wedge between the price that consumers in importing countries pay and price producers in exporting countries receive for the same traded goods. This wedge might be sufficiently large to offer neighbouring countries for expanding their mutual trade on a preferential basis. The home country and the partner country exchange trade preferences (giving up tariff revenues from one another) in order to capture the greater savings from the high costs of protection or transport of goods associated with the home country's exports to the non-member country. But Panagaria (1997) criticizes this argument by saying that transport costs are no different than any other costs and as such deserve no special attention in considering PTAs. Bhagavati and Panagaria (1996) show that in general even a limited proposition which makes a PTA between proximate partners ceteris paribus superior to that between distant partners is false. (India-Pakistan versus India-U.S. relationship).

The regionalism debate offers another explanation of non-traditional gains to the small partners. Economists and policy analysts expressed the view that the gains to a small developing country from a PTA with large developed economy go well beyond the traditional static welfare effects. These non-traditional gains include, guaranteed access to the large market, shield the developing country from administered protection of the rich
country and credibility to their reform process (lock-in effects). Panagaria (1995 and 1996) reject these arguments taking the case of NAFTA.

While 'old' trade theory focuses on the PTA-related changes in trade flows, prices, production structures, and the sectoral allocation of factors of production, 'new' trade theory considers a variety of other effects of preferential trade agreements such as imperfect competition, scale effects and increasing returns to scale. Moreover, some analysts argue that the efficiency gains estimated using techniques based on old trade theory, although significant, seem small relative to national income and also appear to be too small to explain the rapid economic growth that has accompanied trade expansion in many countries (Burfisher et al. 2003). The new trade theory tools include analysis of rent seeking behaviour, game theory, industrial organisation theory, and new growth theory.

Features of new regionalism have the following characteristics.

i. Technology and knowledge transfers, and technology diffusion that increase productivity

ii. Dynamic comparative advantage and 'learning by doing' efficiency gains

iii. Elimination of wasteful rent seeking activities through trade liberalization

iv. Pro competitive gains from increasing import competition in an environment of imperfect competition allowing exploitation of potential economies of scale in production

v. Increased geographical dispersion of production through trade that supports 1. exploitation of different factor proportions for parts of the production process and/or 2. local economies of scale through finer specialization and division of labour in production
vi. Increased foreign direct investment that carries with it advanced technologies and hence increase in productivity.

vii. 'challenge –response increases in efficiency through increased competition due to expanded involvement in world markets

viii. Schumpeterian innovation and 'creative destruction' induced by increased competition arising from expanded trade.

If scale economies are achieved, it can offer greater international competitiveness to individual firms. For high technology firms in advanced countries, achieving scale economies in the production of new products can limit if not exclude entry by other firms in 'thin' or comparatively small-scale markets for new products (Krugman, 1980). For firms in less developed countries, achieving scale economies in the production of nontraditional products can contribute to the transformation of so-called infant industries, in to industries that are more likely to be internationally competitive (Pearson and Ingram, 1980). The scale economies offer additional source of economic gains for countries forming regional integration arrangement. In addition to achieving cost reduction effects related to increasing returns to scale, regional integration arrangements might successfully erode market power of dominant firms in member countries through encouraging market entry of competing firms from other member countries. This "pro-competitive" effect is widely cited in popular discussions of regionalism. Increased competitive conditions within the trading bloc could increase welfare substantially according to Smith and Venables (1988) through cost reduction effects and rationalisation of production location, increased sales by domestic firms in domestic markets and exit by some if not a substantial number of firms.
The geographic coverage and pattern of RTAs fundamentally changed recently. Up to the early 1990s most of the RTAs were non-intersecting areas which gave way for overlapping and criss crossing RTAs recently. Wonnacott (1996) introduced the terminology of hubs and spokes. A hub exists where one country (customs territory) is a member of two distinct RTAs. Single country hubs arise in several ways. Hubs may arise when one country is a member of one pre-existing RTA and then forms a new bilateral RTA with another single country outside the origin RTA. Or hubs may arise when one country almost simultaneously negotiates bilaterals with a number of countries or becomes a member of two multi-member RTAs.

A hub or a spoke may itself be a multi-country RTA. Such hubs and spokes may be called plurilateral hubs and plurilateral spokes respectively. As examples of plurilateral spokes, the US is a member of NAFTA and has a spoke agreement with the CACM countries, and Singapore is a member of ASEAN and has a spoke agreement with the EFTA States. Both the hub and one (or more) spokes may be RTAs. As an example, the EU has agreements with the EFTA states and MERCOSUR. There are hubs now in all geographic areas of the world economy.

2.2 Empirical Studies on Regionalism: An Overview

Empirical studies on regionalism are directed to answer some of the vexed issues that eluded consensus or answers in the domain of theoretical analysis. Quantitative studies based on appropriate methodologies helped in refining and restating some of the theoretical expositions. The trade flows can be validated with actual data and can be simulated to various situations using sophisticated econometric models.
Quantitative studies of regional integration arrangements may be classified as mainly empirical or analytical. Empirical studies are based on extensive contemporary or historical data, and parameters derived from these data through econometric estimation and hypothesis testing. Empirical studies involve *ex post* (explaining past trends) or *anti-monde* (what if regional integration was not established). In *ex post* studies, differences between actual data and the *anti-monde* are attributed to the effects of the regional integration arrangement, inclusive of unexplained residuals or error terms. Analytical studies, on the other hand, assume a theoretical structure and then rely predominantly on *a priori* estimates of key parameters compiled from empirical studies that are not necessarily related to issues raised by customs unions and free trade areas. In *ex ante* studies, the future course of variables, with and without a regional integration arrangement, must be judged on the basis of at least a minimum theoretic structure (De Rosa, 1998).

The changes in economic variables due to the implementation of trade policies are also studied in a static, comparative static and dynamic economic framework. The static analysis studies how the trade policy affects the initial equilibrium of the economy; the comparative static approach examines the difference in endogenous variables from the initial and final equilibrium of the economy. Dynamic approach is insightful as it examines the nature of final equilibrium and also the evolution from the initial to final stage. Dynamic models trace the adjustment cost and other dynamic effects such as economies of scale, competition etc. due to a change in trade policy.

The empirical studies pertaining to RTAs are studied in a partial or general equilibrium framework also. A partial equilibrium analysis typically focuses only on a specific market
or product and ignores interactions with other markets. All other factors that can affect this market such as spill over effects, inter sectoral resource transfer or income effect of price changes are assumed constant. A partial equilibrium model is most suited for policy analysis when the policy-maker is only interested in sectoral policies, or when the sector under study represents only a small share of total income, or policy changes are likely to change the price in only one market, while prices in other markets will remain constant.

A general equilibrium analysis explicitly accounts for all the links between sectors of an economy - households, firms, governments and countries. It imposes a set of constraints on these sectors so that expenditures do not exceed income and income, in turn, is determined by what factors of production earn. These constraints establish a direct link between what factors of production earn and what households can spend. The two trade models which are extensively used in the empirical studies of Regional Trade Agreements are the Gravity Model for trade and the Computable General Equilibrium (CGE) model.

The relationship between trade and economic growth particularly regional integration and economic growth is subjected to lot of empirical investigations. Thirlwall (2000), Wacziarg and Welch (2003), and Frankel and Romer (1999) showed a positive relationship between trade liberalization and growth. There are skeptics like Rodriguez and Rodrik (1999) and Cruz (2008) on the role of trade or openness per se in stimulating growth. Lei and Netz (2001) extensively surveyed and empirically investigated the relationship between different forms of international integration and economic growth came to a conclusion that general openness, membership into a trade block and foreign direct investment into a country do lead to increased growth. The study also outlines the variation in income in the trade block also encourages more rapid growth among member
countries. Dee (2007) empirically tested two presumptions on economic integration namely economic integration promote economic growth and preferential trade agreements promote economic integration. The study said even a broad-ranging PTA may do little to remove the important impediments to growth in the region and called for caution in pursuing East Asian economic integration.

