A

Dissertation

On

Dynamics of Trade Specialization and Trade Competitiveness of ASEAN-India Free Trade Agreement

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MASTER OF PHILOSOPHY (M Phil.) In (Economics)

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DECLARATION

I declare that the dissertation entitled ***Dynamics Of Trade Specialization and Trade Competitiveness of ASEAN-India Free Trade Agreement*** has been prepared by me under the guidance of Dr. Vishal Sarin, Associate Professor in Economics, Mittal School of Business, Lovely Professional University, Phagwara Punjab. No part of this dissertation has formed the basis for the award of any degree or fellowship previously.

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CERTIFICATE

This is to certify that Sumit Oberoi with Reg.no. 11615398 has prepared his dissertation entitled ***Dynamics of Trade Specialization and Trade Competitiveness of ASEAN-India Free Trade Agreement*** for the award of M.Phil degree of the Lovely Professional University, Punjab**,** under my guidance and supervision. To the best of my knowledge, the present work is the result of his original examination and study. No part of this work has ever been submitted for any other degree at any University. The dissertation is fit for submission and the fulfillment of the conditions for the award of degree of Master of Philosophy in Economics.

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LIST OF ABBREVIATIONS

1. AIFTA: ASEAN-India Free Trade Agreement
2. ASEAN: Association of South East Asian Nations
3. CP: Competitively Positioned
4. EP: Emerging Products
5. ET: Emerging Threatened Product
6. FDI: Foreign Direct Investment
7. FII: Foreign Institutional Investment
8. GDP: Gross Domestic Product.
9. LFI: Lafay Index
10. LT: Less Threatened Product
11. RCA: Revealed Comparative Advantage
12. RD: Rising Dependence
13. RI: Rising Independence
14. RID: Revealed Import Dependency
15. SAARC: South Asian Association for Regional Cooperation
16. TP: Threatened Product
17. UNCOMTRADE: United Nations Commodity Trade
18. UNCTAD: United Nations Conference on Trade and Development
19. WP: Weakly Positioned
20. WTO: World Trade Organization

Abstract

India-ASEAN is regional grouping economies of Asia that are full of vim and vigour. The present study investigates India's emerging and escalating trade relation with the countries of ASEAN region in context of AIFTA for the time period 2001-15. Trade Specialization and Trade Competitiveness of Indian export as well as import sector has been analyzed at Harmonized System (HS) 6 digit level of product classification. For analyzing trade specialization, Lafay trade specialization index has been applied for the selected average time frame of 2001-02, 2004-05, 2009-10 and 2014-15 at six different industry levels. Correspondingly, trade competitiveness has also been examined at HS-6 digit level under six different industry levels proposed by Basu & Das (2011) using the RCA and RID approach. The data for the study is obtained from various sources such as UNCOMTRAD, UNCTAD, WTO and Ministry of Commerce & Industry. Hence, from the very first objective of study it has been observed that Indian exports to ASEAN region grew from US$ 3.31billion to US$ 26.42 billion showing an improvement of US$ 23 billion. On the contrary, India's import from ASEAN region grew from US$ 4.3 billion in 2001 to US$ 41.5 billion in 2015 revealing rise of 10-11 times. India has been facing a huge trade deficit of US$ 5.62 billion per annum from ASEAN region thereby, depicting India to be net importer. The trade performance is analyzed in two different phases before AIFTA and after AIFTA. India and ASEAN members have observed a mixed trend in their trade specialization during the study time period. In pre-AIFTA (2001-09) period, India experienced deterioration in its trade specialization under Resource Intensive and Low-Skill and technology Intensive manufactures. Later, in post-AIFTA (2010-15) period, India demonstrated deterioration in its trade specialization only under Non-Fuel Primary Commodity for 'Vegetable Products' (HS 06-14) & 'Mineral Products' (HS 25-27) product line. On the contrary, ASEAN members demonstrated a mixed trend in their trade specialization for both pre & post AIFTA period under six different industry levels. Ultimately, for determining the trade competitiveness between India and ASEAN members, RCA and RID method has been taken into consideration. The analysis of the study leads to an interesting and insightful observation. Under trade competitiveness though India is revealing a competitive gain in majority of industry levels except non-fuel primary commodity 'Vegetable Products' (HS 06-14), 'Mineral Products'(HS 25-27) and resource intensive manufactures 'Textile & Textile Articles' (50-63). India demonstrates a gaining

momentum in trade competitiveness under rest industry level; still Indian economy is under constant threat of competitive pressure from ASEAN members. Finally, ex post result of ASEAN-India Free Trade Agreement (AIFTA) demonstrates that as far as trade is concerned, ASEAN has benefitted more than India.

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Chapter-1

INTRODUCTION

1.1 Introduction

Globalization is a process of the global integration economically, politically and culturally amongst the various nations of the world. In recent scenario, globalization happened to took place under our very eyes within decades. Because of globalization, today the world has turned to be a global village. Today globalization is relatively to be the new terminology, which describes out an old process of international integration, growth and development. Even from the prior times of mercantilism, to this present era of globalized world, trade has always been considered as the most indispensable driving force or a catalyst for the global growth and development process for the world economies (Meier, 1995). Trade originated with the communication of the human beings in the prehistoric times. Hence it has been believed to have taken place throughout much of the recorded human history. Trade, acts to be a vital factor of openness and has made an increasingly consequential contribution for the growth of the economies of the world. Despite of recent global economic recession, the consent remains to be on favorable relationship between the long term economic growth and trade. Many studies validates that, it is the trade that leads to the emergence and existence of the specialization, dissemination of technical know-how, as well as the dynamic gain in the more productive export sectors and methods to accomplish such operations (Cairncross, 1960).

Trade acts as the foundation stone for the globalization of economies, but solely trade is not adequately enough to supplement the growth of the economies, but a competency in the exports carry out more of the weight age. Most of the factual proofs support that exports are very indispensable and beneficial for the economic growth and development of the nations. Exports give the economies new proportion in technical advancement, dynamic growth by relaxing balance of payment constraint, specialization, innovation to make commodities more sophisticated and demand-oriented (Thirlwall, 1979; Melitz, 2003). Many studies had promulgated, that exports are most advantageous for the economic growth and economic integration. Export of the goods and commodities, acts as an important determinant for the interdependence of a single nation upon others nations. Economic integration has helped

countries to focus on issues that encourage trade between various countries. Regional trading agreements (RTA's) are often described by the following level of integration set out by Balassa (1961) such as Preferential Trade Arrangements (PTA), Free Trade Area (FTA), Custom Unions (CU), Common Market (CM) and Economic Unions (EU) which has encouraged the nations to focus on the issues that encourage the trade amongst various nations like U.S Trade Agreement, Asia-Pacific Agreement and European Union are some of the examples of the Regional Trading Bloc. Regional Trade Agreements (RTA) are considered to be an best alternative to overcome some of the multilateral difficulties such as arriving consensus among diverse groups, transaction cost and deeper venturing in technical areas of reforms. The distinctive attributes of all these RTA's are, firstly trade among member nations is similar to the non-trading members differently; secondly tariffs between participating countries are abolished, but each nation sustain its own tariff against non-members; thirdly removal of restrictions on commodity and factor movement. RTAs gained a big boost as economies around the world formed bilateral, sub regional and regional trade agreements. Hence, many economies of the world after their initial hesitation started with the regional trade agreements for the expansion of the trade volume and promotion of the regional economic cooperation (Cockerham, 2010).

Asia has emerged to be a new engine for economic growth globally. With the phenomenal growth and development of Asian continent in the recent years, owes much to the extension of its international trade and policies that derived it towards the growth and development. Asia has appreciably increased its regional portion or quota of world GDP over the past couple of decade in comparison with other world regions. As the economic potency of Asian economies are anticipated to continue, the Asian portion on worlds GDP is forecasted to reach 29.4 percent in 2030. Trade in turn has much facilitated and encouraged the Asian economies to develop infrastructure, rapid technological change, foreign investment, employment and structural reforms (Brooks et al., 2008).

With the advent of the rise in trade and economic integration between the various nations, today the whole world is looking towards the rising role of Asia in the world trade. According to (Firend, 2016) Asia being the diverse and allied region, it represents the significant importance to the trade. In terms of revenue and sales, Asia acts to be the biggest market player globally. The 21st century is projected as the century of Asian dominance. The concept of Asian Century counterpart the characterization of the 20th century as Century of America, and 19th century as

Britain's Imperial Century. The Asian economy constitutes of more than 4.3 billion people (59% of the world population) residing in 49 different nations, but the significance Asia doesn't lies only in demographic dividend, but the growing middle-class in Asia is creating an unparallel demand for products and services which acts as a catalyst for trade in Asia. Asia is the swiftly growing economic region and the biggest continental economy by GDP growth of 5.9 percent in 2015and GDP per capita PPP: US$ 24,420 in 2015 (IMF, 2015).

China and India are currently the first and third largest economies in the world. Since, economic reform in late 1970s and early 1990s the Chinese economy has observed the economic growth from past three decades. Similarly, Indian economy also showing an incline in its GDP from 6.9 percent in 2005 to 7.4 percent in 2015, which acts to be a key contributor to generate splendid growth of Asia (Lutz et al., 2013).

A study by Kohli et al., (2011) founded that by nearly doubling its share of global domestic product (GDP) to 52 percent by 2050, Asia would regain the dominant economic position it held some 300 years ago. Therefore, Asia has come out to be the most vigorous region in international trade and with the swift advent of the industrialization of the region (Haokip, 2011). This will prospectively impact the trade pattern in Asian continent.

1.2 India-ASEAN an Overview:

India-ASEAN economies are dynamic and vibrant regional grouping in Asian continent. The relationship between, India and South East-Asian nations have profound a deep historical roots (Yong et al., 2009). For many centuries, trade and human migration has stretched across the Bay of Bengal and Indian Ocean maritime to the South-East Asian economies. India & Southeast Asian subcontinents being divers in nature holds the sustained integration through trade, culture and community.

From August, 1967, the non-Communist in South-East Asian countries were able to settle out their disagreements and contrast at the political level because of the governments desired peace (Narasimhan, 2005). Association of South East Asian Nations (ASEAN) being a geopolitical and economic organization came into the existence as on 8 August 1967 in Bangkok, Thailand and came into enactment with the signing of the "Bangkok Declaration" in the presence of its founding members, Indonesia, Malaysia, Philippines, Singapore and Thailand. On January 7, 1984 Brunei Darussalam became the member of ASEAN, later Vietnam joined on July 28,

1995, Laos PDR and Myanmar also became the member of ASEAN on 23 July 1997 and Finally, on 16th of December, 1998 Cambodia became the tenth member of ASEAN. Presently, ASEAN membership constitutes of ten countries. ASEAN had started their work under these circumstances, as its intents and objectives are to accelerate growth of economy, social progress and cultural development amongst its member nations, to fortify the peace and firmness of the region, and to avail the opportunities for the member nations to discuss their disagreement peacefully (Alam, 2015).

The decentralization of the USSR in December 1991 resulted into the far-reaching alteration in the geo-political scenario throughout the world. This alteration has undoubtedly impacted upon the foreign relations or tie-ups amongst all political system globally (Xinan, 2003). The view of the whole world shifted more towards the essence of cooperation irrespective of confrontation. The concept propounded towards regional cooperation too has been accepted by the third world nations. With the more and more regional cooperation, the major power blocs started to reduce the confrontation and put more efforts in the establishment of the new trading groups. Therefore, the increasing significance of the regional cooperation through new trading groups has been the essential aspect of the post cold-war era (Ambatkar, 2002).

Hence, with the rapid expansion of the regional cooperation globally from the developed economies to the third world nation in the post cold war era showed the evidence of a rising need of the economies interests (Narasimhan, 2005). Regional cooperation amongst the nations started to be seen as a more and more beneficial and a fruitful way of overcoming the problems of economic development, helped in increasing the bargaining power of the developing economies and also helped in reducing the third world economies reluctance over more developed and industrialized nation. Within the Asia region, two of the most influential regional cooperation's been playing the crucial and significant role as such ASEAN and later came into the existence SAARC.

Since, India has been the founding member of the SAARC from the very beginning. India remained distant from the ASEAN regional cooperation right from pre-cold war era till 1991. In the early 1990's, the crisis clutched the Indian economy thereby leaving the India policy makers clueless about its own status and stance in the global affair (Dutta, 1997). The triumph of the success stories of the East Asian Tiger economies and the regional cooperation's like ASEAN, negotiations like Asia-Pacific Economic Cooperation (APEC), North America Free Trade Area

(NAFTA) and European Union (EU) integration gave India the sense being getting isolated from the changes that have been taking place in the global economy (Ambatkar, 2002). The fear of being global isolation acted as major cause of concern for the Indian policy makers to radically shift or engage in the systematic procedure of economic liberalization.

In 1991, the Government of Narsimha Rao institutionalized the New Economic Policy (NEP) in India which gave the new fresh look at India-ASEAN relations. India's decisions regarding giving boost to the policies in context to ASEAN as collective entity and regional companion. Under the leadership of P.V. Narsimha Rao, the congress led government at the centre publicized its "Look East" policy which was very well assessed and planned (Yong et al., 2009). India started aggressively in publicizing its new economic reforms by organizing the seminar and inviting regional as well as foreign investments into the country. The ASEAN members came openly in support to the economic policies adopted by the Indian policy makers because opening of the Indian economy leads or results to the greater beneficial or profitable exchange between India and ASEAN. Impressed by the miracles of East Asian economies (World Bank, 1993), the Indian government initiated its "look east" policy in 1991. As a part of "look east" policy, India started pursuing in the development of the strategic political and closer economic ties-ups with the member nations of ASEAN. The main motive behind adopting the policy was to establish the place of India in the Asia-Pacific region by demonstrating India's economic potential in trade and investment.

The economic relation justified India's engagement with South-East Asian countries after the declaration of the New Economic Policy (NEP) and "Look East" policy. As India's intentions were to connect with global economies and amplify its international trade, India also acclaimed the ASEAN countries as the new avenue for great economic opportunities (Yong et al., 2009). The openness of the Indian economy made ASEAN members felt influenced towards the opportunities available in big Indian consumer markets. ASEAN members extensively followed the export oriented growth policy by continuously trying to attain both objectives of strengthening regional integration and carrying out multilateral trade liberalization and ease of trade. After, six years of negotiations the ASEAN-India FTA (AIFTA) was signed on August 2009 at Thailand. India as well as ASEAN members had a significant stake in these negotiations as it was expected that better access to the service market in both India and ASEAN region, will be beneficial for both Indian- ASEAN businesses and industries (Banik et al., 2014; Ahmed,

2010). While the magnitude and intensity of India's trade with ASEAN members had enhanced enormously ever since 1991, the trading trends and pattern had not been uniform between India and individual ASEAN members.

Trade records revealed that total trade between India and ASEAN members was of US$ 3.05 billion for the year 1992-93. The countries such as Indonesia, Malaysia and Singapore emerged as the major supporter in bilateral trade between India and ASEAN. The countries constituted for more than 70 percent of imports to India and cushioned the impact of more than 55 percent of India's export to ASEAN (World Trade Organization, 2015). Gradually, the trade between India and ASEAN members increased to US$ 7.2 billion in 1997-98. Furthermore India's total trade with ASEAN region demonstrates and displays the average annual growth of 19 percent from 2001 to 2015. In the year 2001 bilateral trade between both was approximate to US$ 7.6 billion and outstretched to US$ 67.9 billion in 2015, which is almost 9-10 times from 2001 to 2015.

Therefore ever since the liberalization, the volume of India's international trade increased sharply. For the ambitious country like India to catch up with the ongoing process of globalization, it is vitally important to extend its domestic as well as regional economic space, and the ASEAN economy seemed to be the most appropriate arena for extending India's economic space. Thus decades of economic engagement has helped both India-ASEAN to take their political and economical relation to a new level. India's rising position as an emerging regional and global power has made ASEAN confident of multiple benefits.

1.3 Trade Competitiveness:

With the dawn of the globalization along with the liberalisation and privatisation policies, the world has become a big manufacturing nerve centre. However, only limited goods and commodities in modern world are relishing the comparative & absolute advantage. Presently, the word competitiveness is associated with the name to define or describe economic status of the individual firm, industry or nations strength. The terms competitiveness originated from "Competer" the latin word, which means or describes the involvement of rivalry in business market (Srivastava, et.al. 2006). The term competitiveness is a comprehensive and multidimensional concept, in line with the definition stated by European Commercial Bank (ECB) President Mario Draghi, "*A competitive economy, in essence, is one in which institutional*

and macroeconomic conditions allow productive firms to thrive. In turn, the development of these firms supports the expansion of employment, investment and trade." This definition highlights the fact that competitiveness is related to more than the traditional measures of price/cost advantages (Karadeloglou et al., 2015). Elements such as relative prices, costs, wages and exchange rates are indeed important in determining the ability of firms to compete in international markets, better there is strong evidence that other factors also contribute significantly firm-level characteristics, in particular productivity, country-specific structural and macroeconomic factors and international production networks.

Competitiveness has been defined as the aptitude of the firms, industry or nation to face competition and survive while facing it, i.e., ability of the firms or companies to sell products that meet demand requirements of quantity, price and quality and side by side guarantee profits for the concerned firm or company (Arghyrou et al., 2003).

World Economic Forum (WEF) defines Trade competitiveness at a large-scale as the measure to analyze the advantage and disadvantage of a nation in selling products internationally. Furthermore trade competitiveness could be understood as the potential of a firm, industry or state, to export more in value added products or commodities rather than importing them.

According to (WTO, 2014) trade competitiveness is no longer about viewing exports and export performance in isolation. Increasingly it is the result of strong inter-dependence or association between two or more than two nations for imports & exports, as well as international flow of capital, investment and know-how. This definition highlights the fact that competitiveness is today's world is more extensive, than the traditional measures (Klein, 1988).

The term trade competitiveness has been classified under three levels primarily as Firm level, secondly as the Industry level and finally as the National level. Under the firm or a company level, the competitiveness is the potential or the capability to make the availability of the products and services in a well-behaved and competent manner than relevant competitor.

At the international level, the term competitiveness is the caliber and the capability of the countries firms to attain sustained accomplishment in comparison to foreign competitors, without any protection of subsidies. Profitability of countries firm in industry, trade balance of industry, foreign direct investment (FDI) and direct measure of cost & quality at industry level overall forms to be the measure of competitiveness at industry level. Industry level competitiveness is

considered to be much better indicator of economic well being of countries than competitiveness at the firm level.

Competitiveness at the macro-dimension refers to an ability of country to produce, create and distribute products in international market while earning rising returns on its resources (Scott et al., 1985).

According to Fajnzylber (1988) international competitiveness means the potential of nation's producer to compete successful in the world market and imports in the domestic market.

Trade competitiveness at broader level is explained to be countries ability to sustain and amplify its share of international markets and on the contrary to improve its people's living standard (Fagerberg, 1988). Therefore, in the current scenario competitiveness is typically applied to the nation as whole rather than individual firm and market. Hence, competitiveness is more nearly related to the "ability to export" and is demonstrated in export market share, which should be understood as a wider indicator for evaluating the external performance of a country (Karadeloglou et al., 2015).

Lastly, trade competitiveness is dependent upon many factors, both internal as well as external like resource and factor endowments of the particular nation, economic policies regarding international trade, prices, foreign exchange rate and overall economic progress of an economy.

1.4 Trade Specialization:

With the existence of trade competitiveness, the nations are derived towards the specialization of the products or commodities. The word specialization could be explained as a method or a technique of production where a business, area and economy focus on the production of goods & services to achieve the greater degree of productive efficiency (Wörz, 2005).The contour of trade specialization in developing countries has been developed in the recent years, particularly in the emerging economies or nations such as China, India, Mexico, Indonesia and many more (Santos-Paulino et al., 2008). With the advancement and the furtherance towards more sophisticated exports and imports structure has resulted in, among other things, deterioration in the relative importance of the primarily exported products (principally food). A comparative decline in textile, footwear and clothing's products of exports from these economies and an tremendous expansion in the export share of skill-based, capital-intensive and technology-

intensive goods, such as to be information & technology (IT), electrical machinery, chemicals and pharmaceuticals, computer and communications equipment.