There are number of studies that focused the reason behind rapid increase in bilateral and regional trade agreements in the arena of international trade. Whalley (2006) identifyed factors like customized bilateral agreements to suit the requirement of partners, coverage of non trade issues, limited yet dilatory success of multilateral process, demonstration effect of large players towards RTAs and use of RTAs by politicians and negotiators to advance their personal gains. The study contented that weakened multilateralism after a minimalist conclusion to the Doha Round may well accelerate this process. Fiorentino Verdeja and Toqueboeuf (2006) argued that the proliferation of RTAs is a challenge as well as opportunities for WTO members and RTAs should be designed and implemented to address this dichotomy so as to ensure RTAs complement the multileral process. Sager (1997) explored the effect of the proliferation of regional trading agreements on the multilateral trading system and said there is widespread disagreement regarding the effect of regional trade agreements on the multilateral trading system. While questioning the growth and importance of RTAs in the world trading system, Pomfret (2007) argued that the large number of RTAs are misleading as there is double counting of RTAs and inclusion of defunct and inconsequential RTAs and their trade share overstated. The author believed the design of the RTAs has inherent bias towards trade diversion and vehemently argued for multilateral trade liberalization for enhanced welfare.
There is a new trend emerging in the area of regionalism namely ‘cross-border regionalism’ where countries who are part of an existing RTA or from different geographical areas form bilateral agreements resulting in complex rule of origins (RoOs) and multiple enforcement norms. Baldwin (2006) while analyzing the global free trade observed regionalism and the ‘Spaghtti Bowl’ type of numerous trade agreements will regulate the world trade and a multilateralisation of the world’s existing and emerging regionalism is required. Tovias (2008) observed that cross regionalism reduces overall economic welfare even though individual partner may gain independently from it. Lee, Park and Shin (2004) showed that RTAs on average increase global trade by raising intra-bloc trade without damaging extra-bloc trade. It is also shown that net trade creation effects of RTAs are substantially lower for countries participating in overlapping RTAs and there is less likely that the currently proliferating RTAs will completely merge and lead to global free trade. Freund (2000) observed free trade is the unique Nash equilibrium in which a country is always better off forming a bilateral trade agreement with every other country, irrespective of previous agreements. This suggests that each new preferential free trade agreement may be a step towards multilateral free trade.

There are number of studies that looked into the determinants affecting the RTAs. Baier and Bergstrand (2005) found closeness of partners, remoteness, larger and similar economies, difference in capital-labour endowment ratios are important factors affecting RTAs. Holmes (2005) found countries from same continent have higher chances of signing an RTA irrespective of their importance in each other’s trade. Magee (2003) showed neighbouring countries are more likely to enter the PTAs but this cannot be attributed to ‘natural trading hypothesis’ since these agreements do not lead to more trade creation or less trade diversion. Harmsen and Leidy (1995) observed coverage of all
sectors, shorter transition periods, transparent rules of origin, liberal rules of accession, no anti-dumping laws among members of PTAs and MFN liberalisation should either precede or accompany new PTAs are conditions that will lead to gains from an RTA. Venables (1999) while examining the way benefits and costs are distributed among the RTAs found that developing countries are likely to be better served by ‘north south’ than by ‘south-south’ free trade agreements.

It has been widely argued that, with the decline in trade costs (for example, transport and communication costs), the importance of distance has declined over time. Carrere and Schiff (2004) found though regional integration has a negative impact on the Distance of Trade (DOT), the countries forming trade blocs had a DOT that was growing faster or falling more slowly than that of excluded countries. Melitz J, (2005) in the study concluded that distance does indeed increase trade along the north south dimension. Amjadi and Winters (1997) found that inter regional transportation costs are appreciably higher than intra-regional transportation costs but not sufficiently large to result in a net welfare gain for Mercosur countries.

There are studies that looked into the age of RTA and their economic outcome. Coulibalya (2004) found that for ‘younger’ developing RTAs (AFTA, CAN, MERCOSUR, NAFTA and SADC) first years of participation are rewarded by a positive trade and welfare effects while the ‘older’ ones (CACM, ECOWAS and EU) depicted a more volatile trade and welfare profiles as the number of years of participation of the members keep increasing. Magee (2007) observed the average regional agreement has significant anticipatory effects on trade flows and continues to affect trade for up to 11 years after the trade deal begins. Customs unions influence trade over a longer period of
time than free trade areas. Fratianni and Oh (2007) tested the relationship between the size of regional trade agreements (RTA) and openness and found that regional trade bias declines with the size of the club. Freund and McLaren (1999) studied the dynamics of trade reorientation experienced when a country joins a regional trade bloc and stated that the joining country's trade orientation toward bloc countries typically rises along an 'S'-shaped path.

The regionalism versus multilateralism debate is central to the idea of trade liberalization and commercial policy and received lot of empirical research from academicians and policy analysts. Martin and Yanagishima, (1995) studied a 19 region global general equilibrium model with seven goods and found that non discriminatory trade liberalisation yields larger gains than discriminatory liberalisation. Farutain (1998) in his study observed that it is hard to believe that countries that are highly protectionist are willing to liberalise after joining a RTA unless they follow a more open import policy.

Vamvakidis (1999) studied regionalism versus broad liberalization in the context of member countries growth and showed that economies grew faster after broad liberalization, in both the short and the long run, but slower after participation in an RTA. Venables (2000) found that the effects of RIAs on the world trading system are not clear-cut. There is little evidence that regionalism has retarded multilateral liberalization, but neither is there support for the view that continuing expansion of regional agreements will obviate the need for multilateral liberalization efforts. Brown, Deardorff and Stern (2000) said welfare gains from multilateral trade liberalization are therefore considerably greater than the gains from preferential trading arrangements and more uniformly positive for all countries. Madani (2001) studied industrial growth of three Andean pact counties and
showed that unilateral liberalization had a more positive impact on output growth, through the channel of greater imports of intermediate inputs than regional integration arrangements.

Andriamananjara (2003) showed that choosing the preferential route as the path of least resistance may lead the multilateral trading system into a vicious circle of competitive discrimination – rather than a competitive liberalization. The paper suggested “open membership” and low MFN tariffs facing the rest of the world (not necessarily to zero) among RTAs can lead to multilateral trade. Limao (2006) argued that to avoid the clash between preferential and multilateral liberalization a novel approach is required which accommodates the WTO member’s desire for PTAs while simultaneously ensuring they do not slow down multilateral liberalization or at a minimum compensates non-members. Ornelas, (2003) studied whether creation Free Trade Areas undermine the progress of Multilateralism and said trade creation can reverse the support of the excluded countries to liberalization on a multilateral basis. Rose (2004) found little evidence that countries joining or belonging to the GATT/WTO have different trade patterns from outsiders, though the GSP seems to have a strong effect. Estevadeordal, Freund and Ornelas (2005) in their study found that regionalism helps the multilateral process and concern about a negative effect of regionalism on multilateralism in developing countries is overblown. It is also shown that greater the tariff preference that a country gives to its partners in a given product, the more the country tends to reduce its multilateral (MFN) tariff in that product. Nitsch and Sturm (2005) showed that RTA membership has, on average, no measurable effect on a country’s trade policy.
Lee and Shin (2005) identified factors such as geographical distance, land borders, common language, and area, have significant impacts on trade creation and trade diversion and East Asian RTAs are more trade creating than trade diverting. Sally (2006) argued hub-and-spoke pattern of FTAs that are emerging in Asia will not drive regional economic integration or further integration with the global economy as it lead to regional economic disintegration. Sulamaa and Widgren (2005) using a computable general equilibrium model showed that global free trade is better for all regions in the investigation and the the biggest winners of global free trade are Asian countries, Brasilia and developing countries. Dee (2007) suggested greatest real income gains would come from comprehensive non-discriminatory trade reform as part of a unilateral domestic regulatory reform. The study observed for reform-weary governments PTAs are the best excuse to avoid reforms and for reform-ready governments it is a distraction from the main game. Schott (2004) in his study concluded regional blocs would provide only a 'third-best', and distinctly suboptimal, option for world trade. Plummer (2007) highlighted the difficulties of the multilateral trade negotiations and how efficient regional agreements are used to overcome it. The study has developed best practices of RTAs and verified how the existing RTAs confirm to the best practices of regionalsism in Asia.

The political economy dimention of regional trade agreements were subjected to number of empirical studies; Levy (1997) Krishna (1998) Bird and Rajan (2002) Albertin (2008) etc. Levy (1997) demonstrated that bilateral free trade agreements can undermine political support for further multilateral trade liberalization. Krishna (1998) found preferential arrangements that divert trade away from the rest of the world are more likely to be supported politically and preferential arrangements will reduce the incentives for
Bird and Rajan (2002) contended that trade-first approach to regional integration is essentially a political outcome as broadening and deepening of RTAs requires very strong political commitment and it is rarely exhibited as most RTAs are protectionist for strategic reasons. Albertin (2008) in his study showed that a country's decision to enter a regional trade agreement unambiguously undermines the incentives towards multilateral trade liberalization.

Gupta and Schiff (1997) studied the welfare implications for the excluded countries in a Regional Trade Agreements and contended that regional trade agreements among small countries may have negative welfare implications for outside countries. Yeats (1997) in his study demonstrated the potential pitfall of RTAs on members and on third countries as their trade patterns are different from current comparative advantage. Based on new trade theory, Winters (1997) analysed the welfare impacts of an RTA on non-members and argued that it depend on changes in the terms of trade, levels of output, number of firms, existing trade restrictions and induced investment effects. Winters and Chang (2000) studied Spain's accession to the EU and found that the preferred exporter will raise its pre-tariff price while the non member will reduce its pre-tariff price. Chang and Winters (2002) analysed Brazil's entry in to Mercusor and found that non-members' export prices to Brazil fell relative to their export prices of the same commodities to other markets. Borchert (2008) demonstrated empirically that different degrees of market access offered by European Union to developing countries induces sizable trade diversion to the detriment of relatively less preferred beneficiary countries.

In addition to the trade benefits to regionalism there are studies highlighting the gains from non traditional areas in pursuing regional trade agreements. Schiff and Winters
content that regional trade agreements is part of diplomacy to reduce security tensions between neighbouring countries as trade between neighbouring countries increases trust between them and reduces the likelihood of conflict. Emphasizing the importance of non traditional gains of RTAs such as commitment, signaling and insurance mechanisms, Fernández (1997), opined RTAs can serve a useful economic purpose above and beyond the direct gains from trade liberalization by reducing such uncertainties and by enhancing credibility. Lobbying and Special interests often play a very important role on the outcome of Regional Trade Agreement. The broad framework to explain the role of special interest groups in shaping regionalism is developed by Grossman and Helpman (1995), which explains policy formations as the outcome of lobbying and contribution competition among industries. Kee, Olarreaga and P. Silva (2003) applied Grossman-Helpman (1994) model and showed very high returns (above 50 percent) to Latin American exporters' political contributions. Desker (2004) in his paper discussed the underlying security rationale for the conclusion of FTAs, highlighting the nexus between security interests and international economic policy in East Asia. Krueger (1993) worried that the establishment of regional FTAs might create beneficiaries (rent-seekers) who would form a political lobby against multilateralism. Krishna and Bhagavati (1997) showed that if two or more countries are pursuing certain non-economic objectives, they can still form a customs union between themselves and be jointly better off.

The economic size of countries joining the regional integration arrangement has been of considerable interest to economists recently (Bhagavathi and Panagaria 1996; Shiff 1996). The principal issue is whether a small country can expect to gain more from joining a large regional integration arrangement than a small regional integration
arrangement. A related issue is whether trading countries that have a mutual affinity to trade with one another (natural trading partners) should expect to gain more substantially from forming a regional integration arrangement than other countries. Schiff (1999) in his study revealed that the smaller the volume (or share) of imports from the trading partner, the larger the impact of a preferential trade agreement on home country welfare. The study also suggested the home country is better off as a small member of a large bloc than as a large member of a small bloc. Schiff and Andriamananjara (1999) observed that a microstate's decision to form, expand, or join a regional organization is to reduce negotiating costs and increase bargaining power, rather than on the traditional costs and benefits of trade integration. Panagaria (1999) showed a union member loses more from a preferential liberalization if its external tariffs are higher and its import share is larger from the partner. Contrary to this, if a member exports more to the partner and the partners' tariff rates are higher, it gains more from the PTA. Scollay (2004) suggested for smallest and vulnerable countries it is critically important to continue MFN liberalization in parallel with the establishment of the FTA. Perroni and Whalley (1994) in their study explained that several of the newly negotiated Regional Trade Agreements contains significantly fewer concessions by the large countries to smaller countries than vice versa and without side payments large-small country regional agreements would not have occurred.

As regional integration gets deepened, it provides dynamic gains to participating nations. Hoekman and Konan (1999) emphasized that preferential trade agreements go beyond eliminating tariffs and quotas to eliminating regulatory and red tape costs and opening up service markets to foreign competition. Owen (1983) studied scale economies for some major EC industries and applied it to all EC manufacturing and showed cost reduction
effects from achieving greater economies of scale under regional integration in Western Europe might have amounted to 3-to-6 percent of EC GDP in 1980. Brada and Mendez (1988) examined higher levels of investment and faster factor productivity growth in six integration areas and showed faster productivity effects are found only in LAFTA and CMEA while all schemes except the CMEA increased members' investment levels. But the cumulative impact of these dynamic effects over nearly twenty years is no more than 1% of members GNP.

Hertel, Walmsley and Itakura (2001) found that the impacts of this new-age FTA on bilateral trade and investment flows are significant – with customs automation playing the most important role in driving increases in merchandise trade. Unlike preferential tariff cuts, the 'new age' components of this FTA promote imports from all sources, thereby eliminating the problem of trade diversion. Dee and Gali (2003) studied some of the traditional and 'new age' provisions of preferential trading arrangements (PTAs) on merchandise trade and investment using gravity models. Of the 18 PTAs studied it was found 12 have diverted more trade from non-members than they have created among members.

Schiff and Wang (2004) in a pioneering study analysed the dynamic effects of RIAs based on their impact on technology diffusion from partner and non-partner countries. It examined the impact of NAFTA on total factor productivity (TFP) in Mexico through its impact on trade-related technology transfers from OECD countries. The study found that Mexico's trade with its NAFTA partners (US + Canada) had a large and significant impact on Mexico's TFP while trade with the rest of the OECD did not. Simulation of the impact of NAFTA reveals a permanent increase in TFP in Mexico's manufacturing sector of between 5.5 percent and 7.5 percent and to some convergence to the economies of the US and Canada. There is a growing body of empirical literature that seeks to measure
links between trade volumes and productivity. Coe, Helpman, and Hoffmaister (1997) estimated trade productivity links for 77 developing countries, found sizable spillover benefits of research and development in developing countries. They estimated that a one-percent increase in the import share of machinery and equipment to GDP results in a 0.3 percent increase in TFP. Frankel and Romer (1999) analysed a 98 country sample, controlling for capital inputs per worker and schooling. They found that a one-percentage point increase in the trade share of GDP increased the contribution of productivity to output by two-percentage points.