Existing researches shows that the heterogeneity & the large variety of goods that a country manufactures and exports, is proportionally and directly affected by the knowledge spillovers and specialization, and that in turn affects economic growth &development of the nation (Lederman et al., 2004). This specialization acts as the bases for the global trade. Moreover, the empirical and factual evidence implies or suggest that a nation's pattern of specialization and exports could be as indispensible as, openness to international trade. States or nations that have administered, to increase their existence in more of the progressive or technological advanced industries, such as electronics and electrical equipments have experienced the higher productive growth with respect to the other economies. Higher the level of sophistication and worldliness of developing nations, trade also has the consequential impacts on the endowments of the factors and the nation's technological capabilities.

The transpiring patterns of specialization, challenges or provokes the conventional (traditional) assumptions that the knowledge fabrication is exclusively the realm of advanced economies. The contemporary evidence suggests that developing nations are strategically relying on the skill-development and knowledge creation for growth and development (Krugman et al., 1989). Even, the foreign investment (F.I) in general, and multinational corporations, are also making investment on high-end technology, for knowledge creation activities such as to be in the field of research and development (R&D). These investments are congregated amongst the few emerging nations, notably China, India, Mexico, Singapore, and South Africa. Nations like China, India, and other South-Asian economies are currently considered to be the top destinations for foreign investments and R&D expansion (Santos-Paulino et al. 2008). This phenomenon is mostly due to the nation's endowment of low-cost and well trained demographic in the field of science and technology, and is further supplemented by swiftly emerging and developing domestic markets.

Lastly, it is asserted that nations that possess comparative advantage in production, quality sophistication and diversification of the goods and services at the lower marginal cost leads to the trade specialization of the economy which in turn affects the economic growth and development of nation.

1.5 Objectives of the Study:

1. To analyze the trends and pattern of India-ASEAN trade in context of AIFTA
2. To measure trade specialization of India's with respect to ASEAN members.
3. To study the trade competitiveness between India and ASEAN members in context of trade specialization.

1.6 Data Source:

The data for the present study has been observed from various sources which are; United Nations Commodity Trade Database (UNCOMTRAD), United Nation Conference on Trade & Development (UNCTAD), World Trade Organization (WTO), Economic Survey of India and lastly, from Ministry of Commerce & Industry.

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Chapter-2

REVIEW OF LITERATURE

The review of literature on the ASEAN-India Free Trade Agreement (AIFTA) can be itemized into three main categories. In the first category, the literature investigates and examines the prospects and influence of the trade specialization on AIFTA. Most of the review of literature developed on trade specialization is based upon the Ricardian theory of comparative advantage and Heckscher-Ohlin theory of factor proportions reveals that both productivity of factor and factor endowment are the most essential determinant of specialization. It has been widely accepted that a contributory factor for the success in trade, relates to the in-built or in-born advantage of specialization (Krugman, 1994). Many studies have validated that it's the trade that leads to the emergence of the specialization and dissemination of technical knowledge. The pattern of specialization in trade has been the subject matter for numerous studies. As per the findings derived from the studies conducted by (Hausmann et al., 2007; Santos-Paulino et al., 2008; Santos-Paulino, 2011) exhibits that diversity in goods and commodities that a nation manufactures and exports is directly proportional to the rising trade specialization, which in turn impacts the economic growth.

According to Farberger (2000) study infers that a nation's pattern of export and specialization is as important as openness to trade. The nations that are experiencing higher level of productive growth and economic performance than other nations are more specialized. Notably, the empirical studies by (Mahmood, 2000; Lederman et al., 2004) concluded that a nation's technological capability and technical know-how reflects nations trade specialization which influences the competitiveness of a nation and analyzed the nation's trade pattern by applying the Revealed Comparative Advantage (RCA) coefficient formula given by Balassa and Vollrath, thereby, revealing the rise in the nations trade specialization from low-skill based sector to high-skilled sector. Study by Banga et al.,(2009) investigated the study by using data envelopment analysis and indentified that India's IT sector showed a remarkable resilience to crisis in 2008-09, because of the existence of high end technical knowledge in software sevices which depict India's rising trade specialization and comparative advantage in software services.

Important studies in context of AIFTA conducted by (Veeramani, 2012; Banik et al., 2014; Alam, 2015) revealed that there has been a tremendous change in the India's trade

specialization, shifting export pattern from low skilled based products like food items, fisheries and agricultural products towards the high-skill based products in which India holds specialization and comparative advantage like export of computer services, information services, chemicals and iron & steel etc. Similarly, the study by Karmakar (2005) found that India holds a strong comparative advantage in services when compared with the goods sector of the ASEAN countries. Therefore trading in those sectors holding comparative advantage leads to the trade specialization.

Contradictory studies conducted by (Pattanaik et al., 2011) founded that India's service sector majorly constitutes those sectors which lacks in specialization such as retail trade, hotels, transport and business services are too holding comparative advantage because of low cost and price in comparison with service sector such as computer and information that relies heavily upon high-skill technical ability. The findings of the studies supported by Banga (2005) concluded that India also possesses comparative advantage in those service sector that are less specialized because of the low cost advantage rather than possessing high level of specialization.

The second category, examined that initially for a long period of time prices and income were believed to be the major indicator for the international competitiveness. It has been largely believed that lower the relative export price and higher the world income helps in improving nations competitiveness. (Fagerberg, 1988; Gomes, 2002; Sharma, 2011) have investigated that it is the relative price and cost competitiveness of goods that predicts international competitiveness and growth performance of a nation. A similar study by Sharma et al., (2011) in context of Australia's growing trade, found that lower relative price of the exports enhances and improves the international competitiveness in majority of the industries. Later, the study by Krugman et al., (1989) investigated that not only price and income, but also other factors such as innovation and technological R&D are eminent in contributing to trade competitiveness. Similar, research study conducted by Engelbrecht (1998) revealed that international competitiveness is mainly due to the existence of non-price competitiveness, resulting because of higher level of technological innovation, foreign direct investment (FDI) and research and development (R&D). According to Thirlwall (1986) suggested that greater the level of technological innovation, better the countries international competitiveness. Many important studies conducted by (Wilson et al., 1999; Mahmood, 2000; Arghyrou et al., 2003; Yilmaz, 2005) believed in the same view point that for

the nation to be competitive internationally, the technological advancement and technological innovation is the crucial pre-requisite.

Notable studies resulted in the contradiction to the above studies that have been undertaken such as, Diwan et al., (1993) in their study analyzed India's competitiveness in the new technological pattern like innovation in production capacity and trade in new-technological good. The results of the study concluded that, India is not competitive. Even though India has been importing from abroad, its large import bill has made India one of the few major debtor countries of the world, still India has not been able to use these imports to build its export potential and competitiveness. Similarly, the studies conducted by (Utkulu et al., 2004; Civan et al., 2008) concluded the result that nation like Turkey had an uplifted competitiveness in the product line such as fruit juice, olive oil and raw material commodities that are easily imitable and lacks in technical advancement and innovation. Lechman (2014) in his study examined the hypothesis of a strong, positive and statistically significant relationship between flow of export of high-tech and ICT manufacture goods and economy's level of international competitiveness. Contrary to what was expected, results of the study doesn't seem to support the hypothesis on statistically positive links between rising shares of high-tech and ICT manufactures in the total value of export and competitiveness. Hence, to be competitive internationally technological advancement is not an important pre-requisite.

Large number of studies has been taken under consideration to understand the impact of the ASEAN-India Free Trade Agreement (AIFTA) on India's trade competitiveness. The results drawn after the study of Pal et al., (2009) concluded that India would not attain any of the competitive benefit, as two of the trading partners India and ASEAN are not the natural trading partner. India agreed to the agreement because it made a planned or strategic sense in the long-run, especially since India is ambitious towards being the export hub for services and computer information. Similarly, the studies conducted by (Francis, 2009; Ahmed, 2010; Harilal, 2010; Chandran et al., 2012; Alam, 2015) concludes that AIFTA would increase the ASEAN members access in the Indian sectors like electrical & electronics sector, fisheries sector, semi-processed and processed agricultural products and finally the food items. Entry of the ASEAN countries in Indian market has caused damage to the Indian agricultural sector, fisheries sector, textile etc. because of the competitive strength of the ASEAN members.

The third category investigates the impact of the ASEAN- India Free Trade Agreement after it was mutually signed. Depending on the trade specialization and trade competitiveness, Ohlan (2012) in his study investigated and found that India is to be less competitive in contrary to ASEAN member nations, furthermore the agreements implication may not benefit India, unless India increases and enhances it competitiveness. Study conducted by Veeramani et at., 2010; Mondal et at., 2012; Ahmed, 2010; Yean et al., 2014) used the following models like Gravity, Computable General Model and techniques like Revealed Comparative Advantage (RCA) to calculate and determine the impact of Free Trade Agreement on trade competitiveness and gaining comparative advantage by ASEAN members. The results of Veeramani and Saini supports the negative trade impact of the free trade agreement on India's plantation goods and commodities, Similarly, the study conducted by Pal et al., (2009) found that India lacks in the competitive position for the plantation sector, marine product industry and some light manufacturing industry. On the contrary ASEAN members have much higher level of efficiency and competitiveness. According to the study by (Mondal et al., 2012) the results of the analysis revealed that India, being the largest producer of milk in the world, would only be capable of increasing its competitiveness amongst the ASEAN members such as Philippines, Myanmar and Vietnam. On the other hand, ASEAN members would not be able to gain a lot in terms of its dairy exports to India, as India has kept most of the dairy product tariff lines in its exclusion list their by losing it's competitiveness.

Studies conducted by (Ahmed, 2010; Banik et al., 2014) investigated the trade impact on competitiveness and welfare from the agreement. Findings of the studies states that there exist complementarities in trading relation between ASEAN and India, although India would be losing its trade competitiveness, trade balance and efficiency in future. Lastly the study conducted by (Sikdar et al., 2011) also assessed and analyzed the impact of trade agreement on the India and ASEAN members, which is based upon the scheduled tariff liberalization. The concluding result of the study indicates that India's exports to ASEAN members will be decreasing and ASEAN member's exports to India will increase with competitive lose of India. Choudhary (2013) founded that India's gain in agricultural commodities seems to be negative, because of deteriorating trade competitiveness and allocative inefficiency. While on the part of ASEAN members most of them experience competitive gain in agricultural commodities, because they are

holding an positive term of trade and exporting commodities in which they have comparative advantage.

Therefore based upon the above review of literature, it could be easily concluded that all of the studies that have been taken under consideration mainly concentrated towards analyzing the impact of the ASEAN-India Free Trade Agreement on the trade competitiveness on various product line such as to be on agricultural, semi-processed or fully processed products, fisheries, food items and many other products. The review of literature also analyzes the impact of agreement on the overall trade between both India and ASEAN members. The impact of agreement on overall trade depicts that ASEAN's presently comparative advantage in trade reclines mostly towards the low skilled manufactures and agricultural products. On the contrary India's comparative advantage lies in export of medium and high skill manufacturing's such as to be IT, chemicals etc.(Banik et al., 2014; Alam, 2015).

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Chapter-3

RESEARCH METHODOLOGY

The present study is predominately based on secondary data to understand the trade specialization & trade competitiveness of India with respect to ASEAN members. Time period for study is from 2001 to 2015 in order to understand the transition in competitiveness & specialization in trade from 2001-2009 before AIFTA and from 2010-2015 after AIFTA. Commodity classification is based on Harmonized System (HS) Classification up to 6-digit level of coding for measuring the competitiveness. The study is broadly analyzed with the application of the suitable tools.

3.1 *Lafay Index*

Lafay Index measure and analyze the changing pattern of the trade specialization. Lafay's (1992) measure of revealed comparative advantage (RCA) is advancement over the Balassa index as it also includes the import as well. Lafay Index is defines a country's trade specialization with regard to a specific good as the difference between the trade balance of that good and the country's overall trade balance, weighted by the goods share of the total trade.

Lafay Index captures the intra-industry trade flows which have become a feature of the majority of industries. Another advantage of the Lafay's revealed comparative advantage index is that it is able to control distortion due to the macroeconomic fluctuations. Finally, the Lafay index weighs each products contribution according to the respective importance in trade.

$$LFI_j = 100\left(\frac{x_j - m_j}{x_j + m_j} - \frac{\sum_{j=1}^{N}(x_j - m_j)}{\sum_{j=1}^{N}(x_j + m_j)}\right)\frac{x_j + m_j}{\sum_{j=1}^{N}(x_j + m_j)}$$

X_j = Export of product " j " towards rest of the world

M_j= Import of product " j " from rest of the world

N = Number of traded product

Positive value of the Lafay index indicates comparative advantage in a given item and the larger the value the higher the degree of specialization, with the sector making a bigger contribution to the trade balance. On the contrary, negative value implies reliance on imports

Advantages:

- Lafay index takes under the consideration both indicators exports as well as imports in comparison to RCA, which relies only on exports.
- Lafay index weighs each products contribution according to the respective importance in trade
- Index is that it is able to control distortion due to the macroeconomic fluctuations.

Limitations:

- Possible short coming of Lafay Index is that it may take a value close to zero for a sector, in which a "nation" is both importer and exporter of equivalent amount of commodities, in different sub segments of a sector.

Data base would be decomposed at Harmonized Standard (HS) 6 digit levels of industries as proposed by Basu and Das (2011), Non-Fuel Primary commodity (A) Resource Intensive (B) Low Skill and Technology Intensive Manufactures (C) Medium Skill and Technology Intensive Manufacture (D) High Skill and Technology Intensive Manufacture (E) and Mineral Fuel (F). Under Lafay Index (LFI), the data span the period 2001-2015. The average of two year of the LFI for 2001-02, 2004-05, 2009-10 and 2014-15 years has been used.

3.2 *Revealed Comparative Advantage (RCA) Index:*

The concept of comparative advantage has been used enormously in most of the research studies to discuss the comparative advantage or competitiveness of a commodity. The first study in the area of RCA was made by Leisner (1958) by applying the simple model. The model was not the direct technique that could measure the comparative or competitive nature of commodity. Later a comprehensive and advanced measure of RCA was developed by the Hungarian economist Bella Balassa (1965), also known to be Balassa index.

This model helps in measuring the comparative advantage of the commodity and tells about the competing capability of the commodity in the market. The balassa index does not aim to measure the comparative advantage of the countries in the near future, because RCA indices are established on the actual data. Rather the estimates derived over the time using the RCA, points towards in which direction is the pattern of comparative advantage is heading (Tamberi and Benedictis, 2001). The RCA index (RCAI), is used to compare the ratio of the share of industry (or product) in countries total export, to the ratio of the share of industry (or product) in world's total export.

The formula for RCA Index is given as following:

$$(RCA^{i})_{a} = (X^{i}_{a} / X^{i}_{t}) \Big/ (X^{w}_{a} / X^{w}_{t})$$

Where: $(RCA^{i})_{a}$= Revealed Comparative Advantage of country in particular good.

X^{i}_{a} = Value of exports of commodity *a* in country *i*

X^{i}_{t}= Value of total exports by country *i*

X^{w}_{a}= Value of world exports of commodity *a*

X^{w}_{t}= Value of total world exports

The values of the RCA index, shows the comparative advantage or the greater degree of specialization in the export of commodity *a*, if the $(RCA^{i})_{a}$ value is greater than 1 and vice-versa (Mahmood, 2004).

The Revealed Comparative Advantage application measured for the investigation is based on the mean difference of time periods from 2001-09 and 2010-15. The mean difference is only made because RCA is a steady technique and on mean terms it could give at least the appropriate results regarding the comparative advantage of the commodities, as commodity comparative advantage changes with time but RCA technique due to its steadiness in nature may not provide better results, thus mean time of 2001-09 and 2010-15 period is taken for the comparative advantage of the commodities during the study period.

The RCA indices can also be useful to exhibit that some of the product may possess a comparative disadvantage but might have a potential to achieve export competitiveness over time. For this to be achieved country's export where categorized into competitively positioned, emerging product (Tier-I & Tier-II), threatened product line and weakly positioned products (Tier-I & Tier-II).

Competitively Positioned Product Lines:

These product lines had RCA index greater than one and show reliable improvement over time due to constructive external as well as internal conditions. In this category fall the products that show:

- RCA index is greater than 1 in the average time period of 2010-15, i.e., $RCA_{2010-15} > 1$ for any product line.
- And also, difference between RCA index of any product line in average (time frame) of years 2010-15 and average of years 2001-09 is positive or greater than zero, i.e., $RCA_{2010-15} - RCA_{2001-09} > 0$.

Threatened Products Lines:

These product lines have RCA's greater than unity, but the indices are declining over time due to an adverse domestic environment and/or global competitive pressures. The decision principle to select products under this group is as follows:

- $RCA_{2010-15} > 1$ for the particular product line.
- Difference between average RCA of product line 2010-15 and RCA of product line 2001-09 is negative, i.e., $RCA_{2010-15} - RCA_{2001-09} < 0$.

Emerging Product:

This product lines demonstrates and states the RCA indices that are less than one, which means to be revealed comparative disadvantage in the product, but their relative global position in the exports market is doing better. These products have been further sub-categorized into two more options which are:

Tier 1

It contains those product lines where;

- $RCA_{2010-15} < 1$, but equals to 0.5 or >0.5 in the average period of 2010-15.
- Difference between the RCA averages of 2012-13 and 2001-05 is positive for the concerned product lines, i.e., $RCA_{2010-15} - RCA_{2001-09} > 0$.

Tier 2

It contains those product lines where;

- $RCA_{2010-15} < 0.5$.
- Difference between the RCA averages of 2010-15 and 2001-09 is positive for the concerned product line, i.e., $RCA_{2010-15} - RCA_{2001-09} > 0$.

Weakly Positioned Product:

RCA indices of these product lines are less than unity and declining due to non-advantageous global and domestic factor. This product line is further sub-divided into to sections.

Tier 1

It contains those product lines that exhibit as;

- $RCA_{2010-15} < 1$, but equal to 0.5 or > 0.5 in the same period.
- Difference between the RCA averages of 2010-15 and 2001-09 is negative for the concerned product line, i.e., $RCA_{2010-15} - RCA_{2001-09} < 0$.

Tier 2

In this group are product lines that show;

- $RCA_{2010-15} < 0.5$.
- Difference between the RCA averages of 2010-15 and 2001-09 is negative for the concerned product line, i.e., $RCA_{2010-15} - RCA_{2001-09} < 0$.

3.3 *Revealed Import Dependence (RID) Index*

The concept of import dependence has been used largely in most of the research studies to discuss the comparative disadvantage and to identify the commodities, which have more import dependence on the partner countries. As revealed comparative advantage (RCA) represents the competitiveness and comparative advantage, the revealed import dependence index (RID) show

case the high dependency and comparative disadvantage of a particular nation in the particular product category.

This Index helps in assessing the comparative disadvantage of the commodity and tells about the falling competing capability of the commodity in the market. The RID index does not aim to calculate the comparative disadvantage of the nation in the near future, because RID indices are based upon the actual data. Rather the estimates derived over the time using the RID, place towards in which direction the pattern of comparative disadvantage is heading (Wani et al., 2014). The RID index is defined as the ratio of the commodity share in countries total import, to the ratio its share in total world imports.

The formula for RID Index is given as following:

$$(RID^{i})_{a} = (M^{i}_{a} / M^{i}_{t}) \Big/ (M^{w}_{a} / M^{w}_{t})$$

Where:

$(RID^{i})_{a}$= Revealed Import Dependence of country in particular good.

M^{i}_{a} = Value of imports of commodity *a* in country *i*

M^{i}_{t}= Value of total imports by country *i*

M^{w}_{a}= Value of world imports of commodity *a*

M^{w}_{t}= Value of total world imports

The values of the RID index exceeding unitary suggests a strong dependence of the nation on the import of a specific item in a reference period and vice-versa.

The Revealed Import Dependence Index measured for the analysis is based upon the mean difference of time periods from 2001-09 and 2010-15. The mean difference is only made because RID is a steady technique and on mean terms it could give at least the appropriate results regarding the dependency of the commodities, as the commodities comparative disadvantage changes with time but RID technique being static in nature may not provide better results, thus mean time of 2001-09 and 2010-15 period is taken for the study period.

The RID indices can also be useful to demonstrate that some of the product may possess a comparative disadvantage or high import dependency at present but might possess a potential to achieve comparative advantage over a period of time. For this to be achieved country's Import where categorized into rising dependence, emerging threatened product (tier-I & tier-II), less threatened product (tier-I and tier-II) and rising independence.

Rising Dependence Product:

These product lines had RID index greater than unitary and displays rising dependence for that particular product line, thereby inferring a comparative disadvantage in product line. In this category products that shows:

- RID index is greater than 1 in the average time period of 2010-15, i.e., $RID_{2010\text{-}15} > 1$ for any product line.
- And also, difference between RID index of any product line in average (time frame) of years 2010-15 and average of years 2001-09 is positive, i.e., $RID_{2010\text{-}15} - RID_{2001\text{-}09} > 0$.

Emerging Threatened Products:

These product lines indicate RID value to greater than zero, and the indices difference is turning out to be positive thereby, revealing comparative disadvantage in the product line. This product line has been categorized into two more headings:

Tier 1

It contains those product lines where;

- $RID_{2010-15} < 1$, but equals to 0.5 or >0.5 in the average period of 2010-15.
- Difference between the RID averages of 2012-13 and 2001-05 is positive for the concerned product lines, i.e., $RID_{2010-15} - RID_{2001-09} > 0$.

Tier 2

It contains those product lines where;

- $RID_{2010-15} < 0.5$.

- Difference between the RID averages of 2010-15 and 2001-09 is positive for the concerned product line, i.e., $RID_{2010-15} - RID_{2001-09} > 0$.

Less Threatened Product:

These product lines indicate RID value to less than zero, and indices difference is turning out to be negative thereby, revealing comparative advantage or lack of import dependency for the particular product line. This product line has been categorized into two more sections:

Tier 1

It contains those product lines that exhibit as;

- $RID_{2010-15} < 1$, but equal to 0.5 or > 0.5 in the same period.
- Difference between the RID averages of 2010-15 and 2001-09 is negative for the concerned product line, i.e., $RID_{2010-15} - RID_{2001-09} < 0$.

Tier 2

In this group are product lines that show;

- $RID_{2010-15} < 0.5$.
- Difference between the RID averages of 2010-15 and 2001-09 is negative for the concerned product line, i.e., $RID_{2010-15} - RID_{2001-09} < 0$.

Rising Independence Product

These product lines had RID index greater than one and the negative value of the index difference infers rising independence for that particular product line, thereby inferring a comparative advantage in product line.

In this category products that shows:

- $RID_{2010\text{-}15} > 1$.
- Difference between the RID averages of 2010-15 and 2001-09 is negative for the concerned product line, i.e., $RID_{2010-15} - RID_{2001-09} < 0$.

3.4 *Operational Definition of Industry Level*

There are various ways to categories the industry at various levels. But, the present study describes the definition of the industry level that has been categorized into six different sub-categories as proposed by (Basu and Das, 2011). (A) Non-Fuel Primary Commodity, (B) Resource Intensive Manufactures, (c) Low Skill and Technology Intensive Manufactures, (D) Medium Skill and Technology Intensive Manufactures, (E) High Skill and Technology Intensive Manufactures and lastly (F) Mineral Fuel Manufactures.

Non-Fuel Primary Commodities

Non-fuel primary commodities are the output of the primary division of the economy such as raw materials and agricultural goods. The raw material has been illustrated with examples such as industrial metals, coal, oil, bauxite, copper and tin. It excludes the precious metal such as gold. Similarly, the examples of agricultural goods are forestry and fishery output which constitutes of products such as wheat, beef, coffee, timber, fish and beverages. Another definition of non-fuel primary commodities states that material in natural or semi-finished state, such as ore, fresh fruits etc, which are extracted or harvested and needs the minimum processing before being used.

Resource Intensive Manufactures

Resource Intensive Manufactures are inclined to be simple and are typically labour-intensive in nature (for example basic wood and woods products, tides and skin etc) and still there exist a segment of products using skill-intensive technologies, capital and scale (such as textile and textile articles, footwear and headgears and article of stones, plaster, cement & mica). Therefore, the competitive advantage in these manufactures emerges usually, but not always because of the availability of the local natural resources and hence, do not raises a significant issues for competitiveness.

Nevertheless, the manufactures with skill-intensive technologies, do elevate a significant issues for competitiveness (in manufacture sectors such as textile and textile articles).

Low Skill and Technology Intensive Manufactures

Low skill and technology intensive manufactures tends to possess a well balanced and well diffused technologies. The high end technology is predominantly incorporated in the capital

equipments and the low end of the manufacture range holds relatively simple skill requirements. Mostly traded manufactures under low skill and technology intensive are identical and competes on the ground of price, hence labour cost stands to be an essential element of cost in competitiveness. The economies to scale and barrier to entry are usually low. With income elasticity below one, the final markets grow slowly under low skill and technology.

Hence, it should be consider that manufactures of vital interest for the developing nations tends to be under lower skill and technology segment, and are truly built upon low technologies and price rather than high quality competitiveness (for example, base metals and articles , transportation equipments etc.).

Medium Skill and Technology Intensive Manufactures

Medium Skill and Technology Intensive Manufactures comprehends the bulk of skill intensive technology in the intermediate and capital products are the central and most important part of industrial activity in fully developed economies. These manufactures tend to possess complex technology, with somewhat high level of research and development (R&D), advanced skills and lengthy learning outcomes. The medium skill and technology intensive manufactures has been divided into two sub groups at product level. MST(1), Machinery and Mechanical Appliances are of export interest to newly industrializing countries. MST(2), Automotive products (transportation equipments) have an stable and undifferentiated product line, generally with large scale facilities and technological effort in improving equipment.

High Skill and Technology Intensive Manufactures

High Skill and Technology Intensive Manufactures possesses the advanced and swiftly changing technologies, with high level of investment in research and development (R&D) and prominence on product designing. The highly advanced technologies need sophisticated infrastructure, high degree of specialized technical skill and lastly, close interaction amongst firms, firms and research institutions. However, some products such as chemical, electronics fall in the particular category.

Therefore, apart from chemicals and electronics, other high technology intensive manufactures (aircraft, measuring and musical instruments) remain entitled to countries or nations with high level of technology and skills. The comparative advantage of high skill and

technology intensive manufactures continues to be dominated by the general technological factors.

Mineral Fuel Commodity

Mineral Fuel Commodities are not the output of the primary division of the economy. For the processing of mineral fuel such as work of Art, Collector's Piece, Measuring & Musical Instruments, Pearls, Precious or Semi-Precious Stones etc. commodities combination of both medium skill and high skill technology is required.

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Chapter-4

Trends and Pattern India and ASEAN Trade

4.1 Introduction

International trading system has observed and registered the rapid increase of Regional Trade Agreements (RTAs) in the ninety's, particularly in the post WTO period. Indian economy changed structurally since 1991 as the import led growth strategy was restored by the export led growth model. The opening up of Indian economy made it more export friendly and an environment that could lead to rapid growth and development became known to the Indian economy. India started with the regional trade in order to expand the trade volume and encourage the economic cooperation among the regions. Indo-ASEAN economy is a dynamic and vibrant regional grouping in Asia. After realizing, significance of the Asian region for substantial elevated trade growth, India announced it's "Look East" policy to strive for expanding its engagement and ties with East Asian nations. On 8th October 2003, India-ASEAN signed a Comprehensive Economic Cooperation Agreement (CECA) with a perspective to provide an institutional framework that allows economic cooperation to come into effect. Negotiation on trade in good agreement started in 2004 March and finally after long six years of negotiation India-ASEAN Free Trade Agreement was signed on 13th August2009 in Bangkok. The agreement came into effect on 1st January 2010, which only enables trade in goods and commodities between India and ASEAN members.

The Objective of this chapter is to analyze the trends and pattern of India-ASEAN trade. For the attainment of the objective trade relations has been breakdown into 4 sub sections each would be investigating one each component. Section 4.2 gives an overview of the pattern and framework of the India's trade in context of its expanding integration with the ASEAN members since the time frame of 2001-15. Section 4.3 analyze the growth of India's exports to vis-à-vis its imports from ASEAN members respectively country wise analysis. Section 4.4 demonstrates the composition of commodities and their share percentage in ASEAN market. Section 4.5 provides with the concluding insight of the chapter.

4.2 India's Bilateral Trade with ASEAN:

ASEAN-India Free Trade Agreement (AIFTA) has fostered the acute and intense dialogue on the economic impact on India's trade in goods. ASEAN-India Free Trade Agreement (AIFTA) has stimulated and magnified the bilateral trade within the two economic regions. India-ASEAN trade relation has been exhibited and demonstrated in the particular Table 4.1, using the data that represents the values of the export, import, total trade and trade balance from the time frame of 2001 to 2015.

Table 4.1
India's Bilateral Trade with ASEAN

($bn)

Years	Export	Import	Total Trade	Trade Balance
2001	03.31	04.34	07.66	-01.03
2002	04.50	04.80	09.31	-00.30
2003	05.07	06.68	11.75	-01.61
2004	07.55	08.55	16.10	-00.99
2005	10.28	10.63	20.91	-00.34
2006	12.36	16.30	28.67	-03.93
2007	13.82	21.03	34.85	-07.20
2008	19.43	26.69	46.13	-07.26
2009	17.89	23.96	41.86	-06.06
2010	22.95	29.64	52.59	-06.68
2011	34.49	40.33	74.82	-05.83
2012	32.29	42.73	75.03	-10.44
2013	37.88	42.30	80.19	-04.42
2014	31.29	44.45	75.75	-13.16
2015	26.42	41.51	67.94	-15.08

Source: Calculated from UNCTAD*Stat*, Ministry of Commerce & Industry.

The Table 4.1 exhibits that India's exports to the ASEAN region has been increasing from the US$ 3.31 billion in 2001 to US$ 22.95 billion in 2010 and to US$ 37.88 billion in the 2013, which is almost 11-12 times over the period from 2001 to 2013. But, India registered a descending trend for the couple of years 2014-15 in its exports to the ASEAN region from US$ 31.29 billion in 2014 to US$ 26.42 billion in 2015.

India's import from this region has registered an augmenting rise from the US$ 4.3 billion dollar in 2001 to US$ 29.6 billion in 2010 and to US$ 41.5 billion in 2015, which is almost 9-10 times over the period frame from year 2001 to 2015, which averaged at US$ 24.2 billion dollar per year.

India's total trade with ASEAN region exhibits an average annual growth of 19.2 percent during the analysis period. In the year 2001, bilateral trade between India and ASEAN members was worth closer to US$ 7.6 billion and outstretched to US$ 67.9 billion in year 2015.Which almost accounts to 9-10 times between the 2001 and 2015, at an average of 42.9 billion US$ per year during these period of time.

From the above table, it can be inferred that India has been continuously facing the huge trade deficit with the ASEAN region since 2001. India has been registering an average US$ 5.62 billion trade deficit per year. Despite the fact that India has registered a descending trend in the couple of years 2014-15, but the trade deficit margin is registered to be the most in the consecutive years at US$ 13.1 billion in 2014 to US$ 15.08 in year 2015.

The yearly growth rate of India's global exports, global imports India's total trade, India's export to ASEAN region, imports from ASEAN region and bilateral trade with ASEAN members as well as the share of the India's exports to the region in India's global/ total exports, the share of the imports of India from the ASEAN region in India's global/ total imports and the share of India's sum total trade with ASEAN in India's global/ total trade has been depicted with the help of detailed tables.

Table 4.2

India's Exports to ASEAN: 2001-2015

($bn)

Year	Export to ASEAN	India's Global Export	India's Export Growth in ASEAN	India's Global Export Growth	Export Share (%)
2001	3.31	43.87	-	-	07.55
2002	4.51	50.09	35.84	14.17	08.98
2003	5.07	59.36	12.62	18.48	08.94
2004	7.55	75.91	48.92	27.86	09.95
2005	10.28	100.35	36.11	32.20	10.24

2006	12.36	121.21	20.25	20.77	10.21
2007	13.82	145.89	11.76	20.37	09.47
2008	19.43	181.86	40.57	24.64	10.68
2009	17.89	176.76	-07.89	-02.82	10.12
2010	22.95	220.48	28.26	24.69	10.41
2011	34.49	301.48	50.26	36.78	10.44
2012	32.29	289.56	-06.38	-03.95	11.15
2013	37.88	336.61	17.31	16.24	11.25
2014	31.29	317.54	-17.55	-05.66	09.85
2015	26.42	264.38	-15.54	-16.74	09.99

Source: Calculated from UNCTAD*Stat*, Ministry of Commerce & Industry.

The Table 4.2 exhibits the trend and pattern of India's export growth in ASEAN region with respect of India's global/ total export growth over the years. The provided data give an insight that export growth in ASEAN region is more than that of India's global export growth. From 35.84 in year 2002 to 50.26 in 2011, the export growth rate in ASEAN region was higher in comparison with global export growth which states to be 14.17 in year 2002 to 36.78 in year 2011. Similarly, India's export share also depicts the same trend and pattern. The export share was minimal with 7.55% share in year 2001 to the 11.44% in year 2011. But exports growth to ASEAN region has witnessed a downward trend within two consecutive years, which are -05.66 in year 2014 and -16.74 in 2015.

On the contrary to export growth, India's Imports growth from the ASEAN region has demonstrated and followed the mixed trends in the particular time from 10.62 in year 2002 to 23.66 in 2010 and finally to be -06.61 in year 2015. Whereas India's import share percent from ASEAN region has remained more likely to be constant throughout, with an average of 8.92% from year 2001 to 2015. The average of import growth from ASEAN region has been registered 18.86, which is higher in contrast to the average of global import growth at 17.46 for the years 2001 to 2015. The detailed analysis has been shown in the Table 4.3

Table 4.3

India's Import Growth in ASEAN: 2001 to 2015

($bn)

Years	Import from ASEAN	India's Global Import	India's Import Growth in ASEAN	India's Global Import Growth	Import Share (%)
2001	4.34	50.67	-	-	08.57
2002	4.80	57.45	10.62	13.38	08.36
2003	6.68	72.43	39.09	26.06	09.23
2004	8.54	98.98	27.86	36.65	08.63
2005	10.63	140.86	24.35	42.31	07.54
2006	16.30	178.21	53.31	26.51	09.14
2007	21.03	218.64	29.01	22.68	09.61
2008	26.69	315.71	26.94	44.39	08.45
2009	23.96	266.40	-10.22	-15.61	08.99
2010	29.64	350.02	23.66	31.39	08.46
2011	40.33	462.40	36.07	32.11	08.72
2012	42.73	488.97	05.96	05.74	08.74
2013	42.30	466.04	-01.04	-04.68	09.07
2014	44.45	459.36	05.07	-01.43	09.67
2015	41.51	390.74	-06.61	-14.93	10.62

Source: Calculated from UNCTAD*Stat*, Ministry of Commerce & Industry.

Lastly the Table 4.4 demonstrates, India's Trade Growth in ASEAN region has manifested an asymmetrical and irregular tends in the growth rate in comparison with India's global trade growth. India's trade growth in ASEAN region varies from 21.53 in 2002 to -09.29 in 2009 and 0.27 in 2012 to -10.31 in 2015, which gives clear and unambiguous results on the trends and pattern of India-ASEAN trade.

Table 4.4

India's Trade Growth with ASEAN: 2001 to 2015 *($bn)*

Years	Trade ASEAN	India's Global Trade	Trade Growth with ASEAN	India's Global Trade Growth	Trade Share (%)
2001	1	94.54	-	-	08.11
2002	09.31	107.55	21.53	13.75	08.65
2003	11.75	131.79	26.29	22.53	08.92
2004	16.10	174.88	36.94	32.69	09.21

2005	20.91	241.21	29.89	37.97	08.67
2006	28.66	299.41	37.06	24.12	09.57
2007	34.85	364.54	21.57	21.75	09.56
2008	46.13	497.57	32.35	36.49	09.27
2009	41.86	443.16	-09.24	-10.93	09.44
2010	52.59	570.43	25.63	28.71	09.22
2011	74.82	763.88	42.26	33.91	09.79
2012	75.03	778.54	00.27	01.91	09.63
2013	80.19	802.65	06.87	03.09	10.01
2014	75.75	776.91	-05.53	-03.21	09.75
2015	67.94	655.12	-10.31	-15.67	10.37

Source: Calculated from UNCTAD*Stat*, Ministry of Commerce & Industry.

4.3 India-ASEAN Trade Analysis: Country-wise

Amongst the 10 member nations of the ASEAN region Singapore, Indonesia, Malaysia and Thailand are the dominant and main export destination for the Indian exports. The ASEAN members like Cambodia, Brunei and Lao PDR are the least favorable trade destination for India in ASEAN region. India exports to Singapore at an average of US$ 7.3 billion per year from 2001 to 2015, with the lofty and towering export value of US$ 15.6 billion in year 2011 and minimum of US$ .92 billion in 2001. Indonesia stands to be the second highest export destination for India. Export to Indonesia averaged at an US$ 2.9 billion per year from 2001 to 2015. US$ 6.4 billion accounts to be the highest export value in 2011 in comparison to US$ 0.46 billion in 2001. Malaysia ranks third in the list of largest exporting nation with an average of US$ 2.6 billion per year from 2001 to 2015. In comparison with the highest three export destinations Lao PDR, Cambodia and Brunei and are the lowest export destination. Exports to these destinations averaged at US$ 0.01 billion, US$ 0.06 billion and US$ 0.07 billion per year from 2001 to 2015. Hence country-wise India's exports to the ASEAN region have been exhibited in the Table 4.5.

Table 4.5

India's Export to ASEAN Countries: 2001 to 2015

($bn)

Years	*Brunei*	*Cambodia*	*Indonesia*	*Lao*	*Malaysia*	*Myanmar*	*Philippines*	*Singapore*	*Thailand*	*Vietnam*
2001	0.0022	0.0105	0.4767	0.0057	0.7881	0.0576	0.2317	0.9261	0.5982	0.2179
2002	0.0046	0.0169	0.7696	0.0021	0.7427	0.0739	0.4673	1.3803	0.7411	0.3044
2003	0.0048	0.0202	1.0396	0.0005	0.7931	0.0766	0.3243	1.7019	0.7317	0.3788
2004	0.0049	0.0167	1.2055	0.0009	1.0402	0.1126	0.3629	3.4164	0.8568	0.5348
2005	0.0043	0.0213	1.3901	0.0065	1.1437	0.1172	0.4821	5.4255	1.0592	0.6334
2006	0.0444	0.0481	1.8698	0.0023	1.3313	0.1241	0.5968	6.1272	1.3509	0.8741
2007	0.0088	0.0448	1.8781	0.0029	1.8502	0.1627	0.5714	6.3901	1.6733	1.2414
2008	0.0171	0.0538	2.6593	0.0045	3.0344	0.2373	0.7551	8.8539	2.0052	1.8126
2009	0.0253	0.0415	3.0029	0.0269	3.5247	0.2081	0.6973	6.8275	1.7108	1.8335
2010	0.0212	0.0611	4.5571	0.0081	3.5553	0.2725	0.8016	9.0662	2.1395	2.4755
2011	0.8706	0.0895	6.4002	0.0139	3.7988	0.4558	1.0066	15.6244	2.7679	3.4665
2012	0.0333	0.1101	6.0219	0.0273	3.7911	0.5268	1.1192	13.5527	3.4541	3.6581
2013	0.0402	0.1367	5.5579	0.0613	5.4968	0.7428	1.4691	14.1891	4.2038	5.9876
2014	0.0424	0.1541	4.4447	0.0636	4.6422	0.8685	1.4369	9.6766	3.4385	6.5265
2015	0.0303	0.1453	2.8688	0.0512	4.8921	0.8599	1.3043	7.8051	3.1135	5.3572

Source: Table-4E based on, Data extracted from UNCTAD*Stat*, Ministry of Commerce & Industry, and World Trade Organization.