Krueger (1999) studied the trade creation and trade diversion effect of Mexican entry into NAFTA and found that fraction of Mexican trade with the U.S. and Canada has risen sharply and it is trade ‘creating’, and not diverting. A large number of studies in the area of regionalism were directed at examining the trade creation versus diversion effect of Regional Trade Agreements. Soloaga and Winters (2001) studied nine PTAs to compare bloc’ patterns of trade before and after the second wave of regionalism and found trade diversion and export diversion in EU and EFTA. In a comprehensive review of trade flows, Crawford and Laird (2001) found that RTAs have been net trade creating for members and non members. Rose (2005) estimated the effect on international trade of three multilateral organizations intended to increase trade namely WTO (previously GATT), IMF and OECD and showed that OECD membership had a consistently large positive effect on trade, while accession to the GATT/WTO also increases trade.

Gilbert, Scollay and Bora (2001) found through gravity model and CGE approaches that there may be significant welfare gains associated with some of the new RTA proposals in the Asia-Pacific region, but they are likely to impose substantial costs on non-members.
In the context of forming South American Free Trade Area, Carrillo and Li, (2002) examined the effects of the Andean Community and Mercosur on both intra-regional and intra-industrial trade for the period 1980-1997. The gravity model showed that Andean Community preferential trade agreements had a significant effect on both the differentiated and reference products, while Mercosur preferential trade agreements only had a positive effect on the capital intensive subcategory of the reference products. Kari (2005) found that European trade is significantly influenced by various regional agreements and intensities of trade are strongly asymmetric between the regions. Bergstrand, Egger and McLaughlin (2008) examined the causes and consequences for the growth of regionalism particularly in the context of the 'latest wave' of regional trade agreements and concluded the economic benefits from EIAs are much larger than conventional ex ante economic analysis have previously suggested.

Kawai (1999) used simplified gravity model and showed that both trade creation and trade diversion dummies have statistically significant coefficients, but they were weakening during the 1990s. Urata and Okabe (2007) examined the same issue and found that FTAs bring about trade creation effect and that trade diversion effect is limited. Koo, Kennedy and Skripnitchenko (2006) examined the effects of RPTAs on agricultural trade and showed that RPTAs increase trade volume among member countries through both inter- and intraindustry trade and to a lesser degree, among non member countries thus increasing global welfare. Caporale, Rault, Sova and Sova (2008) studied FTAs between the European Union (EU-15) and the Central and Eastern European countries (CEEC-4) using gravity model with fixed effect vector decomposition (FEVD) technique to isolate and eliminate the potential endogeneity bias. The results of the study indicated a positive and significant impact of FTAs on trade flows. Liu (2004) used a gravity model to study
the Trade Creation and Trade Diversion Effect on Trade between RTAs and revealed that Regional trade agreements like APEC, CER and MERCOSUR tend to promote member trade as well as trade with other trading partners from non-member countries. Cipollina and Salvatici (2006) in their study combines, explains, and summarizes a large number of results (1827 estimates included in 85 papers), using a meta-analysis (MA) approach. Despite high variability, studies consistently found a positive RTAs impact on bilateral trade and the hypothesis that there is no effect of trade agreements on trade is easily and robustly rejected at standard significance levels.

Kiyota (2006) used Michigan Model of World Production and Trade to compute potential economic effects of regional, bilateral and multilateral trade liberalization. The major findings of the study are; the effects of regional FTA are larger than those of bilateral FTA, among FTA member countries, small countries have larger benefits (in terms of the percentage of GDP) than large countries and finally, the effects of multilateral free trade are significantly larger than those of bilateral and regional FTAs. Clarete, Edmonds and Wallack (2003) used augmented gravity model to estimate the effect of various PTAs on trade flows within and across membership groupings as well as the effect of PTAs on members' trade with Asian countries and showed PTAs have augmented trade in Asia. Lee and Park (2005) showed East Asian FTA will likely be a building block for a global FTA if it takes the form of deeper integration in close consultation with existing multilateral institutional frameworks such as APEC and WTO.

Cabalu and Alfonso (2007) used variation in growth trends and the shift-and-share methodology on intra- and extra-regional commodity trade and shown that the ASEAN Free Trade Agreement for the ASEAN-6 was trade creating rather than trade diverting.
Ismail, Smith and Kugler (2007) studied the trade creation and diversion effect of AFTA and showed that trade creation among the ASEAN5 is enhanced after the establishment of AFTA. There is no evidence of trade diversion in pre-AFTA analysis but there is strong evidence of this during the post-AFTA period.

The large number of bilateral free trade agreements that came out recently also subjected to empirical testing. Klausing (2001) found establishment of Canada – US Free Trade Agreement had substantial trade creation effects, with little evidence of trade diversion. Roberts (2004) used the gravity model to study China-ASEAN Free Trade Area (CAFTA) and demonstrated that more developed CAFTA economies have a crucial role to play if integration is to benefit the less-developed economies. Tongzon (2005) looked the likely impact of the establishment of a FTA between China and Asean and showed there are economic opportunities for ASEAN from the FTA as China imports a significant portion of its input requirements, particularly raw materials and industrial components and agricultural products from ASEAN. Yihong and Weiwei (2006) applied Export Similarity Index to examine China’s export potential to ASEAN market and found China ASEAN FTA had a significant positive effect on bilateral trade volume. Hertel, Walmsley and Itakura (2001) used a modified version of the dynamic GTAP model to evaluate the new age provisions of RTA between Japan and Singapore and found that they have significant impacts on bilateral trade and investment flows, with customs automation playing the most important role in driving increases in merchandise trade.

Bhattacharya (2006) studied the prospects of regional cooperation in trade, investment and finance between BIMSTEC countries and Japan and found that it will increase intraregional trade but Japan gains the most from it. Liu (2004) analysed the desirability
of forming a bilateral free trade agreement between China and Australia and showed clear benefits for both Australia and China from a bilateral free trade agreement. Wang (2006) argued that regional economic integration in Asia should first realize sub-regional integration between East Asia and South Asia, among which the most important one should be a China-India FTA. Bhattacharya (2004) used a gravity model and simulation method to show the increase in India-Bangladesh bilateral trade under four hypothetical scenarios of tariff rate cuts. The results showed that in a free trade regime, the increase in India’s exports will be more than the increase in its imports from Bangladesh. The trade potential between Brazil and India using Balassa’s Revealed Comparative Advantage Index was done by Fonseca, Azevedo and Velloso (2005 for three-year period between 2000 and 2002. The results suggested low complementarity between the supply and demand of the two economies, which is one of the main reasons for low volume of bilateral trade. Pradhan, S.R (2006) used augmented gravity model to estimate the magnitude of India’s export potential to the six-member Gulf Cooperation Council (GCC) countries who are currently negotiating a Free Trade Agreement (FTA). The result showed that the magnitude of India’s export potential is highest with Oman, followed by Qatar, Bahrain, and Kuwait and there is no export potential with UAE, and Saudi Arabia.