India's imports from Indonesia have been registered as the highest amongst other ASEAN members with an average volume of imports at US$ 7.58 billion per year from 2001 to 2015, with the maximum value of imports at US$ 15.18 billion in 2014 and the least import value of US$ 9.66 billion in 2001. Imports from Singapore stand to be second highest at an average volume of US$ 5.42 billion per year from 2001 to 2015. US$ 8.30 billion accounts to the maximum value of import in 2008 in comparison to US$ 1.33 billion in year 2002. Malaysia stands third in the row, as imports of India from this nation accounts at an average import value

of US$ 5.81 billion per year. From period 2001 to 2015, maximum import value of US$ 10.92 billion has been registered in 2014 to the least import value of US$ 1.15 billion. In contrast with the highest three import nation, countries like Cambodia, Brunei and Lao PDR are the destination from where Indian imports are lowest. Imports from these destinations averaged at US$ 0.007 billion, US$ 0.033 billion and US$ 0.036 billion per year from 2001 to 2015. Hence country-wise India's imports to the ASEAN region have been exhibited in the Table 4.6

Table 4.6

India's Import from ASEAN Countries: 2001 to 2015

($bn)

Year	*Brunei*	*Cambodia*	*Indonesia*	*Lao*	*Malaysia*	*Myanmar*	*Philippines*	*Singapore*	*Thailand*	*Vietnam*
2001	0.0002	0.0011	0.9668	0.00	1.1523	0.3504	0.0777	1.3547	0.4245	0.0173
2002	0.0003	0.0006	1.2632	0.00	1.3305	0.3528	0.1327	1.3336	3651	0.0281
2003	0.0003	0.0003	1.8797	0.0002	1.8942	0.3502	0.1119	1.8671	0.5392	0.0335
2004	0.0005	0.0002	2.4276	0.00	2.2144	0.4106	0.1808	2.4921	0.7501	0.0732
2005	0.0008	0.0004	3.0189	0.00	2.4359	0.4891	0.2031	3.1594	1.1965	0.1273
2006	0.2257	0.0014	3.6104	0.0003	4.6559	0.7026	0.2087	5.1845	1.5508	0.1598
2007	0.2341	0.0012	4.8403	0.00	5.7255	0.8091	0.1735	6.9016	2.1923	0.1531
2008	0.3258	0.0042	6.4313	0.0005	7.4613	0.9062	0.2276	8.3047	2.6647	0.3716
2009	0.4891	0.0037	7.5996	0.0001	4.9902	1.1818	0.3429	6.1416	2.7758	0.4429
2010	0.2071	0.0076	9.6953	0.0201	5.9959	1.1221	0.3944	7.231	3.9408	0.9935
2011	0.7049	0.0084	13.9646	0.0701	9.1062	1.2621	0.4502	8.1553	5.0555	1.5542
2012	0.9392	0.0101	14.0682	0.1437	10.4941	1.3461	0.4941	7.7973	5.4992	1.9454
2013	0.7661	0.0127	14.9841	0.1113	9.3307	1.3662	0.4087	7.0266	5.4754	2.8266
2014	0.9426	0.0164	15.1848	0.0596	10.9285	1.3927	0.4006	7.0694	5.6809	2.7816
2015	0.6077	0.0429	13.9021	0.1429	9.5599	1.0163	0.5181	7.3959	5.6501	2.6801

Source: Table-4F based on, Data extracted from UNCTAD*Stat*, Ministry of Commerce & Industry, and World Trade Organization.

4.4 Commodity-wise India-ASEAN Trade Analysis:

India's chief exporting commodities to ASEAN region includes mineral fuel, mineral oils & products (HS code-27), meat & edible offal (HS code-02), nuclear reactor, boilers, machinery & mechanical appliances (HS code-84), organic chemicals (HS code-29), natural or cultured pearls, precious source: Table-4G based on, Data extracted from UNCTAD*Stat*, Ministry of Commerce & Industry, and World Trade Organization.& semi-precious stones (HS code-71), fish and crustaceans, mollusks & other aquatic invertebrates (HS code-3) have been exhibited in the Table 4.7 with commodity-wise its share percentage in total exports in ASEAN region in year 2015. The particular table unveils top 25 exporting commodities that India exports to the ASEAN region, accounts to more than 81.69 percent share of India's total export to the ASEAN region in year 2015. Commodity (HS code-27) which contains mineral fuel, mineral oils & products accounts the maximum share of 14.61 percent and commodity (HS code-40) which includes rubber and article thereof accounts the minimum share of 0.85 percent in the India's top 25 exporting commodities to ASEAN region for year 2015.

Table 4.7

India's Top 25 Export Commodity to ASEAN region in 2015

S.No	HS Code	Commodity	Export in 2015 (US$ Mn)	Share %
1	27	MINERAL FUELS, MINERAL OILS AND PRODUCTS	3,863.48	14.61
2	2	MEAT AND EDIBLE MEAT OFFAL.	2,649.14	10.02
3	84	NUCLEAR REACTORS, BOILERS, MACHINERY AND MECHANICAL APPLIANCES	1,590.93	06.01
4	29	ORGANIC CHEMICALS	1233.92	04.66
5	71	NATURAL OR CULTURED PEARLS,PRECIOUS OR SEMIPRECIOUS STONES	1091.99	04.13
6	3	FISH AND CRUSTACEANS, MOLLUSCS	1088.95	04.12
7	87	VEHICLES OTHER THAN RAILWAY OR TRAMWAY ROLLING STOCK	1051.43	03.97
8	99	MISCELLANEOUS GOODS	1040.20	03.93

9	89	SHIPS, BOATS AND FLOATING STRUCTURES	977.42	03.69
10	85	ELECTRICAL MACHINERY AND EQUIPMENT AND PARTS THEREOF	795.78	03.01
11	30	PHARMACEUTICAL PRODUCTS	717.31	02.71
12	12	OIL SEEDS AND OLEA. FRUITS; MISC. GRAINS, SEEDS AND FRUIT	607.33	02.29
13	52	COTTON.	601.62	02.27
14	17	SUGARS AND SUGAR CONFECTIONERY	512.05	01.93
15	9	COFFEE, TEA, MATE AND SPICES	510.62	01.89
16	74	COPPER AND ARTICLES THEREOF	435.02	01.64
17	72	IRON AND STEEL	423.92	01.59
18	90	OPTICAL, PHOTOGRAPHIC CINEMATOGRAPHIC MEASURING	356.33	01.34
19	39	PLASTIC AND ARTICLES THEREOF	347.72	01.31
20	38	MISCELLANEOUS CHEMICAL PRODUCT	334.21	01.26
21	76	ALUMINIUM AND ARTICLES THEREOF	322.41	01.21
22	32	TANNING OR DYEING EXTRACTS; TANNINS AND THEIR DERI. DYES.	309.66	01.17
23	75	NICKEL AND ARTICLES THEREOF	285.36	01.07
24	73	ARTICLES OF IRON OR STEEL	267.05	01.01
25	40	RUBBER AND ARTICLES THEREOF	225.93	00.85
Sum of Top 25 Commodities			**21639.72**	**81.69**
India's Total Export to ASEAN			**26428.12**	**100.00**

Source: Export-Import Data Bank, Ministry of Commerce & Industry, GoI.

The eminent imports from the ASEAN countries incorporates or includes mineral fuel, mineral oils & products (HS code-27), animal or vegetable fats & oil and cleavage products (HS code-15), electrical machinery &equipments and parts thereof (HS code-85), nuclear reactors, boilers, machinery and mechanical appliances (HS code-84), organic chemicals (HS code-29), plastics and articles thereof (HS code-39) have been depicted in the Table 4.8 with commodity-wise its share percentage in total imports from ASEAN region in year 2015. The particular table unveils and reveals top 25 importing commodities that India imports from ASEAN region; accounts share percentage of 88.89, India's total import from the ASEAN region in year 2015. Commodity (HS code-27) which contains mineral fuel, mineral oils & products accounts the maximum share of 19.35 percent and commodity (HS code-32) which includes tanning or dyeing

extracts; tannis and their deri. Dyes, pigments and other coloring matter accounts the minimum share of 0.45 percent in the India's top 25 importing commodities to ASEAN region for year 2015.

Table 4.8

India's Top 25 Import Commodity from ASEAN region in 2015

S.No	HS Code	Commodity	Import in 2015 (US$ Mn)	Share %
1	27	MINERAL FUELS, MINERAL OILS AND PRODUCTS	8033.42	19.35
2	15	ANIMAL OR VEGETABLE FATS AND OILS AND THEIR CLEAVAGE PRODUCT	5980.23	14.41
3	85	ELECTRICAL MACHINERY AND EQUIPMENT AND PARTS THEREOF	4141.63	09.97
4	84	NUCLEAR REACTORS, BOILERS, MACHINERY AND MECHANICAL APPLIANCES	3741.05	09.01
5	29	ORGANIC CHEMICALS	2074.60	04.99
6	39	PLASTIC AND ARTICLES THEREOF	1758.55	04.23
7	89	SHIPS, BOATS AND FLOATING STRUCTURES.	1099.75	02.64
8	40	RUBBER AND ARTICLES THEREOF.	995.10	02.39
9	44	WOOD AND ARTICLES OF WOOD; WOOD CHARCOAL	972.72	02.34
10	72	IRON AND STEEL	902.33	02.17
11	07	EDIBLE VEGETABLES AND CERTAIN ROOTS	836.13	02.01
12	26	ORES, SLAG AND ASH.	822.66	01.98
13	71	NATURAL OR CULTURED PEARLS,PRECIOUS OR SEMIPRECIOUS STONES	816.83	01.97
14	74	COPPER AND ARTICLES THEREOF	670.48	01.61
15	38	MISCELLANEOUS CHEMICAL PRODUCTS.	648.51	01.56
16	90	OPTICAL, PHOTOGRAPHIC CINEMATOGRAPHIC MEASURING, CHECKING PRECISION	617.00	01.48
17	87	VEHICLES OTHER THAN RAILWAY OR TRAMWAY ROLLING STOCK	598.27	01.44
18	73	ARTICLES OF IRON OR STEEL	369.38	00.88
19	76	ALUMINIUM AND ARTICLES THEREOF	369.27	00.88
20	28	INORGANIC CHEMICALS; ORGANIC OR	329.12	00.79

		INORGANIC COMPOUNDS OF PRECIOUS METALS		
21	09	COFFEE, TEA, MATE AND SPICES.	287.81	00.69
22	75	NICKEL AND ARTICLES THEREOF	273.61	00.65
23	88	AIRCRAFT, SPACECRAFT, AND PARTS	208.61	00.51
24	48	PAPER AND PAPERBOARD; ARTICLES OF PAPER PULP, OF PAPER OR OF PAPERBOARD	206.55	00.49
25	32	TANNING OR DYEING EXTRACTS; TANNINS AND THEIR DERI. DYES, PIGMENTS	190.28	00.45
Sum of Top 25 Commodities			36943.89	88.89
India's Total Imports from ASEAN			41516.39	100.00

Source: Export-Import Data Bank, Ministry of Commerce & Industry, GoI.

4.5 Conclusion

In the present study, Indian economy has showed a magnificent expansion in every related component of trade. One of the most prominent characteristic of India's growing presence in the global trade is associated with its augmenting integration with the ASEAN members. Over the period of time ASEAN economies have continued to remain the main export destination for India's export and have emerged as vital sources of India's imports need.

India's export to this ASEAN region escalated from mere US$ 3.1billion in 2001to US$ 22.95 billion in 2010 and US$ 26.42 in 2015 which is almost 8-9 times over the period from 2001-15. India's export to this region experienced at an average US$ 18.64 billion per year. Similarly, India's import from ASEAN region stood at an average of US$ 24.26 billion per year. Import from the region increased from US$ 4.3 billion in 2001 to US$ 29.64 billion in 2010 and US$ 41.51 billion in 2015 which accounts to be 10-11 times over the period of 2001-15. Finally India's total trade with ASEAN region was worth almost US$ 7.66 billion in 2001 and reached to US$ 67.94 billion in 2015, almost 9-10 times over a period of 2001-15 which accounted at an average of US$ 42.90 billion.

India's export growth in ASEAN region showed a mixed trend; initially export growth in ASEAN region was more than that of India's global export growth. From 35.84 in year 2002 to 50.26 in 2011, the export growth rate in ASEAN region was higher in comparison with global export growth which states to be 14.17 in year 2002 to 36.78 in year 2011. Similarly, India's

export share also depicts the same trend and pattern. The export share was minimal with 7.55% share in year 2001 to the 11.44% in year 2011. But exports growth to ASEAN region has registered or witnessed a descending trend in two consecutive years, which is -05.66 in year 2014 and -16.74 in 2015. In comparison with India's export growth, import growth from the ASEAN region has demonstrated and followed the mixed trend from 10.62 in years 2002 to 23.66 in 2010 and finally to be -06.61 in year 2015. Whereas India's import share percent from ASEAN region has remained more likely to be constant throughout, with an average of 8.92 percent from year 2001 to 2015. The average of import growth from ASEAN region has been registered 18.86, which is higher in contrast to the average of global import growth at 17.46 for the years 2001 to 2015.

From the study, it has been inferred that amongst the 10 ASEAN members Singapore, Indonesia, Malaysia and Thailand are the dominant and main export destination for the India. The study also highlights that India is also the net importer from the same nation such as Indonesia, Singapore and Malaysia to whom it's a net exporter.

Inferences from the above trade indices states that though there has been tremendous increase in both export and import structure of India. But the tremendous surge in the import structure and inflating trade deficit has been a matter of great concern for India-ASEAN trade relation in the upcoming years.

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Chapter-5

Analysis of Trade Specialization: A case of AIFTA

5.1 Introduction

The process of globalization which started in the early1980's has observed a tremendous increase in the volume of international trade and the process of regional economic integration. Under the process of globalization, less developed countries (LDC's) has played a vital role in the diversification and enlargement of the world trade.

Indeed, the opening up of the economy for the trade has constituted as one of the essential and key aspect of the growth strategy. Hence, trade among different countries could be traditionally explained as emergence from the specialization of a country in specific product/industry as constrained by the countries relative factor endowments. Therefore, the gradual development of the trade specialization over a span of time is a phenomenon that generally reflects the deep structural change in entire economic structure of a nation.

According to Worz (2005), specialization could be explained as technique where a business area and economy focuses on the production of goods and services to achieve higher degree of productive efficiency. Hence, nations specialize by utilizing its comparative advantage arising from differences in factor endowment, technology and innovation. Therefore, in the light of rising awareness about the significance of specialization, it would be fascinating to undertake trade specialization into Indo-ASEAN context.

The objective to be analyzed in this chapter is to measure trade specialization of India with respect to ASEAN members using the Lafay Index (LFI) on Harmonized Standard (HS) 6 digit level commodity classification, under six different levels of industries as proposed by Basu and Das (2011), Non-Fuel Primary commodity (A) Resource Intensive (B) Low Skill and Technology Intensive Manufactures (C) Medium Skill and Technology Intensive Manufacture (D) High Skill and Technology Intensive Manufacture (E) and Mineral Fuel (F).

Lafay Index (LFI) does not only consider at exports and imports, but also the size of intra-industry trade. Data span the period 2001-2015, two years average value of Lafay Index for 2001-02, 2004-05. 2009-10 and 2014-15 has been used. The 2-year average value of LFI has been selected to concentrate on these time period because 2001-02 and 2014-15 are the beginning and

the end of the time span in our study and 2004-05 is time period in which trade negotiation in goods agreement started. Lastly, 2009-10 is the critical period because after six year of negotiation AIFTA was signed on august, 2009 and agreement came into action on 1st of January, 2010.

Hence for achieving the second objective the chapter has been disintegrated into two sub section. Section 5.2 analyzes the pattern of trade specialization of India with respect to ASEAN members. Lastly, section 5.3 provides us with a conclusion of the chapter.

5.2 Pattern of Trade Specialization at Industry Level

This Section of the study investigates the pattern of trade specialization of India with respect to ASEAN members at selected industry level. The Two year average value of the Lafay Index would be examined for elected time period of 2001-02, 2004-05, 2009-10 and 2014-15.

5.2.1. Non-Fuel Primary Commodity

Table 5.1 shows some interesting changing pattern over the period of time in the average specialization index under non-fuel primary commodity. Over the period of study, nation such as Brunei clearly highlights its drive towards higher level of trade specialization with increasing LFI value from 1.59 in 2001-02 to 3.05 in 2009-10 and lastly to 3.55 in 2014-15. Cambodia shows the improvement in trade specialization under non-fuel primary commodity with the constant decline in the negative average Lafay value from -1.82 in 2001-02 to -1.71 in 2009-10 and -1.21 in 2014-15. India display's a regular enhancement in its trade specialization from 2001-02 to 2009-10 with lafay value to be -1.04 to -0.39. But later India observed a drop in trade specialization for non-fuel primary commodity with -0.52 for 2014-15 Lafay value. Indonesia demonstrates a fluctuating trend in the trade specialization as depicted in the Table 5.1, with the average lafay value improving from 0.71 in 2001-02 to 0.81 in 2014-15. Lao and Malaysia both displays the same trend in trade specialization for the time span of 2001-2015. Both nations showcase a positive increase in trade specialization from 2001-02 to 2009-10, with constant improving Lafay values (Lao 1.56 in 2001-02 to 4.24 in 2009-10, Malaysia -0.44 in 2001-02 to 0.33 in 2009-10). Lastly, both the ASEAN members Lao and Malaysia display a decline in trade specialization for Non Fuel Primary commodity with a decline in average lafay value for the time

span 2014-15. Philippines highlights a constant deterioration in specialization from 2001-02 to 2009-10 with an average Lafay value to be -0.66 in 2001-02 to -0.99 in 2009-10, but later reveals an marginal improvement for non-fuel primary commodity for 2014-15. From the Table 5.1, it could be inferred that three major ASEAN members Singapore, Thailand and Vietnam demonstrates a constant deterioration in their trade specialization right from 2001-02 to 2014-15. The Lafay value for the three countries Singapore, Thailand and Vietnam are depicted in the Table 5.1.

Table 5.1

Average Lafay Index for Non-Fuel Primary Commodity (2001-15)

Country	2001-02	2004-05	2009-10	2014-15
Brunei	1.59	3.24	3.05	3.55
Cambodia	-1.82	-1.79	-1.71	-1.21
India	-1.04	-0.67	-0.39	-0.52
Indonesia	0.71	0.27	1.22	0.81
Lao	1.56	2.16	4.24	3.69
Malaysia	-0.44	0.29	0.33	0.18
Myanmar	-	-	-	0.51
Philippines	-0.64	-0.67	-0.99	-0.65
Singapore	-0.34	-0.37	-0.57	-0.61
Thailand	-0.03	-0.19	-0.21	-0.23
Vietnam	1.65	1.15	0.62	0.03

Source: UNCOMTRADE

Researcher's Calculation

Table 5.2 Reports the India's top 15 and bottom 15 non-fuel primary products based on the LFI for 2014-15. From the Table it could be inferred that 'petroleum jelly' (271019), 'chlorosulphuric acid' (271012), 'buckwheat' (100630), 'fresh edible offal of duck & geese' (020230) etc are amongst the top 15 products, which reveals the trade specialization of India for non-fuel primary commodity in 2014-15. From the table it could be inferred that top 15 products states the constant rise in trade specialization from 2001-02 to 2014-15 with increasing LFI values. Therefore, India's specialization for these products is increasing exponentially.

Table 5.2. India's Top 15 and Bottom 15 Non-Fuel Primary Products based on the Lafay Index, 2014-15

Top 15	Product Name	2001-02	2014-15	Bottom 15	Product Name	2001-02	2014-15
271019	Petroleum jelly	-	4.43	270810	Propane, liquefied	-0.003	-11.60
271012	Chlorosulphuric acid	-	2.43	262190	Chlorine	-	-1.54
100630	Buckwheat	0.91	1.11	271111	Oxides of boron; boric acids	-0.001	-0.94
020230	Fresh or chilled cuts and edible offal of ducks, geese	0.25	0.72	151110	Palm kernel and babassu oil and their fractions	-0.61	-0.56
030617	Products consisting of natural milk constituents	-	0.55	260300	Uranium ores and concentrates	-0.29	-0.53
740311	Plates, sheets, strip and foil, of nickel alloys	0.10	0.35	710691	Cuff links and studs, of base metal	-0.33	-0.45
520100	Multiple "folded" or cabled cotton yarn, of combed fibres	-0.29	0.33	271113	Inorganic acids (excluding hydrogen chloride "hydrochloric acid")	-0.11	-0.36
130232	Low erucic acid rape or colza oil	0.09	0.20	150710	Crude sunflower-seed or safflower oil	-0.04	-0.27
760110	Unwrought tungsten, incl. bars and rods of tungsten	0.02	0.16	271112	Petroleum bitumen	-0.10	-0.25
170199	Cane molasses resulting from the extraction	0.02	0.14	760200	Cloth, grill, netting and fencing, of aluminium wire	-0.09	-0.18
080132	Fresh apricots	0.001	0.13	151211	Prepared or preserved herrings, whole or in pieces	-0.02	-0.16
230400	Mullite	-	0.12	270112	Fluorine; bromine	-	-0.15
120740	Oil seeds and oleaginous fruits, whether or not broken	-0.11	0.09	151190	Crude rape, colza or mustard oil	-0.23	-0.14
100199	Rolled or flaked grains of cereals (excluding oats)	-	0.08	080131	Fresh or dried hazelnuts or filberts "Corylus spp."	-0.08	-0.13
100590	Grain sorghum	0.01	0.07	440399	Bamboo, incl. strips and friezes for parquet flooring, not assembled.	-0.27	-0.11

Source: UNCOMTRADE
Researcher's Calculation

Products such as ‘propane liquefied’ (270810), ‘Chlorine’ (262190), ‘oxides of boron’ (271111), ‘uranium ores & concentrates’ (260300) etc are in the bottom 15 products category, which displays a deteriorating trade specialization for India in 2014-15. Hence, from the table 5.2 products such as ‘palm kernel & babassu oil’ (151110),’crude rape,colza’ (151190) and ‘bamboo, incl. strips’ (440399) are showing an improvement in LFI value in comparison with 2001-02 LFI values demonstrating an improvement in trade specialization as depicted in the Table 5.2

5.2.2. Resource Intensive Manufacture

Under resource intensive manufactures Table 5.3, clearly illustrates some interesting alterations in the average specialization index. Brunei spotlights the constant decline in its trade specialization with LFI value -0.41 in 2001-02 to -0.91 in 2009-10 and -1.00 in 2014-15. Cambodia and India both demonstrates same trend in the trade specialization with a positive LFI value of 4.19 and 1.21 for 2001-02. Further, Cambodia and India has experienced a continuous decline in trade specialization from 2004-05 to 2009/10 for resource intensive manufactures. Ultimately, both nations maintained to achieve an improvement in specialization for 2014-15 with their respective LFI values to be 2.66 for Cambodia & 0.64 for India.

All four ASEAN members such as Indonesia, Lao, Malaysia and Thailand showcases the same continuous diminishing trend in average trade specialization index from 2003/04 to 2014/15. Thereby, depicting incline in import dependency for resource intensive manufacture. The LFI values for all four ASEAN members are represented in Table5.3. Philippines exhibit a varied trend in the trade specialization index with a positive LFI values. Philippines display an initial decline in trade specialization from 2001-02 to 2009-10 with respective LFI values to be 0.23 and 0.12. Lastly, Philippines demonstrate a positive incline in trade specialization (LFI 0.16, 2014-15). During the sample time span from 2001-02 to 2009-10, Singapore has registered an improvement in trade specialization for resource intensive manufactures from -0.08 in 2001-02 to -0.07 in 2009-10 and lastly a marginal decline to -0.09 in 2014-15. Thereby, revealing a rise in import dependency for Singapore. Myanmar displays a trade specialization with positive LFI value of 0.91 for 2014-15. Lastly, Vietnam highlights the exponential rise in trade specialization index under resource intensive manufacture with LFI values to be 0.72 in 2001-02, 0.74 in 2004-05 and 0.91 in 2014-15. Hence, revealing Vietnams less import dependence.

Table 5.3

Average Lafay Index for Resource Intensive Manufactures (2001-15)

Country	2001-02	2004-05	2009-10	2014-15
Brunei	-0.41	-0.14	-0.91	-1
Cambodia	4.11	3.85	1.35	2.66
India	1.21	0.87	0.58	0.64
Indonesia	1.05	0.74	0.43	0.41
Lao	1.62	1.53	0.11	0.09
Malaysia	0.11	0.13	0.10	0.09
Myanmar	-	-	-	0.91
Philippines	0.23	0.18	0.12	0.16
Singapore	-0.08	-0.06	-0.07	-0.09
Thailand	0.42	0.31	0.18	0.14
Vietnam	0.72	0.74	0.86	0.91

Source: UNCOMTRADE

Researcher's Calculation

Table 5.4 states India's top 15 and bottom 15 resource intensive manufactures based upon the LFI value for 2014-15. 'Article of jewellery & parts of silver' (710239), 'Pantyhose and tights of textile' (610910), 'Women hosiery knitted' (610990), 'Pneumatic mattresses of cotton' (630260), 'Men's or boys' swimwear' (620520) etc are featured predominantly among top 15 resource intensive manufactures. Hence, from the table5.4 it could be demonstrated that products under the top 15 category with HS code (710239, 610910, 620520 &420310) holds more LFI value in 2001-02, thereby depicting a decline in trade specialization over the period.

Products as such 'Packing containers, incl. record sleeves of paper' (481190), 'Fabrics, knitted or crocheted' (590390), 'Full grains leather "incl. parchment-dressed leather' (410419), 'Fine animal hair, carded' (500200) etc are amongst the bottom 15 resource intensive manufactures which reveal India's declining trade specialization for 2014-15. Commodities such as 'Waste and scrap of silver' (710231) and 'Unbleached kraft paper and paperboard' (480100) shows the improvement in negative LFI value in comparison to 2001-02.

Table 5.4 India's Top 15 and Bottom 15 Resource Intensive Products based on the Lafay Index, 2014-15

Top 15	Product Name	2001-02	2014-15	Bottom 15	Product Name	2001-02	2014-15
710239	Articles of jewellery and parts thereof, of silver,	6.39	3.18	481190	Packing containers, incl. record sleeves, of paper, paperboard, cellulose wadding	-0.01	-1.51
610910	Pantyhose and tights of textile materials, knitted	0.63	0.29	590390	Fabrics, knitted or crocheted, warp knit, of cotton	-	-0.90
610990	Women's full-length or knee-length hosiery, knitted	0.20	0.27	410419	Full grains leather "incl. parchment-dressed leather"	-	-0.85
630260	Pneumatic mattresses of cotton	0.03	0.22	500200	Fine animal hair, carded or combed	-0.11	-0.76
630419	Waterproof footwear incorporating a protective metal toecap	0.10	0.21	410449	Leather "incl. parchment-dressed leather" of the portions, strips	-	-0.27
620520	Men's or boys' swimwear	0.62	0.18	690210	Tubes of glass, un-worked	-0.07	-0.24
680223	Sheets, panels, paving, tiles and similar articles	-0.24	0.16	481019	Wallpaper and similar wallcovering paper	-	-0.24
520524	Multiple "folded" or cabled cotton yarn containing predominantly, but < 85% cotton	0.05	0.15	590210	Fabrics, knitted or crocheted, of a width of <= 30 cm, containing >= 5% by weight	-0.04	-0.23
620640	Men's or boys' tracksuits and other garments	0.12	0.14	950300	Fish-hooks, whether or not snelled	-	-0.22
640351	Skins and other parts of birds with their feathers or down, feathers, parts of feathers	0.17	0.12	710310	Articles of jewellery and parts thereof, of precious metal other than silver	-0.05	-0.17
520523	Multiple "folded" or cabled cotton yarn contain predominantly < 85% cotton by weight	0.04	0.12	480257	Testliner "recycled liner board", uncoated, in rolls of a width > 36 cm	-	-0.15
540233	Synthetic monofilament of >= 67 decitex and with a cross sectional dimension of <= 1 mm	0.03	0.11	710391	Articles of jewellery and parts thereof, of base metal clad with precious metal	-0.04	-0.08
620630	Men's or boys' tracksuits and other garments, n.e.s. of man-made fibres	-0.11	0.10	480100	Unbleached kraft paper and paperboard, uncoated in rolls of width > 36 cm square	-0.23	-0.07
620442	Women's or girls' nightdresses and pyjamas of textile materials	0.00	0.09	710122	Ash containing precious metal or precious-metal compounds	-0.01	-0.07
420310	Coniferous wood in chips or particles	0.36	0.09	710231	Waste and scrap of silver, incl. metal clad with silver, and other waste and scrap	-0.27	-0.01

Source: UNCOMTRAD

Researcher's Calculation

5.3.3. Low Skill and Technology Intensive Manufactures

Table 5.5 states that Brunei holds deteriorating low trade specialization under low skill and technology intensive manufactures with respective LFI value -0.32 in 2001-02, -1.51 in 2009-10 & -1.68 in 2014-15. Further Cambodia, demonstrates an improvement in the average trade specialization index with decreasing negative LFI value from -2.25 in 2004-05 to -1.72 in 2009-10 and lastly to -1.07 in 2014-15. India, exhibit an exponential rise in trade specialization from the time span of 2001-02 to 2014-15. India starts to derive towards achieving trade specialization with increasing LFI value of 0.21 in 2001-02 to 0.25 in 2009-10 and finally to 0.28 for 2014-15. Thereby, revealing less of import dependency of India for low skill and technology intensive manufactures. Indonesia and Lao both countries display same trend in trade specialization index for the time span of 2001-2015. Both the ASEAN members spotlights a negative increase in trade specialization from 2001-02 to 2009-10, with their respective values as depicted in the Table 5.5. Lastly, both Indonesia and Lao exhibits an improvement in trade specialization with a decline in negative lafay value (LFI for 2014-15 for both Indonesia & Lao is -0.51 & -1.17).

ASEAN members such as Malaysia, Philippines, Singapore and Vietnam spotlights a continuous improvement in the average trade specialization index for low skill and technology intensive manufactures over the time span of 2001-02 to 2014-15. The LFI value for respective countries are depicted in Table 5.5 illustrates the declining import dependency of Malaysia, Philippines, Singapore and Vietnam with their diminishing LFI values. Initially, Thailand revealed deterioration in its trade specialization from the period 2001-02 with -0.47 LFI value to -0.62 in 2004-05. Ultimately, Thailand depicts no change in its trade specialization with same LFI value of -0.54 from 2009-10 to 2014-15.

Table 5.5

Average Lafay Index for Low Skill & Technology Intensive (2001-15)

Country	2001-02	2004-05	2009-10	2014-15
Brunei	-0.32	-0.36	-1.51	-1.68
Cambodia	-1.03	-2.25	-1.72	-1.07
India	0.21	0.24	0.25	0.28

Indonesia	-0.54	-0.61	-0.63	-0.51
Lao	-0.41	-1.16	-1.22	-1.17
Malaysia	-0.59	-0.35	-0.34	-0.25
Myanmar	-	-	-	-0.61
Philippines	-0.32	-0.29	-0.21	-0.12
Singapore	-0.13	-0.12	-0.08	-0.11
Thailand	-0.47	-0.62	-0.54	-0.54
Vietnam	-1.16	-0.92	-0.91	-0.48

Source: UNCOMTRADE

Researcher's Calculation

Table 5.6 shows some interesting pattern in the India's top 15 and bottom 15 low skilled & technology products based on the lafay index value, 2014-15. Products such as 'Propellers and rotors for aircraft' (871120), 'Photographic flashlights and flashlight apparatus' (890520), 'Plates, sheets and strip, of copper-zinc base alloys' (732599), 'U sections of iron or non-alloy steel' (721049) , 'Equipment for scaffolding, shuttering, propping' (730511) etc are amongst the top 15 low skill and technology intensive manufactures. From the table 5.6 it could be inferred, under top 15 product category products such as 'U sections of iron or non-alloy steel' (721049), 'Bars, rods and profiles of copper alloys' (732393) & 'Flashbulbs, flashcubes' (890510) were possessing higher trade specialization in 2001-02 in comparison to 2014-15 with their respective LFI values as depicted in table.

Similarly products such as 'Flat-rolled products of iron or steel, of a width of >= 600 mm' (720449), 'Parts and accessories for cinematographic cameras' (890800), 'Rails of iron or steel, for railway or tramway track' (722511), 'Sole plates of iron or steel, for railways' (722530) etc are the amongst the bottom 15 products which possesses lower trade specialization for 2014-15. Hence, from the table 5.6 it is concluded that product such as 'Flat-rolled products of iron or steel, of a width of >= 600 mm, cold-rolled' (720449) and 'Wire of alloy steel other than stainless, in coils' (722300) are exhibiting improvement in the trade specialization in comparison with 2001-02 time span with declining LFI values as displayed in the table 5.6

Table 5.6 India's Top 15 and Bottom 15 Low Skill & Technology based on the Lafay Index, 2014-15

Top 15	Product Name	2001-02	2014-15	Bottom 15	Product Name	2001-02	2014-15
871120	Propellers and rotors and parts thereof, for aircraft	0.08	0.28	720449	Flat-rolled products of iron or steel, of a width of >= 600 mm, cold-rolled "	-0.26	-0.21
890520	Photographic flashlights and flashlight apparatus (excluding with electronic discharge lamps)	-0.10	0.17	720421	Flat-rolled products of iron or non-alloy steel, of a width of >= 600 mm,	-0.03	-0.17
732599	Plates, sheets and strip, of copper-zinc base alloys "brass", of a thickness of > 0,15 mm	0.13	0.14	890800	Parts and accessories for cinematographic cameras	-0.04	-0.14
720230	Flat-rolled products of iron or non-alloy steel, of a width of >= 600 mm, in coils	0.01	0.12	722511	Rails of iron or steel, for railway or tramway track (excluding check-rails)	-0.01	-0.12
721049	U sections of iron or non-alloy steel, not further worked than hot-rolled	0.13	0.10	722540	Sleepers "cross-ties", check-rails, rack rails, chairs, chair wedges, rail clips, bedplates	-0.02	-0.09
730511	Equipment for scaffolding, shuttering, propping or pit-propping	0.03	0.09	722790	Tubes, pipes and hollow profiles, seamless, of circular cross-section, of alloy steel	-0.01	-0.08
890590	Parts and accessories for photographic cameras	-0.03	0.08	722530	Sole plates of iron or steel, for railways	0.00	-0.08
741999	Plates, sheets and strip, of aluminium alloys, of a thickness of > 0,2 mm	0.03	0.07	720260	Flat-rolled products of iron or non-alloy steel, of a width of >= 600 mm	-0.006	-0.05
720241	Flat-rolled products of iron or non-alloy steel, of a width of >= 600 mm, in coils, simply	0.01	0.07	871410	Ground flying trainers and parts thereof,. (excluding air combat simulators)	0.00	-0.04
722220	Hollow drill bars and rods, of alloy or non-alloy steel	0.06	0.06	722830	Line pipe of a kind used for oil or gas pipelines, having circular cross-sections	0.03	-0.03
720719	Flat-rolled products of iron or non-alloy steel, of a width of >= 600 mm, hot-rolled or cold-rolled	-0.01	0.05	720917	Bars and rods, hot-rolled, in irregularly wound coils, of iron or non-alloy steel	-0.02	-0.02
732393	Bars, rods and profiles of copper alloys.	0.18	0.05	722300	Wire of alloy steel other than stainless, in coils (excluding bars and rods)	0.03	-0.02
732619	Plates, sheets and strip, of copper-tin base alloys "bronze", of a thickness of > 0,15 mm	0.01	0.04	800110	Articles of magnesium, n.e.s.	-0.01	-0.1
731816	Sinks and washbasins, of stainless steel	0.01	0.03	731829	Cast articles of iron or steel, n.e.s. (excluding articles of non-malleable)	-0.01	-0.1
890510	Flashbulbs, flashcubes and the like, for photographic purposes.	0.36	0.02	730459	Towers and lattice masts, of iron or steel	-0.003	-0.1

Source: UNCOMTRADE

Researcher's Calculation

5.2.4. Medium Skill and Technology Intensive Manufactures

Under medium skill and intensive manufactures, Table 5.7 clearly exemplifies some interesting changing pattern over the time period from 2001 to 2015 in the average specialization index. Brunei as one of the emerging nation of ASEAN clearly spotlights the continuous deterioration in its trade specialization index for medium skill & technology manufactures from the time span 2001-02 to 2014-15 with respective LFI value to be -0.35 in 2001-02 to -0.65 in 2014-15. Cambodia, exhibits an improvement in the trade specialization index with a simultaneous decline in the negative LFI values from -2.31 in 2001-02 to -1.39 in 2004-05 and lastly, to -0.72 in 2014-15, thereby, revealing Cambodia's derive towards specialization under medium skill and technology intensive manufacture. From the Table 5.7 it could be inferred that major countries are moving towards trade specialization for low skill & technology intensive manufactures. India also demonstrates the shift towards trade specialization with an decline in the negative average LFI value of -0.11 in 2001-02 to -0.06 in 2009-10 and lastly, a shift towards positive LFI value of 0.12 in 2014-15 states rise in trade specialization with less of import dependency for India under medium skill and technology intensive manufactures.

Major ASEAN members such as Malaysia, Singapore, Thailand and Vietnam demonstrate a similar trend in the medium, skill and technology intensive manufactures. All four nations reveal the improvement in the LFI value under the average trade specialization index, thereby depicting a shift towards trade specialization. The average lafay index value of Malaysia, Singapore, Thailand and Vietnam is displayed in the table 5.7 from the time span 2001-15. Amongst all economies Thailand holds the positive and higher degree of trade specialization with positive and exponentially increasing average lafay index value.

Lao highlights no trade specialization under medium skill and technology intensive manufacture with constant rise in the negative average lafay index values as depicted in the table 5.7 Thereby, revealing more of import dependence by Lao.

Table 5.7

Average Lafay Index for Medium Skill & Technology Intensive (2001-15)

Country	2001-02	2004-05	2009-10	2014-15
Brunei	-0.35	-0.21	-0.57	-0.65
Cambodia	-2.31	-1.39	-0.88	-0.72

India	-0.11	-0.09	-0.06	0.12
Indonesia	-0.67	-0.76	-0.87	-0.74
Lao	-1.59	-1.68	-1.88	-2.21
Malaysia	-1.32	-0.52	-0.48	-0.35
Myanmar	-	-	-	-0.84
Philippines	-0.27	0.18	0.03	-0.01
Singapore	-0.34	-0.23	-0.09	-0.08
Thailand	-0.28	0.05	0.18	0.49
Vietnam	-1.06	-0.81	-0.71	-0.69

Source: UNCOMTRADE

Researcher's Calculation

Table 5.8 display the India's top 15 and bottom 15 medium skill and technology intensive manufactures based upon the lafay index, 2014-15. Products with HS code '870322' (Steering wheels, steering columns and steering boxes), '870899' (Helicopters of an unladen weight <= 2000 kg), '870321' (Clutches and parts for tractors, motor vehicles for the transport of ten or more persons), '870323' (Safety airbags with inflator system and parts) etc are featured prominently among the top 15 medium skill & technology intensive manufactures with positive LFI values for 2014-15. From the table 5.8 it could be concluded that only product with HS code 401120 (Inner tubes, of rubber; excluding those of a kind used on motor cars) holds higher trade specialization in 2001-02 with LFI value to be 0.18 in comparison with 0.07 LFI value for 2014-15. Correspondingly, products such as 'Window or wall air conditioning machines, self-contained' (841112), 'Furniture, bases and covers for sewing machines' (844630), 'Railway or tramway tank wagons and the like (excluding self-propelled)' (854370), 'Parts of liquid elevators' (840820) etc exemplifies the bottom 15 products which demonstrates the declining trade specialization under medium skill and technology intensive manufactures for 2014-15. Products such as 'Ships' or boats' propellers and blades' (847989) and 'AC motors, multi-phase, of an output > 750 W but <= 75 kW' (848210) displays an improvement in trade specialization in comparison with time period 2001-02 with declining negative LFI value.