Bhattacharya and Bhattacharyay (2007) studied the likely benefits of India - China FTA by identifying trade complementarities and potential using gravity model. Empirical results showed that in the short run India’s potential gain is relatively less compared to China (because of its high tariffs) but in the long run, India’s gains are higher than China (once tariffs are at par). Free trade arrangement is a win-win situation for both countries and is consistent with their growing dominance in the international trade. The review of the studies showed most of the RTAs are creating trade for the participating countries.
2.3. Econometric and Specification Issues in Gravity Model

The econometric dimension of the Gravity model and specification issues attracted large number of studies ever since it was first used by Tinbergen. James Harrigan (1994) in his study highlighted specification issues related to gravity model such as use of zero observations, over prediction of trade volume, distance as proxy for trade costs, non unitary trade elasticity, difficulty in using CES model and prevalence of monopolistic competition and/or scale economies. Cardamone (2007) reviewed the empirical literature on gravity model and said the use of dummy variables to proxy PTAs can be misleading. Also there are bias in econometric estimation such as unobserved heterogeneity, endogeneity of some regressors and zero-trade flows affecting the reliability of results. Jensen (2000) asserted that Gravity models may not be appropriate to describe trade patterns for groups of countries of all income levels. The paper suggested two modifications namely disentangling the output and income share effects when considering the determination of trade flows and the use of disaggregated production data rather than GDP as a measure of production for the exporting countries. Ryrfeldt, Sundblad (2006) in their thesis evaluated the predictive ability of the gravity model and found that the gravity model results are poor in making predictions about future trade flows. This is due to specific and ad-hoc nature of the model and the inability to explain trade re-orientation.

Coulibaly (2007) used gravity model with kernel estimation techniques so as to capture the non-monotonic trade effects while imposing minimal structure on the model. Kandogan (2004) emphasized use of modified Gravity model for better model specifications by removing unnecessary constraints on the parameters of the model. Porojan (2000) revisited the popular gravity model of trade in the light of spatial econometrics and stated that when the inherent spatial effects are explicitly taken into
account, the magnitude of the estimated parameters changes considerably and, with it, the measures on the predicted trade flows. Agostino, Aiello and Cardamone (2007) used an alternate methodology to overcome data aggregation and econometric specification bias faced by non-reciprocal preferential trade policies (NRPTPs). Data aggregation problem was tackled using evidence based on three levels of data aggregation (total exports, total agricultural exports and 2-digit) and specification problem with estimation methods that take into account the unobservable country heterogeneity, endogeneity of trade preferences and the potential selection bias which zero-trade values. Henderson and Millimet (2008) estimated gravity models in levels and logs to identify appropriate functional form between parametric and non-parametric estimation. The study showed parametric models based on assumptions offer equally or more reliable in-sample forecasts (sometimes) and out-of-sample forecasts (always), particularly in the levels model and statistically significant. Thus, concerns in the gravity literature over functional form appear unwarranted, and estimation of the gravity model in levels is recommended.

Cheng and Wall (2005) compared various specifications of the gravity model and observed that unless heterogeneity is accounted for correctly, gravity models can greatly overestimate the effects of integration on the volume of trade. The study used bilateral country-pair fixed effects to control for heterogeneity. To overcome specification problems of standard gravity model, Cheng and Ying-Yi Tsai, (2005) constructed a heterogeneous trading-pair (HTP) model in which both the conventional gravity variables and price-effect variable are included. Harris and Matyas (1998) accounted for simultaneity bias in the gravity models and presented results of a random effects gravity model. It is important to properly specify the model, in terms of source, target and business cycle effects to get accurate results. Krishnakumar, (2002) postulated a gravity
equation for each traded good rather than for the aggregate volume of bilateral trade and estimated a model incorporating correlated explanatory variables, presence of panel data effects and autocorrelated disturbances. Baier and Bergstrand (2005) addressed the endogeneity problem of FTAs using instrumental variable (IV) techniques, control-function (CF) techniques, and panel-data techniques. According to the study IV and CF approaches did not adjust for endogeneity well, but a panel-data approach corrected endogeneity problem and the empirical results showed the effect of FTAs on trade flows quintupled. Teresa L. (2002) used instrumental variables technique to overcome endogeneity of income in the gravity model.

In their paper, Sanso, Cuairan, and Sanz (1993) questions the loglinearity of the gravity model and concluded the optimal functional form is slightly, yet statistically, different from the loglinear form in every year of the sample and proposed a general functional form through Box-Cox transformations. Silva and Tenreyro (2003) explains estimating economic relationships in logarithms can lead to significant biases in the presence of heteroskedasticity and proposed an appropriate estimator. Loungani, Mody and Razin (2002) used ‘transactional distance’ to overcome distance puzzle and showed that trade and investment flows increase as ‘transactional distance’ falls. Cees van Beers (2000) showed specification of the distance-variable in the standard gravity model estimated on a widely dispersed sample affects the estimates of economic integration dummies. It results in a positive (negative) bias in the estimates obtained for the economic integration dummies for countries located at relatively large (small) distances from each other. Polak (1996) criticized the gravity model for misspecification and use of physical distance as a trade resistance term. The author suggested inclusion of a country dummy with a free
coefficient, such as Linnemann’s Location Index can overcome the problems associated with the use of physical distance.

In order to overcome zero flows Linders and De Groot (2006) employed various approaches and showed that the simplest solution of omitting zero flows from the sample often leads to acceptable results, although the sample selection model is preferred theoretically and econometrically. Westerlundy and Wilhelmssonz (2006) showed the usual log-linear estimation method can result in highly deceptive inference when some observations are zero. The study suggested Poisson fixed effects estimator which can perform well in small samples. Bun and Klaassen (2002) showed static models are misspecified and extended the static model by including lags of the regressors and lags of trade to get dynamics. They also showed that the simple Least Squares Dummy Variable (LSDV) estimator, which is typically used in static panels, yields accurate estimates for dynamic model and outperforms the popular Generalized Method of Moments (GMM) estimator of Arellano and Bond (1991). Benedictis and Vicarelli (2005) used gravity equation with a system GMM dynamic panel data approach and showed that gravity forces and “persistence effects” matter in the analysis. Egger (2000) specified three problems associated with the estimation of the gravity model such as i) misspecification ii) comparing estimation results between different economic concepts pertaining to different time horizons iii) trade potential of insample prediction approach. McPherson and Trumbull (2008) found Hausman-Taylor method is superior as it eliminates the heterogeneity bias that plagues OLS and the correlation between unobserved country-specific effects and the individual error term, which introduces bias in random-effects estimation. The study felt unlike fixed-effects estimation, the Hausman-Taylor method
allows for the inclusion of time-variant explanatory variables and does not necessitate the ad hoc estimation of country-specific effects in out-of-sample projections.