Table 5.8 India's Top 15 and Bottom 15 Medium Skill & Technology based on the Lafay Index, 2014-15

Top 15	Product Name	2001-02	2014-15	Bottom 15	Product Name	2001-02	2014-15
870322	Steering wheels, steering columns and steering boxes, and parts thereof, for tractors, motor	0.004	0.51	841112	Window or wall air conditioning machines, self-contained or "split-system"	-0.022	-0.055
870899	Helicopters of an unladen weight <= 2000 kg	-	0.23	844630	Furniture, bases and covers for sewing machines and parts	-0.024	-0.044
870321	Clutches and parts thereof, for tractors, motor vehicles for the transport of ten or more persons	0.08	0.20	854370	Railway or tramway tank wagons and the like (excluding self-propelled)	-	-0.043
870190	Road wheels and parts and accessories thereof, for tractors, motor vehicles for the transport	0.02	0.15	841510	Machinery, plant or laboratory equipment, whether or not electrically heated	-0.003	-0.040
870323	Safety airbags with inflator system and parts thereof, for tractors, motor vehicles	-0.001	0.12	844399	Parts of household or laundry-type washing machines	-	-0.039
401161	Gloves, mittens and mitts, of vulcanised rubber (excluding surgical gloves)	-	0.11	840820	Parts of liquid elevators, n.e.s.	-0.026	-0.036
840710	Hand pumps for liquids (excluding those of subheading 8413.11 and 8413.19)	-0.003	0.09	844331	Reeds for looms, healds and heald-frames	-	-0.035
401120	Inner tubes, of rubber (excluding those of a kind used on motor cars, incl. station wagon	0.18	0.07	848210	AC motors, multi-phase, of an output > 750 W but <= 75 kW	-0.045	-0.031
870331	Electrical vehicles not fitted with lifting or handling equipment, of the type used in factories	0.01	0.07	847989	Ships' or boats' propellers and blades	-0.035	-0.030
870600	Electrical vehicles not fitted with lifting or handling equipment.	0.05	0.06	870829	Saddles for cycles (excluding for motorcycles)	-0.004	-0.029
870421	Motorcycles, incl. mopeds, with reciprocating internal combustion piston engine of a cylinder	-0.01	0.05	841590	Centrifugal cream separators	-0.024	-0.025
870210	Suspension systems and parts thereof, incl. shock-absorbers, for tractors, motor vehicles.	0.01	0.05	844790	Machinery for making or repairing articles of hides, skins or leather	-0.045	-0.023
870422	Motorcycles, incl. mopeds, with reciprocating internal combustion piston engine o	0.01	0.04	844332	Parts and accessories of weaving machines "looms" and their auxiliary machinery	-	-0.022
854511	Pedestrian-controlled agricultural tractors and similar tractors for industry .	-0.01	0.03	844540	Parts of machines for washing, cleaning, wringing, drying, ironing, pressing	-0.020	-0.021
848180	AC motors, single-phase, of an output > 37,5 W	-0.013	0.03	845710	Shearing machines, incl. presses, numerically controlled, for working metal	-0.015	-0.019

Source: UNCOMTRADE1

Researcher's Calculation

5.2.5. High Skill and Technology Intensive Manufactures

From the table 5.9, it could be inferred that Brunei shows an mixed trend of trade specialization under the high skill and technology intensive manufactures. Brunei demonstrates a continuous decline in trade specialization for the high skill & technology intensive manufactures with constant rise in LFI value from -0.29 in 2001-02 to -0.69 in 2009-10 and -0.91 for 2014-15. On the contrary, Cambodia exhibits an improvement in trade specialization under average trade specialization index. The negative LFI value for Cambodia, reduced constantly from -1.08 in 2004-05 to -0.68 for 2014-15, exhibiting a decreasing dependence on imports under high skill and technology intensive manufactures.

India also demonstrates an increase in trade specialization with continuous reduction in the negative average lafay index values from -0.27 in 2001-02 to -0.21 in 2009-10 and ultimately the LFI value reduced to -0.18 for 2014-15. Thereby, revealing India's drive towards trade specialization. Indonesia, exhibit a deterioration in trade specialization with steady rise of the negative average lafay index value as depicted in the Table 5.9. The average LFI values for Indonesia changed from positive value 0.1 in 2001-02 to -0.61 in 2009-10 and ultimately to -0.64 for 2014-15.

Malaysia and Singapore prominent nations of ASEAN showcase the same trend in average trade specialization index. Singapore exhibits the highest degree of trade specialization with positive average lafay index value changing from of 0.31 in 2001-02 to 0.48 in 2009-10 and 0.52 in 2014-15, and, Malaysia also reveals an improvement in the trade specialization from time span of 2001-02 to 2014/15 with the respective LFI values as depicted in the table 5.9. Lastly, Thailand display a mixed trend in its trade specialization under high skill and technology intensive manufactures. The LFI value for Thailand increased from -0.13 in 2001-02 to 0.06 for 2009-10. But later the decline in LFI value to 0.03 for 2014-15 displays the decline in trade specialization for high skill & technology intensive manufactures.

Table 5.9

Average Lafay Index for High Skill & Technology Intensive (2001-15)

Country	2001-02	2004-05	2009-10	2014-15
Brunei	-0.49	-0.34	-0.69	-0.91
Cambodia	-0.69	-1.08	-0.94	-0.68

India	-0.27	-0.23	-0.21	-0.18
Indonesia	0.1	-0.24	-0.61	-0.64
Lao	-1.31	-1.04	-0.91	-0.33
Malaysia	-1.67	0.11	0.52	0.81
Myanmar	-	-	-	-0.49
Philippines	0.58	0.32	0.11	0.43
Singapore	0.31	0.45	0.48	0.52
Thailand	-0.13	0.05	0.06	0.03
Vietnam	-0.77	-0.73	-0.71	-0.17

Source: UNCOMTRADE

Researcher's Calculation

Table 5.10 report India's top 15 and bottom 15 products in which India possesses trade specialization and import dependence under high skill & technology intensive manufactures. Products such as 'Calcium cyanamide' (300490), 'Objective lenses for cameras, projectors or photographic enlargers' (880240), 'Ammonium sulphate' (300420) , 'Dichloromethane methylene chloride' (290220) etc are featured prominent amongst the top 15 products. From the table it could be inferred that amongst the top 15 products under high skill & technology intensive manufactures LFI value has increased constantly from 2001-02 to 2014-15, thereby revealing a constant increase in trade specialization.

In the same way, the products such as 'Dictating machines not capable of operating without an external source' (851712),' Passenger boarding bridges, of a kind used in airports' (847330), 'Magnetic tapes, unrecorded, of a width <= 4 mm' (851770), 'Pick-up cartridges' (851762), 'Poly"vinyl acetate", in aqueous dispersion' (390110) likewise are the amongst bottom 15 in which India is losing it's trade specialization. The products such as 'Sulphides of non-metals commercial phosphorus' (280920), 'Synthetic organic vat dyes' (310420) and 'Trichloroethylene' (290250) displays an increase in trade specialization in comparison with the high LFI value for 2001-02 as depicted in the table 5.10.

Table 5.10 India's Top 15 and Bottom 15 High Skill & Technology based on the Lafay Index, 2014-15

Top 15	Product Name	2001-02	2014-15	Bottom 15	Product Name	2001-02	2014-15
300490	Calcium cyanamide (excluding that in pellet or similar forms, or in packages with a gross weight	0.53	1.41	851712	Dictating machines not capable of operating without an external source	-	-0.761
880240	Objective lenses for cameras, projectors or photographic enlargers or reducers	-0.11	0.37	851770	Magnetic tapes, unrecorded, of a width <= 4 mm	-	-0.384
300420	Ammonium sulphate (excluding that in pellet or similar forms, or in packages with a gross weight	0.12	0.15	310530	Synthetic organic products of a kind used as luminophores, whether or not chemical	-0.066	-0.285
880230	Lenses, prisms, mirrors and other optical elements, of any material, unmounted	0.02	0.13	310210	Mineral or chemical fertilisers containing nitrates and phosphates	-0.021	-0.275
294200	Medicaments consisting of mixed or unmixed products for therapeutic or prophylactic	0.02	0.12	847130	Extruders for working rubber or plastics	-0.030	-0.270
320416	Paints and varnishes based, incl. enamels and lacquers, on synthetic polymers or chemically	0.08	0.10	851762	Pick-up cartridges	-	-0.248
290220	Dichloromethane "methylene chloride"	0.01	0.09	280920	Sulphides of non-metals (excluding carbon disulphide); commercial phosphorus	-0.614	-0.161
320417	Paints and varnishes, incl. enamels and lacquers, based on acrylic or vinyl polymers, dispersed	0.06	0.09	310420	Synthetic organic vat dyes, incl. those usable in that state as pigments	-0.230	-0.142
300410	Urea, whether or not in aqueous solution	0.01	0.08	390110	Poly"vinyl acetate", in aqueous dispersion	-0.021	-0.135
390210	Poly"vinyl alcohol", in primary forms, whether or not containing unhydrolyzed acetate groups	0.08	0.08	847330	Passenger boarding bridges, of a kind used in airports	-0.039	-0.133
390760	Ion-exchangers based on polymers of heading 3901 to 3913, in primary forms	0.03	0.07	390421	Poly"ethylene terephthalate", in primary forms	-0.004	-0.126
380891	Supported catalysts with nickel or a nickel compound as the active substance, n.e.s.	-	0.06	281410	Corundum, artificial, whether or not chemically defined	-0.177	-0.123
300220	Opacifying preparations for x-ray examinations; diagnostic reagents for administration to patients	0.04	0.04	852990	Relays for a voltage > 60 V but <= 1.000 V	-0.013	-0.103
320412	Liquid lustres and similar preparations of the kind used in the ceramic, enamelling or glass ...	-0.01	0.04	290250	Trichloroethylene	-0.121	-0.098
290243	Butan-1-ol "n-butyl alcohol"	-	0.03	291736	Carboxylic acids with additional oxygen function and their anhydrides, halides	0.073	-0.084

Source: UNCOMTRADE1
Researcher's Calculation

5.3.6. Mineral Fuel Manufactures

Under mineral fuel manufactures Table 5.11, clearly exemplifies some of the interesting changing pattern over the time period from 2001 to 2015 in the average specialization index. Brunei as one of the emerging ASEAN member, clearly illustrates the negatively low and deteriorating trend in the trade specialization index. The LFI value of Brunei for 2001-02 is -0.64, which further increased to -0.68 for 2009-10 and lastly, to -1.21 for 2014-15 reveals to be the less specialized nation. India, Indonesia and Singapore all the nations demonstrates a positive trend of increasing trade specialization under average trade specialization index. The average lafay index value for India are -1.43 in 2004-05, 0.21 for 2009-10 and lastly to 0.23 for average year 2014/15. The average lafay index value of Indonesia and Singapore from time span 2001-15 is depicted in the Table 5.11. Thereby revealing low import dependence of both the nations under mineral fuel intensive manufactures.

Lao and Malaysia both nations exhibits the same pattern of trade specialization for the time period 2001-02 to 2014-15. The average lafay index value of Lao is -1.29 for 2001-02 followed by LFi value of -0.29 for 2014-15. Similarly, the lafay index value for Malaysia is -0.57 in 2001-02 to -0.12 in 2014-15 thereby revealing an increase in trade specialization for mineral fuel manufactures by both the nations. Philippines demonstrate a changing pattern of trade specialization. The average lafay index value reduced from 0.06 in 2001-02 to -0.09 for 2014-15., thereby revealing the decline in the trade specialization of Philippines.

Thailand displays deterioration in the trade specialization with respective LFI value of 0.81 in 2001-02 to -0. 31 for 2014-15 thereby, demonstrating a decline in trade specialization with high dependency on imports.

Lastly, Vietnam exhibit a increase in its trade specialization with an decrease in the negative average lafay index value from -1. 31 in 2001-02 to -1.17 in 2009-10. Finally, the average lafay index value for 2014/15 shows an increase in trade specialization with further decline negative LFI value to -0. 04 as depicted in the Table 5.11

Table 5.11

Average Lafay Index for Mineral Fuel Manufactures (2001-15)

Country	2001-02	2004-05	2009-10	2014-15
Brunei	-0.64	-0.67	-0.68	-1.21

Cambodia	0.45	3.3	19.89	-1.19
India	-1.88	-1.43	0.21	0.23
Indonesia	0.41	0.23	0.31	0.77
Lao	-1.29	-0.91	-0.41	-0.93
Malaysia	-0.57	-0.61	-0.71	-0.12
Myanmar	-	-	-	-0.45
Philippines	0.06	0.02	-0.03	-0.04
Singapore	1.11	0.91	1.75	2.31
Thailand	0.81	-0.09	0.32	-0.31
Vietnam	-1.31	-1.28	-1.17	-0.04

Source: UNCOMTRADE

Researcher's Calculation

From the table 5.12 it could be clearly inferred about the India's top 15 and bottom 15 Mineral Fuel commodities based on the lafay index value for 2014-15 in which India holds specialization. The products such as 'Waste and scrap, of cast iron' (711319), 'Spongy ferrous products, obtained from molten pig iron by atomization' (711311), 'Woven fabrics of noil silk' (490110), 'Table lighters' (960200), 'Parts of lighters' (960321) etc are the products amongst the top 15 mineral fuel commodities in which India exhibits it's trade specialization. Hence from the table it could be inferred that all top 15 products display a continuous increase in its LFI value in comparison with 2001-02 LFI values.

Correspondingly, the products such as 'Radio-broadcast receivers, for mains operation only' (852351), 'Non-alloy pig iron in pigs, blocks or other primary forms' (710813), 'Coarse animal hair, neither carded nor combed' (490700), 'Vacuum flasks and other vacuum vessels' (961700) etc are amongst the bottom 15 under the mineral fuel manufactures in which India doesn't holds trade specialization. But still some product such as 'Non-alloy pig iron in pigs, blocks or other primary forms' (710813) and 'Non-alloy pig iron in pigs, blocks or other primary forms, containing, by weight' (710812) shows an increase in trade specialization with decreasing LFI value in comparison with the 2001-02 LFI value as depicted in table 5.12.

Table 5.12 India's Top 15 and Bottom 15 Mineral Fuel Products based on the Lafay Index, 2014-15

Top 15	Product Name	2001-02	2014-15	Bottom 15	Product Name	2001-02	2014-15
711319	Waste and scrap, of cast iron (excluding radioactive)	1.20	1.44	710812	Non-alloy pig iron in pigs, blocks or other primary forms, containing, by weight	-3.583	-3.068
711311	Spongy ferrous products, obtained from molten pig iron by atomization	0.06	0.37	852380	Television receivers, colour, whether or not incorporating radio-broadcast receivers	-	-1.091
960810	Postage or revenue stamps, stamp-postmarks, first-day covers, postal stationery, stamped paper	0.01	0.026	710813	Non-alloy pig iron in pigs, blocks or other primary forms,	-0.358	-0.088
711790	Iron and non-alloy steel, in puddled bars or other primary forms	0.04	0.025	852351	Radio-broadcast receivers, for mains operation only	-	-0.053
490110	Woven fabrics of noil silk	0.01	0.023	490199	Woven fabrics containing predominantly, but < 85% silk or silk waste by weight	-0.041	-0.052
711719	Ingots, of iron and non-alloy steel (excluding remelted scrap ingots, continuous cast products	0.02	0.018	490700	Coarse animal hair, neither carded nor combed	-0.043	-0.049
960200	Table lighters	0.03	0.013	960610	Powder puffs and pads for the application of cosmetics or toilet preparations	-0.006	-0.041
970110	Paintings, e.g. oil paintings, watercolours and pastels	0.001	0.011	961700	Vacuum flasks and other vacuum vessels	0.005	-0.034
852341	Radio-broadcast receivers, for mains operation only, incl. apparatus capable of also receiving	-	0.009	961210	Typewriter or similar ribbons, inked or otherwise prepared for giving impressions	0.001	-0.010
871000	Aeroplanes and other powered aircraft of an of an unladen weight > 15000 kg	0.00	0.008	961900	Sanitary towels (pads) and tampons, napkins and napkin liners for babies	-	-0.006
930599	Articles of bedding and similar furnishing, fitted with springs or stuffed	-	0.006	852349	Receivers for radio-telephony, radio-telegraphy or commercial radio	-	-0.004
960321	Parts of lighters, n.e.s.	0.01	0.005	960899	Parts of ball-point pens, felt-tipped and other porous-tipped pens and markers	-0.009	-0.004
930510	Furniture of other mareials, including cane, osier or similar materials	-	0.004	960711	Collages and similar decorative plaques	-0.001	-0.003
711419	Waste and scrap of tinned iron or steel	-0.002	0.004	920710	Seats for aircraft	0.00	-0.001
960820	Collections and collector's pieces of zoological, botanical, mineralogical, anatomical	0.0005	0.003	491199	Wool, combed (excluding that in fragments "open tops")	-	-0.001

Source: UNCOMTRADE1

Researcher's Calculatio

5.3. Conclusion

Under non-fuel primary commodity, India reflects a mixed trend in trade specialization. India observed an increase in trade specialization from 2001-02 to 2009-10 for non-fuel primary commodity, but after the AIFTA came into action the India experienced the decline in its trade specialization for 2014-15. ASEAN member such as Brunei has constantly experienced an exponential increase in its trade specialization from 2001-02 to 2014-15. On the other hand ASEAN members such Singapore and Thailand has experienced the constant decline in their trade specialization under non-fuel primary commodity. Hence, rest ASEAN members exhibited a mixed trend in trade specialization.

India, observed a varied trend for resource intensive manufactures from the time span of 2001-02 to 2009-10. India experienced a decline in trade specialization. But after AIFTA, India noticed a rise in trade specialization with LFI value to be 0.64 for 2014-15. On the contrary, ASEAN member such as Vietnam and Myanmar experienced an exponential rise in their specialization from 2001-02 to 2014-15. Economies such as Indonesia and Malaysia are losing their trade specialization constantly from 2001-02 to 2014-15 under resource intensive manufactures.

For Low Skilled and Technology Intensive Manufactures India has noticed a positive and higher degree of increase in its trade specialization after AIFTA. The LFI value increased from 0.25 in 2009-10 to 0.28 in 2014-15. With the passage of time most of the ASEAN members such as Cambodia, Singapore, Thailand, Vietnam, Philippines and Lao experienced an improvement in their trade specialization under low skill and technology intensive manufactures. Countries such as Brunei and Myanmar are facing a decline in trade specialization under particular industry level.

Under Medium Skill and Technology Intensive Manufactures, after the AIFTA came into action India noticed a tremendous improvement in its trade specialization from negatively low trade specialized nation to positively high degree trade specialized nation. On the other hand ASEAN countries such as Singapore, Thailand, Malaysia and Brunei are also demonstrating an improvement in their trade specialization, but India possesses a higher competitive advantage with positive LFI values. ASEAN nations such as Brunei, Lao and Myanmar reveal a decline trade specialization under particular industry level.

ASEAN members such as Singapore, Thailand, Philippines and Malaysia are far much specialized than India, thereby, revealing the high degree of trade specialization and competitiveness under the High Skill and Technology Intensive Manufactures; on the contrary India is also gaining the momentum under particular industry level. The average Lafay index value of India improved from -0.27 in 2001-02 to -0.21 in 2009-10 and finally to -0.18 for 2014-15. The less developed nations of ASEAN display a low trade specialization.