Pleumper and Troeger (2006) used a three-stage fixed effects vector decomposition model for the estimation of time-invariant and rarely changing variables in panel data models with unit effects. The study juxtaposed vector decomposition technique against the random effects model, pooled OLS and the Hausman-Taylor procedure and demonstrated that it provided the most reliable estimates under a wide variety of specifications common to real world data. Lee (2008) used fixed effect estimators (FE) based on the Hausman test to overcome endogeneity bias in a panel data gravity model. To avoid unobservable omitted variables, the study experimented with country-pair fixed effect, country-pair fixed effect combined with time dummy, and time-varying country dummies. Baldwin and Taglioni (2006), generalized Anderson-Van Wincoop's multilateral trade resistance factor (which only works with cross section data) to allow for panel data and then showed that time-varying country dummies with omitted determinants of bilateral trade being dealt with by time-invariant pair dummies. Carrere (2003) used panel gravity model specification derived by Baier and Bergstrand (2002) with the addition a barrier-to-trade function and three dummy variables for each RTA considered (intra-trade, imports and exports dummies. Serlenga and Shin (2004) used extended panel data framework and highlighted the importance of allowing for a certain degree of cross section dependence through unobserved heterogeneous time specific common effects for better estimation.
2.4 Regional Integration Studies based on Gravity Model

Gravity model is the most widely used method to ascertain the impact of Regional Trade Agreements across the world. Rose (2004) using a gravity model estimated the impact of protectionism on trade performance and observed that Trade barriers have economically significant effect on trade, lowering trade by almost half in South Asia and the Caribbean, and almost a quarter in the other two regions. The results also indicated that Sub-Saharan Africa and (especially) East Asia trade disproportionately more than expected from the gravity model. Martinez Zarzoso, Lehmann D., and Horsewood (2005) investigated the impact of regionalism on intra or/and extra blocs international trade taking into account time and country heterogeneity and tested whether a dynamic model is preferred to the traditional static specification of the gravity model. The results indicated that the variables traditionally included in the gravity equation are statistically significant and highlight the role played by intra and extra-bloc effects.

Martinez Zarzoso and Lehmann (2003) through a panel data analysis identified factors such as infrastructure, income differences and exchange rates as important determinants of bilateral trade flows between Mercosur and European Union. The study also found that fixed effect model is to be preferred to the random effects gravity model. Zarzoso and Horsewood (2005) estimated trade potentials using a dynamic panel data approach with Blundell and Bond’s (1999) system-GMM estimator and showed that the new wave of regionalism in the 1990s has had positive effects on intra-bloc trade, (EU and NAFTA) and also indicating some evidence of import diversion effects (CACM and CARICOM, MAGREB and MASHREK). Benedictis and Vicarelli (2004) used an in-sample trade method to estimate trade potential using panel data different specifications of the gravity model. The study found estimation of a gravity equation through a dynamic estimator
instead of a static one, generally give fitted value close to historical values. Secondly, the choice of the estimator (static or dynamic) is very important in drawing policy guidelines from a gravity equation. Helmers and Pasteels (2005) used International Trade Center's (ITC) econometric gravity model, *TradeSim* (third version) and showed a high untapped trade potential for South Africa's overall exports to the US. Sohn (2005) based on the gravity model showed that South Korea's trade follows a Heckscher–Ohlin model more than an increasing returns or a product differentiation model. South Korea has large unrealized trade potentials with Japan and China, suggesting that they are desirable partners for an FTA.

Kien and Hashimoto (2005) used Hausman-Taylor (HT) estimation technique of panel data gravity model to study the economic impact of the ASEAN Free Trade area. The study revealed that AFTA produced only trade creation among its members and the trade facilitation policy is important to meet the targets of the FTA. Lee and Park (2007) measured the impact of trade facilitation on trade and showed RTAs with better trade facilitation measures are more likely to be trade-creating, less likely to be trade diverting, and are thus more likely to lead us toward global free trade. Cernat (2001) showed that a large number of African RTAs are not trade diverting but trade creating, both with regard to intra- and extra-RTA trade and regional trade agreements are fully justified if members acting together can reduce not only tariffs but also their overall trade barriers through trade facilitation measures. Rahman, Shadat and Das (2006) used panel data gravity model with country-pair specific as well as year specific fixed effects and shown that RTAs covered are net export creating. More than one third of the members of these RTAs are found to be positively affected by joining the RTAs.
Bhattacharyya and Banerjee (2006) applied the panel data gravity model to India’s yearly bilateral trade data with all its trading partners in the second half of the twentieth century. The study came out with important conclusions: India’s trade responds less than proportionally to size and more than proportionally to distance, Colonial heritage is still an important factor in determining India’s direction of trade, India trades more with developed rather than underdeveloped countries and size has more determining influence on India’s trade than the level of development of the trading partner. Batra (2006) estimated trade potential for India using the augmented gravity model approach and showed India’s trade potential is highest with the Asia-Pacific region followed by Western Europe and North America. India’s trade potential is revealed to be highest with Pakistan in SAARC and with Philippines and Cambodia in the ASEAN and with Oman, Qatar and Kuwait in the GCC. Nag and Nandi (2006) explored India’s trade dynamics in the SAARC region using Gravity model and tested “natural trading partners” hypothesis on the success of South Asian trading bloc. The paper showed that in spite of an increasing trade complementarity between SAARC members, the members are moderate natural trading partners. Walsh (2008) used Gravity model with Hausman-Taylor estimation technique to find out the determinants of trade in services. The study showed standard gravity framework explains trade in services well and the results are similar to those found in trade in goods.

2.5 Studies relating to ASEAN

Ng and Yeats (2003) studied the intra industry trade and production sharing in the East Asian region and found that intra-trade has had a major positive influence on regional cooperation and growth in East Asia. Since the mid-1980s, East Asian intra-trade has been growing at a rate roughly double that of world trade, and at a rate far higher than the
intra-trade of NAFTA or the European Union. Tran Van Hoa (2003) extended gravity model to time-series data and applied a new flexible modelling approach to construct a simultaneous-equation model of trade and growth for the ASEAN and the East Asia. The study showed that East Asia 3 plays an important part in improving ASEAN's growth; there is sufficient empirical basis to push for bilateral regional FTAs such as ASEAN+Japan, ASEAN+Korea and ASEAN+China. Sohn (2002) explained intra-regional trade and investment in East Asia has increased during the last few decades and accelerated since 1990s mainly due to active and connecting roles of newly industrializing economies (NIEs) and concentrated FDI flows within the region. The concentrated FDI flows have led to the internationalization of production networks, of which ethnic Chinese networks have been particularly significant. Gavin (2006) looked into the effect of rapidly growing RTAs on regional integration and trade liberalisation and the prospects of trade creation in East Asia. The study observed that service sector can give more welfare gains to RTAs as applied tariff in manufactured products in East Asia is very low.

Tran Van Tho (2002) assessed the trade effect of AFTA and said while AFTA is contributing to the increasing confidence and stability of ASEAN countries, its effects on the development of these countries are not as important as the interdependence and dynamic division of labor between ASEAN and other economies in East Asia. Cabalu and Alfonso (2007) found that AFTA had trade creation effects, with little evidence of trade diversion. This is mainly because major import sources for ASEAN member countries are outside the region and ASEAN countries having similar production and trade structures and would source most of their diverse imports from the rest of the world. Lendle (2007) investigated empirically whether the ASEAN Free Trade Agreement had a building bloc or stumbling bloc effect on subsequent changes in MFN tariffs of four major ASEAN
members. The study found significant building bloc effect for Indonesia, Philippines and Thailand as MFN tariffs of preferential products were reduced by more than for non-preferential products. For Malaysia the results emanated from the study are ambiguous. This suggests that overall the ASEAN Free Trade Agreement has rather helped than hindered nondiscriminatory trade liberalization.