India demonstrates a positive and high degree of trade specialization for Mineral Fuel industry level. ASEAN members Singapore and Indonesia register a higher degree of trade specialization and competitiveness under mineral fuel industry level in comparison with India. Nations such as Brunei, Lao, Malaysia and Thailand displays the deterioration of trade specialization with rising negative LFI values in 2014-15.

Hence, from the study it could be summarized that though India is swiftly moving towards achieving a higher degree of trade specialization under industry level, still it faces a tough competition from developed ASEAN countries such as Singapore, Malaysia, and Indonesia.

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Chapter-6

Analysis of Trade Competitiveness in India-ASEAN Trade

6.1 Introduction

With the rise of globalization and the emergence of regional integration both the processes are having a significant impact on the international trade system. Notably, the large part of the growth in world trade especially among developing nation is because of simultaneous increase in export of the products that are close substitutes for each other in terms of factor inputs and consumption. The composition and volume of the trade both describe the export performance of the nation and the three major determinants of the global trade such as liberalization, technological advancements and rise in the national income furthermore depict the competitive position of the particular country in the international market (Mahmood, 2004).

According to World Economic Forum (2014-15) competitiveness has been defined as the set of institutions, factors and policies that determine the level of productivity and at large measures to analyze the advantage and disadvantage of a nation in selling products internationally. In the light of growing awareness about the importance of competitiveness in Indian economy vis-à-vis other south-east Asian nations, it would be interesting to undertake trade competitiveness in Indian context.

In the context of on-going ASEAN-India Free trade Agreement, the objective of this chapter is to measure the trade competitiveness between India and ASEAN members in context of trade specialization on commodity classification at Harmonized Standard (HS) 6 digit level, under six different levels of industries as proposed by Basu and Das (2011). Under the methodology the RCA approach is improvised to identify India-ASEAN members competitively positioned products, threatened product lines, emerging product lines (Tier I and II), weakly positioned lines (Tier I and II). The RID approach creates and performs to recognize the rising dependence, rising dependence, emerging threatened product lines (Tier-I and Tier-II), less threatened product line (Tier-I and Tier-II). The pattern of trade competitiveness can be analyzed on the time frame of years 2001 to 2015.

For the accomplishment of the third objective the chapter has been breakdown into 3 sub sections each would be investigating one each component. Section 6.2 gives an aggregate overview of the export competitiveness between India and ASEAN members. Section 6.3 in this

section competitive positioning of export would be analyzed. Section 6.4 gives a comprehensive outlook to the import dependence of India vis-à-vis ASEAN members. Section 6.5 in this section competitive positioning of imports would be investigated.

6.2 Export Competitiveness Industry-wise

6.2.1 Non-Fuel Primary Commodities

Out of 9741 HS 6 digit level product line, 1456 of them (14.97 percent of the total) possess the RCA value to be greater than unity and the average RCA difference are still increasing, thereby placing them under "Competitively Positioned Product" category. Table 6.1 clearly reveals that Myanmar portrays the highest percent share with 27.69 in Competitively Positioned Product followed by Philippines with 23.82 percent share and Indonesia sketches the 15.65 percent share. The RCA profile of the "Non-Fuel Primary Products" highlights the lack of headways made by India with just the 14.7 percent share positioning it just ahead of Cambodia, Singapore and Brunei. Therefore it's important for Indian economy to gain more advantage of growing global trade it should modify its production base for competitively positioned products such as 'Vegetable Products' (HS 05), 'Animal & Animal Products' (HS 01-05) to have a competitive edge.

For 'Threatened Product' RCA is greater than one, but experience an declining share in the world market during the time frame of 2001-15. Table 6.1, clearly illustrates that Lao's percent share for threatened product accounts to be 8.80 followed by India with 8.24 percent share under 'Mineral Products' (HS 25-27) & 'Vegetable Products' (HS 06-14) and Vietnam represents the 8.09 percent share. The major ASEAN members such as Malaysia and Singapore exhibits far less share in threatened product group with 3.03 & 3.53 percent. The profile highlights that there is a need for purposeful and determined efforts to ensure that India sustain and strengthen its competitiveness by altering the above trend as shown in the table.

The Emerging Product Group is divided into two categories to draw a distinction between two types of product line (a) Tier-I products (b) Tier-II products. Tier-1 product line exhibit comparative disadvantage at present but shows a positive trend in the world market, thereby making way to become entitled for competitive product groups. In this category, India constitutes top most share percent of 6.97 for 'Animal & Animal Products (HS 01-05), 'Vegetable Products'

(HS 06-14) followed by Malaysia with 6.89 share percent and Cambodia sketches the third position with 5.47 percent share. The profile highlights that two of the big economies of ASEAN Singapore and Indonesia depicts the lowest share in Tier-I category with their respective percent values to be 3.32 and 2.6. Table 6.1 spotlights India is moving towards the high value added product line. Therefore, India should need to focus on these product lines to make it a competitive performer in near future.

Under emerging product (Tier-II) Brunei constitutes the highest percent share of 74.38 followed by Myanmar and Malaysia with their respective share of 67.34 and 49.19 percent. Therefore, the profile draws a special attention that nations such as Vietnam, India and Indonesia possess the low share percent in the emerging product Tier-II category with their respective values to be as 34.18, 30.52 and 30.22 in comparison with other nation. The table 6.1 highlights that India should cautiously investigate for higher potentiality and competency in the world market thereby, increasing its percentage share for emerging product Tier-II such as 'Mineral Products' (HS 25-75) and 'Animal & Vegetable Fats-Oil (HS 15).

Similarly, Weakly Positioned Product group is sub-divided into two main categories Tier-I and Tier-II. In Tier-I category, there are total of 215 product line that depicts a percentage of 2.20 of the total product line. As shown in the Table 6.1 illustrates that India's share percent of 3.36 is the highest in this product line for 'Mineral Fuel' (HS 25-27) followed by Thailand and Vietnam with their respective share percent of 3.13 and 2.84. India's large percent share in Tier-1 indicates the higher degree of revealed comparative disadvantage in this product grouping in comparison with the other economies of the ASEAN members which have less share percent than India.

For weakly positioned product (Tier-II), Singapore constitutes the maximum share percent of 42.57, followed by Indonesia with 41.62 and India with third highest percent share of 36.29 for 'Vegetable Products' (HS 06-14) & 'Animal & Animal Products' (HS 01-05). The large percent share by India in Tier-II product line indicates the larger degree of comparative disadvantage in this product grouping in comparison with the nations like Philippines, Malaysia and Brunei with the least share percent of 25.85, 22.91 and 21.18 respectively. Therefore, these product lines need to be examined more careful for their set up in the world market.

Table 6.1
RCA Profile for Non-Fuel Primary Commodities (2001-15)

Country	CP	TP	EP (I)	EP(II)	WP (I)	WP (II)	TOTAL
Brunei	9 (2.21)	2 (0.49)	7 (1.72)	302 (74.38)	0 (0)	86 (21.18)	406 (4.16)
Cambodia	41 (14.04)	15 (5.13)	16 (5.47)	137 (46.91)	3 (1.02)	80 (27.39)	292 (2.99)
India	184 (14.7)	101 (8.24)	87 (6.97)	381 (30.52)	42 (3.36)	453 (36.29)	1248 (12.81)
Indonesia	173 (15.65)	80 (7.23)	29 (2.62)	334 (30.22)	29 (2.62)	460 (41.62)	1105 (11.34)
Lao	68 (18.13)	33 (8.80)	21 (5.60)	143 (38.13)	4 (1.06)	106 (28.26)	375 (3.84)
Malaysia	188 (15.06)	44 (3.52)	86 (6.89)	614 (49.19)	30 (2.40)	286 (22.91)	1248 (12.81)
Myanmar	190 (27.69)	0 (0)	34 (4.95)	462 (67.34)	0 (0)	0 (0)	686 (7.04)
Philippines	187 (23.82)	22 (2.80)	33 (4.20)	331 (42.16)	9 (1.14)	203 (25.85)	785 (8.05)
Singapore	61 (4.87)	38 (3.03)	41 (3.32)	552 (44.08)	27 (2)	533 (42.57)	1252 (12.85)
Thailand	186 (14.84)	91 (7.26)	64 (5.10)	493 (39.34)	40 (3.13)	379 (30.24)	1253 (12.86)
Vietnam	169 (15.49)	90 (8.09))	49 (4.49)	373 (34.18)	31 (2.84)	379 (34.73)	1091 (11.19)

Source: UNCOMTRADE

Calculations by the Researcher

Note; Numbers in parenthesis are percentage shares in the respective product line.

Notes: CP = Competitive Positioned Products; TP = Threatened Product; EP(I) = Emerging Product Tier-I; EP(II) Emerging Product Tier-II; WP(I) = Weakly Positioned Product Tier- I & WP(II) = Weakly Positioned Product Tier- II.

6.2.2 Resource Intensive Manufactures

Under resource intensive manufactures of total 9791 HS 6 digit level product line, 1410 of them (14.40 percent of the total) possess the RCA value to be greater than one and the average RCA difference are still increasing, thereby placing them under "Competitively Positioned Product" category. Table 6.2 illustrates that Philippines stands highest with 23.28 percent share in Competitively Positioned Product followed by Vietnam with 22.42 percent share and India sketches the third place with 21.41 percent share for 'Textile & Textile Articles' (HS 50-63). The profile highlights that nations like Lao, Thailand and Brunei constitutes low share percent for competitively positioned products which states the lack of competitive advantage in Table 6.2.

In the case of 'Threatened Products' product lines show the revealed comparative advantage greater than one, but have experienced a declining share during 2001-15 (Table 6.2). However, table displays that India constitutes the top most percent share for threatened product which accounts to be 17.91 for 'Textile & Textile Article'(HS 50-63) followed by Vietnam with 15.51 percent share and Indonesia represents the 13.80 percent share. The major ASEAN members such as Malaysia and Singapore exhibits far less share in threatened product group with 3.69 & 2.08 percent. Nations such as Cambodia and Brunei got the least share percent in threatened resource intensive products as depicted in Table 6.2. The RCA profile spotlights, that India should draw its special attention towards those industries that deals under Resource Intensive Manufactures during the formulation of industry policies and trade negotiations.

For the emerging products category of Tier-I, Singapore constitute with largest share percent of 8.50 followed by Thailand with 7.31 share percent and Indonesia sketches the third position with respective percent share of 6.28 and Malaysia with thin margin of difference accounts 6.10 percent share under resource intensive commodities. The profile highlights that India's percent share is just 5.25 in resource intensive manufactures. Nations such as Cambodia, Philippines and Brunei accounts the lowest share percent as depicted in table 6.2 for emerging product Tier-I category. Therefore, India should need to focus on these product lines to make it a competitive performer in near future. Similarly in the emerging product Tier-II, Myanmar constitutes the highest percent share followed by Singapore and Cambodia with their respective share as depicted in Table 6.2. Therefore, the RCA profile draws a special attention that nations such as Indonesia, India and Vietnam possesses the low share percent in the emerging product Tier-II category with their respective values to be as 18.84, 19.26 and 21.83, on the contrary other small nations such as Brunei and Lao holds better percent share in resource intensive manufactures in comparison with Indonesia, India and Vietnam.

Weakly Positioned Product has been sub-divided into two categories Tier-I and Tier-II.. In the first category of Tier-I, there are total of 422 product line that depicts a percentage of 4.31 of the total product line. Table 6.2, clearly explains that Thailand share percent of 9.68 is the highest in this product line followed by India with percent share of 5.97 for 'Textile & Textile Articles' (50-63) and Indonesia with share percent of 5.37. Emerging nations such as Myanmar, Brunei and Cambodia reveals that these nations possess higher degree of comparative advantage in this product line with low share percentage as depicted in Table 6.2. India's large percent share

in Tier-1 category indicates the higher degree of comparative disadvantage in this resource intensive product grouping in comparison with the other economies of the ASEAN members.

For weakly positioned product Tier-II category includes those products that reveal RCA index values less than 0.5; this depicts a worsening comparative disadvantage. As depicted in table 6.2, Thailand constitutes the maximum share percent of 46.16 in weakly positioned Tier-II, followed by Malaysia with 43.84 and Lao with third highest percent share of 42.80. The large percent share by these nations in Tier-II product line indicates the larger degree of comparative disadvantage in this product grouping in comparison with the nations like India, Cambodia and Singapore with the least share percent. Since India stands with the third lowest percent share in this product category and reveals its comparative advantage, these product lines need to be examined more carefully in Indian context

Table 6.2

RCA Profile for Resource Intensive Manufactures (2001-15)

Country	CP	TP	EP(I)	EP(II)	WP(I)	WP(I)	TOTAL
Brunei	7	2	6	318	2	212	547
	(1.27)	(0.36)	(1.09)	(58.13)	(0.36)	(38.75)	(5.58)
Cambodia	33	5	17	236	2	102	395
	(8.35)	(1.26)	(4.30)	(59.74)	(0.50)	(25.82)	(4.03)
India	269	228	66	242	75	376	1256
	(21.41)	(17.91)	(5.25)	(19.26)	(5.97)	(29.93)	(12.82)
Indonesia	214	167	76	228	65	460	1210
	(17.68)	(13.80)	(6.28)	(18.84)	(5.37)	(38.01)	(12.30)
Lao	46	42	22	209	23	256	598
	(7.69)	(7.02)	(3.67)	(34.94)	(3.84)	(42.80)	(6.11)
Malaysia	131	45	75	394	39	534	1218
	(10.75)	(3.69)	(6.10)	(32.34)	(3.20)	(43.84)	(12.41)
Myanmar	143	0	29	560	0	0	732
	(19.53)	(0)	(3.96)	(76.50)	(0)	(0)	(7.47)
Philippines	228	60	30	288	26	347	979
	(23.28)	(6.12)	(3.06)	(29.41)	(2.65)	(35.44)	(9.99)
Singapore	50	12	49	368	28	69	576
	(8.68)	(2.08)	(8.50)	(63.88)	(4.86)	(11.97)	(5.88)
Thailand	23	139	80	241	106	505	1094
	(2.10)	(12.70)	(7.31)	(22.02)	(9.68)	(46.16)	(11.16)
Vietnam	266	184	62	259	56	359	1186
	(22.42)	(15.51)	(5.22)	(21.83)	(4.72)	(30.26)	(12.09)

Source: UNCOMTRADE

Calculations by the Researcher

Note; Numbers in parenthesis are percentage shares in the respective product line.

Notes: CP = Competitive Positioned Products; TP = Threatened Product; EP(I) = Emerging Product Tier-I; EP(II) Emerging Product Tier-II; WP(I) = Weakly Positioned Product Tier- I & WP(II) = Weakly Positioned Product Tier- II.

6.2.3 Low Skill and Technology Intensive Manufacturing

Competitively Positioned Product possesses the RCA value greater than unitary and is still increasing. Table 6.3 encapsulates that Vietnam constitutes highest percent share of 16.66 in Competitively Positioned Product followed by India at second position with 15.84 percent share for 'Base Metal & Articles' (HS 72-83) and both Malaysia & Philippines are positioned at third place with 14.00 percent share in low skill and technology intensive manufactures. The RCA profile of the "Low skill and technology intensive manufactures" draws special attention towards nations such as Lao, Brunei and Myanmar which accounts for small percent share for competitively positioned products as depicted in Table 6.3.

For threatened product, there are 192 product lines out of total 4459, which demonstrate the percentage share of 4.30. Particular product lines displays the revealed comparative advantage (RCA>1) greater than one, but have experienced a declining share for period 2001-15. Table 6.3 illustrates that India constitutes the highest percent share for threatened product which accounts to be 17.91 for 'Base Metal & Articles' (HS 72-83) followed by Vietnam with 15.51 percent share stands at second position and Indonesia represents the 13.80 percent share. The major ASEAN members such as Malaysia and Singapore exhibits far less share in threatened product group. Cambodia and Brunei got the least share percent of 1.26 and 0.36 in threatened resource intensive products. The RCA profile spotlights that there exist a higher percentage for threatened products, which could be an alarming situation for the competitiveness in coming years for Indian export sector.

Emerging Product are those products, which demonstrates the comparative disadvantage at presently but broadcast an upward trend from some past years in the world market and thereby making way to become eligible for competitive product group. In the Tier-I category of `emerging product India constitutes the largest share percent of 8.30 positioning it to be at top for 'Base Metal & Articles' (HS 72-83) followed by Vietnam which portray the share percentage of 8.13 and Malaysia sketches the third position with respective percentage share of 8.03. The RCA profile Table 6.3 spotlights that prominent economies of ASEAN such as Thailand, Singapore and Philippines also states the low share percent in Tier-1 category. Cambodia, Myanmar and Brunei accounts the lowest share percent with their respective values of 2.77, 2.10 and 2.06 in the emerging product Tier-I category. The Outcome drawn from the RCA profile table 6.3 highlights

that, India should need to focus more on the product line that lies under this category to emerge as a competitive performer in the forthcoming years.

Under Tier-II category of the emerging product, emerging economies of ASEAN such as Myanmar, Brunei, Cambodia and Lao constitute the highest share percentage in this category, with their respective share percent as mentioned in the Table 6.3. Similarly all other members of ASEAN such as Philippines, Malaysia and Thailand also represent the appropriate share in this category of product line with the combined share percent averaged at 39.50. The results from the table spotlights that India should vigilantly evaluate for higher potentiality and competency, thereby, increasing its percentage share for emerging product Tier-II such as 'Transportation Equipments' (HS 86-89) & 'Base Metal &Articles' (HS 72-83).

Weakly Positioned Product is categorized into two different sub-groups Tier-I and Tier-II. Under weakly positioned Tier-I category, 172 product lines are included which represents 3.85 percent of total product lines as shown in the Table 6.3. However, in this category India's share percent of 8.67 is the highest thereby, revealing comparative disadvantage in this category. Singapore and Indonesia with their respective share percent of 5.63 and 4.64 stands at the second and thirds position, almost half the share percent of India. Emerging economies such as Cambodia, Brunei and Philippines reveal that these nations possess higher degree of comparative advantage in this product line with low share percentage as depicted in table 6.3.

In weakly positioned Tier-II category there are those products that reveal RCA index values to be less than 0.5 and the average RCA difference tends to be negative depicting a deteriorating comparative disadvantage. As represented in the Table 6.3, Indonesia constitutes the maximum share percent of 48.54 followed by Singapore with 41.35 and Lao with third highest percent share of 38.55. The large percent share by these nations in Tier-II product line portrays the higher degree of comparative disadvantage in this product grouping. Economies such as Thailand, India and Malaysia possess slightly less share percent respectively in comparison with Indonesia, Singapore and Lao as depicted in the table 6.3.

From India's point of view weakly positioned Tier-II category accounts the largest share percent in comparison with other product grouping, thereby revealing India's comparative disadvantage for products like 'Base Metal & Articles' (72-83) .