Cheong (2008) used Fixed Effects Poisson Quasi-Maximum Likelihood estimator to study changes in trade patterns of ASEAN at the Harmonized System (HS) six-digit level in the period 2001 to 2003. The estimates from the study showed that ASEAN preferential margins had a trade-creating effect at the product level and majority of ASEAN countries benefited significantly from this trade creation. These results suggested ASEAN trade liberalization in the early 2000’s had positive welfare effects. Hapsari and Mangunsong (2006) used an augmented gravity equation with two indices namely the ‘complementarity index’ and the ‘similarity index’ to study trade flows of AFTA on members and non-members and showed that gravity variables are consistent with many previous studies with some trade diversion. Damuri, Atje and Gaduh (2006) studied the regional integration process and the resultant Trade Specialization in East Asia. The study observed that there is no indication of a "low-productivity specialization trap" as all East Asian countries that were studied shown a trend towards specializing in products with higher sophistication and technological intensity. Sanidas (2009) calculated RCA for the 100 largest countries in the world, taking 14 different important industrial sectors and showed that for East and South East Asia, there is substantial competition for 2-3 industries such as IT and electronics and showed countries with particular RCAs are at a particular stage of development as proposed by Rostow and others.
Jayanthakumaran and Sanidas (2005) found ASEAN-5 emerged as a powerful integrated area due to unilateral, preferential and regional trade liberalisations. The ASEAN relied both outward orientation and positive aspects of regionalism as they are complementary with each other. Economist Intelligence Unit (2007) studied the export performance of ASEAN and Asia and contended that ASEAN's trade is becoming more globally integrated in the recent time with trade growing faster than GDP. The study highlighted China has had a profound effect on trade in ASEAN and Asia and visualized India is emerging as an important trading partner in Asia, but Japan's importance as a trading partner has declined in Asia. Menon (2007) in his study suggested that if members pursue open regionalism and offer their trade and other preferences to nonmembers on a nondiscriminatory basis, then this is consistent with the principles and objectives of multilateralism.

Sakakibara and Yamakawa (2003) in their paper looked at the future role of regional institutions, the prospects for a regional role in promoting trade and FDI, and the possibilities for financial and monetary cooperation for the growth and stability of its member economies. Yoshimatsu (2002) examined the development of regional economic integration in the ASEAN region and observed that foreign MNCs operating in small local markets seek larger markets to achieve an efficient production level, seek preferences for regional economic arrangements, and these preferences function as critical factors promoting regional economic integration. In the context of rising regionalism and tensions in multilateralism Low, (2003) observed that ASEAN regionalism became indecisive and ambivalent to the challenges of rising Asian regionalism after Asian crisis. The paper concluded that while improving multilateralism and the WTO remain the first best option, it is imperative to ensure that regional trading arrangements play a
complementary and supplementary role. Panagariya (1994) examined whether East Asia pursue the regional route to sustain growth in the region argued that the costs of such sub-regional preferential trading schemes outweigh their benefits.

Thornton and Goglio (2002) asserted that South East Asia exhibits a regional bias towards intra-regional trade which is higher than EU and less than NAFTA. Gravity model result showed that apart from economic size, geographic distance and common language, re-exports and membership of ASEAN have been important factors promoting intra-regional trade in East Asia. Guangsheng (2006) discussed the performance of ASEAN Economic Integration and observed the performance of ASEAN economic integration is modest due to deep rooted concept of sovereignty and limited market scale of internal regional market. Unless these two issues are addressed progress of ASEAN economic cooperation will not change dramatically. Feridhanusetyawan (2005) in his paper described the proliferation of PTAs in Asia Pacific region, its characteristics and implementation and assesses their potential effects. Realizing the potential gains from Asia-Pacific PTAs required a commitment to liberalize sensitive sectors, maintain consistent provisions, and prompt enforcement of agreements and reducing administrative complications.

Llyod and Smith (2004), in their study explored the methods to achieve ASEAN Economic Community. It required elimination of both border and beyond – the border measures that discriminate against foreign goods or persons, the harmonization across the boarders of standards, laws and regulations that inhibit trade. CEPII (2007) study used simulation methods to study East Asian integration between ASEAN and four main Asian countries namely Japan, Korea, China and India covering all goods and services. The
simulation results showed that trade liberalisation produces significant effects for the parties involved and excluding the “sensitive” agricultural products from the liberalisation reduces the gains of integration for ASEAN by more than a third. Simulations showed that ASEAN would derive more from a hub and spokes agreement in which it would be the only one to have free access to the markets of the region’s large economies. Bchir and Fouquin (2006) used CEPII’S CGE model (MIRAGE) and simulated for four different scenarios to get the welfare implications. The simulation results showed ASEAN can benefit most by forging separate bilateral negotiations within the region and to include agricultural products as it will give ASEAN easier access to its main natural partners. For India, a gradual involvement in a process of liberalization is recommended as there are higher levels of protection.

Mohanty and Pohit (2007) used simulation exercise based on a monopolistic version of Computable General Equilibrium (CGE) to identify ideal group formation and integration scheme that would benefit ASEAN the most. When India joins the ASEAN+3, the absolute level of welfare of the caucus rises between 30.5 per cent to more than 34 per cent depending upon the level of liberalization. Park (2008) quantitatively evaluated the likely impact of proposed East Asian RTA strategies on the East Asian economies and the world economy using a multi-country and multi-sector CGE model. The study found expansionary ASEAN+3 RTA can be a sustainable Pareto efficient policy option because the members’ gains were significantly positive and evenly distributed, positive world welfare and the insignificant negative effect on nonmembers.

Kawai (2007) examined East Asia’s economic architecture and suggested policy directions for greater regional economic cooperation in the region. These include
consolidation of multiple, overlapping FTAs into a single East Asian agreement, achieve "deep, WTO-plus" integration and exchange rate policy coordination by financial authorities. Kawai and Wignaraja (2008) argued for the consolidation of multiple and overlapping FTAs into a single East Asian FTA as it can mitigate the harmful noodle bowl effects of different ROOs and standards. The paper suggested the consolidation at the ASEAN+6 level which would yield the largest gains to East Asia among plausible regional trade arrangements—while the losses to non-members are relatively small. For this to happen ASEAN must deepen economic integration, the plus-three countries (PRC, Japan, and Korea) need to collaborate more closely, and India needs to pursue further structural reforms. Lee and Park (2005) in their study tried to identify the appropriate form of a regional trading agreement in East Asia and concluded that ASEAN-3 would be the natural policy choice for the formation of a regional trading agreement in East Asia as it is based on the principles of open regionalism and multilateralism and called for a formal institutional framework to strengthen the relationships. Batra (2006) made a study to evaluate the most efficient approach to regional economic integration in Asia and emphasized there is efficiency of a prior alignment with ASEAN for all the plus four economies. Kumar (2005) called for a JACIK approach to East Asian integration as a preferred option over the ASEAN+3 approach. Financial and monetary policy cooperation in the region has the potential to augment production capacity, provide energy security, enhance infrastructure development and cooperation in core technologies such as ICT and biotechnologies.

The BOAO report (2007) called for the establishment of Pan-Asian FTA preferably from the ASEAN+3 FTA by including India and CER countries to maximize the potential benefits of FTAs in East Asia. The model simulations have confirmed that North Asia
and ASEAN would gain most in an ASEAN+3 FTA, an ASEAN+6 FTA, and an Asia-wide FTA. Rana (2005) studied economic cooperation between south Asia and East Asia in the context of the Pan Asian Economic integration and observed that there exists significant complementaries between two regions. These include expansion of markets for goods and services and economies of scale, lower prices from increased competition, FDI, technology transfer and increased productivity, deeper integration among partners and cooperation on infrastructure and trade facilitation. Chew (2005) in his paper presented three strategic models for more intensified economic and monetary cooperation between ASEAN+3 and India. Either an intertwining web of free trade agreements consolidating an ASEAN+3 FTA, or a Japanese investment-led model, or a China/India inspired east Asian growth and consolidation model could be used to effectively integrate the region, though unlike Europe, the model would be more functional than institutional. Soesastro (2005) observed ASEAN Economic Community (AEC) can only be achieved if there is a clear blueprint, which identifies the end goal, the process to reach the end goal and a framework for proper assessment of the costs and benefits of an ASEAN Economic Community. AEC should not be based on the AFTA in which an agreement was reached first and the details negotiated afterwards earning it the nickname of Agree First Talk After.

Manchin and Pelkmans-Balaoing (2007) suggested that preferential tariffs favorably affect intra-regional imports only at very high margins (around 25 percentage points) and there will be high administrative costs attached to the exploitation of preferences, particularly with regard to the compliance with AFTA’s rules of origin. Menon (2000) examined the impact of widening and deepening of the ASEAN Free Trade Area (AFTA). Widening of AFTA led to its membership grow from 6 to 10 and increased its
diversity with the emergence of a two tier structure of developed and underdeveloped segments. With regard to deepening of AFTA, apart from harmonizing customs procedures and tariff nomenclature and the fast tracking a common customs valuation method there has been limited progress achieved. Rana (2006) pointed out that increasing trade and financial integration in East Asian region is now starting to lead to a synchronization of business cycles in a selected group of countries, further enhancing the case for monetary integration among these countries. Plummer and Wignaraja (2007) in their study looked into the desirability of having monetary union in East Asia or having expanded free-trade areas (FTAs) in the region. The study concluded that, at present, the postsequencing of economic integration in Asia is developing such that trade agreements will ultimately complement the movement toward financial and monetary integration. Kim and Lee (2008) examined the real and financial integration in East Asia and concluded that the degree of regional financial integration within Asia is far smaller than the degree of global financial integration and financial integration lags real integration.

Dennis and Yusof (2003) developed an overall index to measure ASEAN economic integration combining the intra-ASEAN trade and intra-ASEAN foreign direct investment indices. It showed a mixed record on ASEAN integration in the 1995-2000 period, mainly due to a sharp decline in intra-ASEAN investment following the 1997 financial crisis. Shepherd and Wilson (2008) found that trade flows in Southeast Asia are particularly sensitive to transport infrastructure and information and communications technology and the region stands to make significant economic gains from trade facilitation reform. Estimates suggested that improving port facilities in the region alone could expand trade by up to 7.5 percent or $22 billion showing larger gains for trade facilitation measures to comparable tariff reforms.
Sen (2007) analysed the implications of ASEAN’s ongoing FTAs which range from limited to highly comprehensive and examined its role in fostering deeper economic integration in Asia. The study felt the emerging Noodle Bowl phenomenon in ASEAN result in potential trade diversion away from the spokes towards the emerging hubs and inefficient utiliation of scarce negotiating resources. The paper concluded that ASEAN require institutional and legal infrastructure for economic integration and should pursue unilateral liberalization and simultaneously implement multilateral trade policy to get desired result.

Shresta and Hasebe (2006) studied the degree of economic integration in East Asia and observed their degree of dependence on Japan decreased over the period, but continue to depend heavily on rest of the world including USA and EU. Mahani (2002) observed that Asian crisis slowed the integration efforts in ASEAN and asserted that it needs to be strengthened and expanded through production network to attract investment and liberalizing its service sector. Presently more efforts are made on trade facilitiation whose impacts are felt in the long run only. Plummer (2006) surveyed the EU-ASEAN trade and Investment relationship and suggested how the EU Experience might assist ASEAN as it develops its financial system and new forms of financial and monetary cooperatrion in the wake of the Asian crisis. Fukase and Winters (2003) in their study examined the dynamic effects of regional integration when a new member country joins AFTA. The study showed that AFTA accession like to offer better access to foreign knowledge, while trade liberalization is likely to stimulate the returns to capital which in turn stimulates investment.
2.6 Studies related to India-ASEAN trade

Kumar (2002) in his paper suggested India and East Asian countries need to deepen their ongoing cooperation further and create an Asian Community which could emerge as the third pole of the world economy after NAFTA and the EU. By forming credible schemes of regional economic integration, Asia will be able to seek its due place in the global economic governance and contribute to building a more democratic and multipolar world economy. Asher and Sen (2005) argued that India’s unilateral liberalization policies and its Look East Policy has resulted in greater integration with the rest of Asia than is commonly realized or acknowledged. If Asia is to increase its economic and political weight in the world affairs, India’s involvement would have to be an integral part of the Asia-wide cooperation. Rajen (2003) outlined India’s manufactured exports as a whole have stagnated when benchmarked against East Asia and India has largely been left out of the production-sharing process. If India is to become a manufacturing powerhouse it needs to take steps to integrate more effectively and intensively with the rest of East Asia and become an important participant in the regional and global division of labour. Saqib and Taneja (2005) attempted to study the non-tariff barriers that Indian exporters face while exporting to ASEAN countries and found that the incidence of non-tariff measures imposed by ASEAN has increased during 1997-98 to 2002-03.

Karmakar (2005) studied the India-ASEAN cooperation in services and suggested that at least in the medium term, there is a lot to be gained from a bilateral engagement between India and the Members of ASEAN in services. The areas where significant mutual interests seem to lie are: finance, education, health, IT & telecommunication, transport (including infrastructure), movement of professionals and other business services. Asher (2006) in his study suggested that while India and some of the other Asian
countries are competitive in some areas, there are also considerable opportunities for cooperation between them. So it is important for the Indian establishment, including the media, contribute constructively and purposely to improving perceptions about India in the rest of Asia, and to promote India’s strategic interests. Okamoto (2005) in his paper studied the economic impact of economic cooperation between ASEAN, China and India and said promotion of economic cooperation between ASEAN and India may make sense in the long run, but its immediate impact on both sides seems to be limited. This is because the success of India continues to depend on the services sector and there is still very little intra-industry specialization between ASEAN and India. Zhang (2006) examined the India’s Look East Policy (LEP) by exploring its links with India’s reforms, growth prospects and integration with East Asia. The paper called for some policy interventions such as opening its market wider to competition, revamping its rigid labour laws, and transforming the role of its government to provide better services to markets and society to accelerate the potential cooperation. India’s reform would trigger a new round of economic reform and liberalisation in East Asia and both impacts would help economic integration between India and East Asia.

Mattoo and Subramanian (1999) argued that India should engage more actively in the multilateral trading system and listed four important reasons for this namely facilitating domestic reform, commitment to good policies, securing market access rights and as a bulwark against regionalism. The study said proliferation of regional agreements is having a serious impact on India’s trade and suggested India should align itself with countries that press for sound open policies. Panagariya (2004) in his paper identified reasons for pursuing RTAs by India, the pros and cons of following FTA policies and the pragmatic approach India can take given the circumstances. If India wishes to maximize
the strategic advantage from FTAs, it must work towards the creation of an Asia wide FTA and keep non-trade issues outside of its FTA agreements. The potential risks for India from an FTA policy is its high external trade barriers, adverse effect on autonomous non-discriminatory liberalization and delay in multilateral liberalizations.

2.7 Major Findings

A careful review of the literature showed that the issue of trade creation and trade diversion is not resolved decisively yet. The issue of complementarity and substitutability between regionalism and multilateralism is also complicated. The magnitude of the impact of RTAs is not uniform. Certain methodological issues like nature of analysis, model specifications, and functional forms need further exploration. How regionalism influences multilateral liberalization, collective bargaining and trade negotiations are becoming increasingly important for developing countries. India's experience with regionalism is relatively limited and India cannot ignore the changing realities. There are large number of studies which have explored the trade creation and trade diversion effects of RTAs, but studies that look in to the impact of RTAs on a non member country like India is missing. India's changing trade with major trading blocks is not well explored. With the growing number of RTAs, what should be India's strategic response to avoid trade diversion needs more attention. Dynamic changes such as scale economies, FDI, and competition effects need more attention. In this context, the present study is directed to look in to the above mentioned issues.