Table 6.3

RCA Profile for Low skill and Technology Intensive Manufacture (2001-15)

Country	CP	TPL	EP(I)	EP(II)	WP(I)	WP(II)	Total
Brunei	11	1	7	202	2	116	339
	(3.24)	(0.29)	(2.06)	(59.58)	(0.58)	(34.44)	(7.60)
Cambodia	11	1	5	100	1	62	180
	(6.11)	(0.55)	(2.77)	(55.55)	(0.55)	(34.44)	(4.30)
India	84	75	44	111	46	170	530
	(15.84)	(14.15)	(8.30)	(20.94)	(8.67)	(32.07)	(11.88)
Indonesia	49	14	18	161	24	251	517
	(9.47)	(2.70)	(3.48)	(31.14)	(4.64)	(48.54)	(11.50)
Lao	6	1	5	90	0	64	166
	(3.61)	(0.60)	(3.01)	(54.21)	(0)	(38.55)	(3.72)
Malaysia	75	17	43	220	23	157	535
	(14.00)	(3.17)	(8.03)	(41.12)	(4.29)	(29.34)	(11.99)
Myanmar	5	0	5	228	0	0	238
	(2.11)	(0)	(2.10)	(95.79)	(0)	(0)	(5.33)
Philippines	58	3	22	172	8	151	414
	(14.00)	(0.72)	(5.31)	(41.54)	(1.93)	(36.47)	(9.28)
Singapore	45	26	34	177	30	220	532
	(8.45)	(4.88)	(6.39)	(33.27)	(5.63)	(41.35)	(11.93)
Thailand	70	37	39	185	19	166	516
	(13.56)	(7.15)	(7.55)	(35.85)	(3.68)	(32.17)	(11.57)
Vietnam	82	17	40	161	19	173	492
	(16.66)	(3.45)	(8.13)	(32.72)	(3.86)	(35.16)	(11.03)

Source: UNCOMTRADE

Calculations by the Researcher

Note; Numbers in parenthesis are percentage shares in the respective product line.

Notes: CP = Competitive Positioned Products; TP = Threatened Product; EP(I) = Emerging Product Tier-I; EP(II) Emerging Product Tier-II; WP(I) = Weakly Positioned Product Tier- I & WP(II) = Weakly Positioned Product Tier- II.

6.2.4 Medium Skill and Technology Intensive Manufactures

Out of total 7497 product line, 849 of them (11.32 percent of the total) constitutes the RCA index to be greater than unity and are still strengthening, hence positioning them under "Competitively Positioned Product" category. Table 6.4 encapsulates that Philippines constitutes highest share percent of 24.05 for Competitively Positioned Product followed by Vietnam with 17.56 percent share. Malaysia and India stands at third and fourth position with their respective share percentage of 14.86 and 14.14 for competitively positioned products. Vietnam, Indonesia and Cambodia compose of low share percent for competitively positioned products. Myanmar constitutes the lowest percentage share of 0.81 in this category. Therefore it's important for Indian economy to gain more comparative advantage in trending global trade. Hence, India

should modify its production base for competitively positioned products 'Machinery & Mechanical Appliances' (HS 84-85) to have more of competitive edge.

Revealed Comparative Advantage (RCA) for 'Threatened Product' is greater than one, but have experienced a diminishing share in the world market during the time frame of 2001-15. As exhibited in the Table 6.4, it's clear that Singapore's percent share of 7.03 for threatened product accounts to be highest, followed by Thailand with 6.87 percent share at second position and India constitutes the 5.78 percent share for ' Machinery & Mechanical Appliances' (HS 84-85). ASEAN members such as Indonesia and Philippines exhibits far less share in threatened product as mentioned in table 6.4. The profile highlights that nations such as Brunei, Cambodia and Myanmar possess the advantage over other nation with the negligible combined share percentage averaged at 0.15 in threatened product category.

The Emerging Product Group is bifurcated into two product category (a) Tier-I (b) Tier-II products. Under Tier-I category, Thailand constitutes top most share percent of 11.54 followed by India with 11.43 share percent for 'Plastics & Rubber' (HS 39-40) & 'Machinery & Mechanical Appliances' (HS 84-85) and Malaysia sketches the third place with 9.21 percent share. RCA profile for medium skill and technology intensive manufactures highlights that majority of the ASEAN members comprises of low share percentage in this category of emerging product group. Nations such as Brunei, Cambodia and Myanmar depicts the negligible share percent in this category revealing their comparative disadvantage in near future.

In case of emerging product (Tier-II) Myanmar comprehends the major share percentage of 98.16 in this category followed by Cambodia and Brunei with their respective share of 61.60 and 58.62 percent. Therefore, the profile draws a special attention that nations such as Singapore, India and Indonesia possess the low share percent in the emerging product Tier-II category with their respective values to be as 24.48, 30.50 and 33.90 in comparison with other nations as depicted in Table 6.4. Results from the table highlights that India should cautiously investigate for higher potentiality and competency thereby, increasing its percentage share for emerging product Tier-II such as' Machinery & Mechanical products' (HS 84-85).

Under weakly positioned Tier-I category, there are total of 249 product line that depicts a percentage of 3.32 of the total product line. Table 6.4, explains that Singapore share percent of

8.24 is the highest in this product line followed by India with respective share percent of 6.88 thereby revealing both nations experience comparative disadvantage in particular product line. Emerging ASEAN nations such as Myanmar, Brunei, Cambodia, Lao and Philippines register the lowest share percentage with a combined average of 0.55 revealing that these nations possess higher degree of comparative. India's large percent share in Tier-1 indicates the higher degree of revealed comparative disadvantage in this product grouping in comparison with the other economies of the ASEAN members.

As shown in the Table 6.4, Lao constitutes the maximum share percent of 47.40 in weakly positioned Tier-II, followed by Indonesia with 46.58 and Singapore with third highest percent share of 38.42. The large percent share in Tier-II product line indicates the larger degree of comparative disadvantage in this product grouping. Though, India sketches the third lowest share percentage with 31.24for 'Plastic & Rubber' (HS 39-40) & 'Machinery & Mechanical Appliances' (84-85) followed by Cambodia and Thailand with their respective share of 29.11 and 25.18.

Table 6.4
RCA Profile for Medium Skill and Technology Intensive Manufactures (2001-15)

Country	CP	TPL	EP(I)	EP(II)	WP(I)	WP(II)	Total
Brunei	8	3	20	357	2	219	609
	(1.31)	(0.49)	(3.28)	(58.62)	(0.32)	(35.96)	(8.12)
Cambodia	13	0	7	146	2	69	237
	(5.48)	(0)	(2.95)	(61.60)	(0.84)	(29.11)	(3.16)
India	115	47	93	248	56	254	813
	(14.14)	(5.78)	(11.43)	(30.50)	(6.88)	(31.24)	(10.84)
Indonesia	59	27	44	278	30	382	820
	(7.91)	(3.29)	(5.36)	(33.90)	(3.65)	(46.58)	(10.93)
Lao	7	6	13	203	4	210	443
	(1.58)	(1.35)	(2.93)	(45.82)	(0.90)	(47.40)	(5.90)
Malaysia	121	41	75	283	37	257	814
	(14.86)	(5.03)	(9.21)	(34.76)	(4.54)	(31.57)	(10.85)
Myanmar	4	0	5	482	0	0	491
	(0.81)	(0)	(1.01)	(98.16)	(0)	(0)	(6.54)
Philippines	203	24	32	305	4	276	844
	(24.05)	(2.84)	(3.79)	(36.13)	(0.47)	(32.70)	(11.25)
Singapore	106	58	74	202	68	317	825
	(12.84)	(7.03)	(8.96)	(24.48)	(8.24)	(38.42)	(11.00)
Thailand	143	56	94	281	35	205	814
	(17.56)	(6.87)	(11.54)	(34.52)	(4.29)	(25.18)	(10.85)
Vietnam	70	20	45	368	11	273	787
	(8.88)	(2.54)	(5.71)	(46.75)	(1.39)	(34.68)	(10.49)

Source: UNCOMTRADE

Calculations by the Researcher

Note; Numbers in parenthesis are percentage shares in the respective product line.

Notes: CP = Competitive Positioned Products; TP = Threatened Product; EP(I) = Emerging Product Tier-I; EP(II) Emerging Product Tier-II; WP(I) = Weakly Positioned Product Tier- I & WP(II) = Weakly Positioned Product Tier- II.

6.2.5 High Skill and Technology Intensive Manufactures

Under competitively positioned product the RCA indices value comprises to be greater than one and are still increasing exponentially. Table 6.5 enumerates that India constitute highest share percentage of 23.23 for 'Chemical Products' (28-38) followed by Cambodia with 21.10 percentage share. Though the percent share margin is quite less between India and Cambodia, but India out ways Cambodia in total number of product line. Malaysia positions at the third place with share percentage of 18.34. Lao, Vietnam and Brunei comprises of low percentage share under competitively positioned product category as mentioned in Table 6.5. Myanmar constitutes the lowest percentage share of 3.22 depicting its low comparative advantage.

In threatened product category, there exist 472 product lines out of total 9126, which display the percentage share of 5.17 of the total. Product line shows the revealed comparative advantage greater than one, but has experienced a diminishing share in the world market during 2001-15. However, table 6.5 explains that Singapore sketches the highest percent share for threatened product which accounts to be 9.93 followed by India with 9.44 percent share for 'Chemical Products' (28-38) stands at second position with thin margin of difference and Cambodia represents the 8.33 percent share. The major ASEAN members such as Malaysia and Indonesia displays less share percent in threatened product group. Brunei and Vietnam state the least share percent of 0.18 and 1.17 in threatened product grouping. The RCA profile states that economy like India there exist a higher percentage share in threatened products group, which could be an alarming situation for the competitive positioning of Indian export sector.

The Emerging Product Group is diverged into two product category (a) Tier-I and (b) Tier-II. In the present category of Tier-I Singapore sketches the highest share percent of 8.81 followed by Malaysia with 7.86 share percent and Thailand ranks the third place with 7.35percent share and India stands at fourth place with 7.19 share percentage. RCA profile for High skill and technology intensive manufactures highlights that most of the ASEAN members comprises of low share percentage in this category of emerging product group. Nations such as Myanmar, Lao and Brunei displays the minimal share percentage in this category revealing their comparative disadvantage in the coming future.

Indian manufacturing is deriving towards achieving more of competitive advantage. Hence, India should need to focus more on 'Chemical Product' (HS 28-38) to make it a competitive performer in near future.

In emerging product category of Tier-II, Myanmar accounts the biggest percent share of 96.16 in this category followed by Brunei and Lao with their respective share of 62.61 and 53.26 percent. Therefore, the profile draws a special attention that nations such as India and Singapore possess the low share percent in the emerging product Tier-II category. On the contrary other ASEAN economies such as Vietnam, Philippines, Cambodia and Thailand holds better percentage share with an combined average of 44.63 in high skill and technology intensive manufactures stating their competitive advantage. The results from the table 6.5 highlights that India should thrive for higher level of competence in 'Measuring & Musical Instruments' (90-92), 'Chemical Products' (28-39) under emerging product Tier-II.

Under weakly positioned product line (Tier-I) there are total of 269 product line which exhibit a percentage share of 2.94 of the total 9126 product line. Table 6.5, clearly illustrated that Singapore's percentage share of 7.95 is the highest followed by India and Malaysia. Majority of nations under this category possess low share percent. Myanmar and Lao accounts the least percentage share followed by Brunei, Philippines and Thailand also portrays the low share percentage depicted in Table 6.5.

Under weakly positioned Tier-II category products exhibit the RCA value less than 0.5 and furthermore depict a negatively diminishing comparative disadvantage. Table 6.5 shows, Indonesia constitutes the maximum share percent of 42.64 in weakly positioned Tier-II, followed by Philippines with 36.75 and Lao with the third highest percent share of 35.87. India constitutes the share percentage of 33.52 for 'Chemical Products' (HS 28-38) & 'Measuring & Musical Instruments' (HS 90-92). The higher percent share by India in Tier-II product line states the higher level of degree of comparative disadvantage in this product grouping in comparison with the nations like Thailand, Cambodia and Myanmar with the low share percent of 28.40, 21.31 and zero respectively. Therefore, these product lines need to be examined more careful, so that these could become entitled for export competitive group for India.

Table 6.5

RCA Profile for High Skill and Technology Intensive Manufactures (2001-15)

Country	CP	TPL	EP(I)	EP(II)	WP(I)	WP(II)	Total
Brunei	23	1	12	335	3	161	535
	(4.29)	(.18)	(2.24)	(62.61)	(0.56)	(30.09)	(5.86)
Cambodia	109	43	27	217	9	110	516
	(21.10)	(8.33)	(5.23)	(42.05)	(1.74)	(21.31)	(5.65)
India	254	113	86	293	49	401	1196
	(21.23)	(9.44)	(7.19)	(24.49)	(4.09)	(33.52)	(13.10)
Indonesia	87	52	48	375	27	458	1074
	(8.10)	(4.84)	(4.46)	(34.91)	(2.54)	(42.64)	(11.76)
Lao	20	4	6	147	0	99	276
	(7.24)	(1.44)	(2.17)	(53.26)	(0)	(35.87)	(3.02)
Malaysia	210	58	90	393	36	358	1145
	(18.34)	(5.06)	(7.86)	(34.32)	(3.14)	(31.26)	(12.50)
Myanmar	16	0	3	477	0	0	496
	(3.22)	(0)	(0.60)	(96.16)	(0)	(0)	(5.43)
Philippines	87	12	23	306	9	254	691
	(12.59)	(1.73)	(3.32)	(44.28)	(1.30)	(36.75)	(7.57)
Singapore	182	115	102	263	92	403	1157
	(15.73)	(9.93)	(8.81)	(22.73)	(7.95)	(34.83)	(12.65)
Thailand	171	63	81	444	30	313	1102
	(15.51)	(5.71)	(7.35)	(40.29)	(2.72)	(28.40)	(12.01)
Vietnam	65	11	47	487	14	314	938
	(6.92)	(1.17)	(5.01)	(51.91)	(1.49)	(33.47)	(10.27)

Source: UNCOMTRADE

Calculations by the Researcher

Note; Numbers in parenthesis are percentage shares in the respective product line.

Notes: CP = Competitive Positioned Products; TP = Threatened Product; EP(I) = Emerging Product Tier-I; EP(II) Emerging Product Tier-II; WP(I) = Weakly Positioned Product Tier- I & WP(II) = Weakly Positioned Product Tier- II.

6.2.6 Mineral Fuels

RCA value for product should be greater than one and the mean RCA difference should be escalating, hence positioning under "Competitively Positioned Product" category. Table 6.6 explains that Thailand stands at the top most position with the enormous percentage share in Competitively Positioned Product at 54.17, accompanied by Philippines with 27.81 percentage share and Vietnam sketches the third place with 15.49 percent share in mineral fuel intensive commodities. India accounts just 14.02 percent share for 'Wood Pulp Products' (HS 47-49) & 'Miscellaneous Products' (HS 94-96) product grouping. Countries such Indonesia, Malaysia and Lao constitutes the low percentage share at 10.02 averagely. The profile of the "Mineral Fuel Intensive Manufactures" spotlights that ASEAN members such as Brunei and Singapore

comprises of the minimal share percent of 2.85 and 2.55 for competitively positioned products which states the lack of competitive advantage.

Threatened product lines display the revealed comparative advantage (RCA) value to be greater than unity, but have witnessed a diminishing share during 2001-15. Table 6.6 clearly illustrates that Vietnam constitutes highest percent share for threatened product which accounts to be 11.97 accompanied by India with 9.09 percent share for 'Miscellaneous Products' (HS 94-96) and Indonesia sketches the 6.96 percent share. ASEAN members such as Thailand and Malaysia exhibits low share percentage under threatened product group category. The combined average share percent of Cambodia, Singapore and Philippines accounts to negligible at 1.46. Myanmar and Brunei hold the least share percent of zero in threatened mineral fuel products

In the emerging product (Tier-I) category, there are total of 75 product line that depicts low share percentage of 3.26 of the total 2295 product line. In this category, both Vietnam and Malaysia constitutes same percentage share of 9.88 followed by India with 7.95 share percent for 'Miscellaneous Products' (HS 94-96) and Indonesia sketches the third position with just 3.16 percent share in this category. The profile highlights that majority of the ASEAN members constitutes very low share percent. Nations like Brunei and Thailand possess almost same percent share of 2.85 and 2.16 in particular category. With the average share of 1.36 percent countries such as Lao, Singapore, Philippines and Cambodia depicts the negligible share percent in the particular category. The results from the table spotlights that India should need to focus on these product lines to make it a competitive performer in near future.

Under emerging product Tier-II category, Myanmar constitutes the high share percentage of 94.11 followed by Brunei, Cambodia and Lao with their respective share percent as depicted in Table 6.6. Therefore, the profile draws a special attention that less developed ASEAN members have higher share percent in comparison with developed economies such as Singapore, Thailand and Indonesia which owes the low share percent in the emerging product Tier-II category. The table 6.6 highlights that countries such as India and Malaysia are positioned in the middle of the product category with their respective percentage share of 28.40 and 38.95.

Results from the table infer that India should look for higher competency in the world market thereby, increasing its percentage share for 'Wood and Wood Products' (HS 44-46) & 'Wood Pulp Products' (HS 47-49) under emerging product Tier-II.

Weakly Positioned Tier-I Products are those products whose RCA indices value is less than one but greater than 0.5 and thus the average difference also turns to be negative. Table 6.6 illustrates that Indonesia share percent of 5.69 is the highest in this product line accompanied by Vietnam and Thailand with their respective share percent of 4.22 and 3.71. India and Malaysia almost share the same percent share as depicted in table, which indicates the higher degree of revealed comparative disadvantage in this product grouping in comparison with the ASEAN members which have higher share percent than India.

Weakly positioned Tier-II category has total of 1195 product lines and thus accounts for the largest percentage share of 52.06 out of total product lines under the mineral fuel industry level. As depicted in the table 6.6, Thailand constitutes the maximum share percent of 46 followed by Malaysia with 43.84 and Lao with third highest percent share of 42.80. The large percent share by Thailand, Malaysia and Lao in Tier-II product line indicates the larger degree of comparative disadvantage in this product grouping. India also holds high percent share for 'Miscellaneous Products' (HS 94-96) under Mineral Fuel Manufactures. Brunei, Indonesia, Philippines and Vietnam also constitute the higher share percent in this category as depicted in table 6.6 revealing higher degree of comparative disadvantage.

Table 6.6
RCA Profile for Mineral Fuel Manufactures (2001-15)

Country	CP	TPL	EP(I)	EP(II)	WP(I)	WP(II)	Total
Brunei	3	0	3	61	0	38	105
	(2.85)	(0)	(2.85)	(58.09)	(0)	(36.19)	(4.57)
Cambodia	3	1	1	30	1	21	57
	(5.26)	(1.75)	(1.75)	(52.63)	(1.75)	(36.84)	(2.43)
India	25	16	14	50	5	66	176
	(14.02)	(9.09)	(7.95)	(28.40)	(2.84)	(37.50)	(7.66)
Indonesia	20	11	5	36	9	77	158
	(12.62)	(6.96)	(3.16)	(22.78)	(5.69)	(48.73)	(6.88)
Lao	7	2	1	38	0	38	86
	(8.13)	(2.32)	(1.16)	(44.18)	(0)	(44.18)	(3.74)
Malaysia	16	8	17	67	5	59	172
	(9.31)	(4.65)	(9.88)	(38.95)	(2.90)	(34.30)	(7.49)
Myanmar	5	0	1	96	0	0	102
	(4.90)	(0)	(0.98)	(94.11)	(0)	(0)	(4.44)
Philippines	42	2	2	45	4	56	151
	(27.81)	(1.32)	(1.32)	(29.80)	(2.64)	(37.08)	(6.57)
Singapore	21	11	10	44	3	734	823
	(2.55)	(1.33)	(1.21)	(5.34)	(0.36)	(89.18)	(35.86)

Thailand	175	18	7	50	12	61	323
	(54.17)	(5.57)	(2.16)	(15.47)	(3.71)	(18.88)	(14.07)
Vietnam	22	17	14	38	6	45	142
	(15.49)	(11.97)	(9.88)	(26.76)	(4.22)	(31.69)	(6.13)

Source: UNCOMTRADE

Calculations by the Researcher

Note; Numbers in parenthesis are percentage shares in the respective product line.

Notes: CP = Competitive Positioned Products; TP = Threatened Product; EP(I) = Emerging Product Tier-I; EP(II) Emerging Product Tier-II; WP(I) = Weakly Positioned Product Tier- I & WP(II) = Weakly Positioned Product Tier- II.

Conclusion:

Analysis of the study leads to an interesting and insightful observations. Amongst the six different industry levels, India exhibit a slow improvement in its competitiveness for Non-Fuel Primary Commodity such as 'Vegetable Products' (HS 06-14) and 'Animal & Animal Products' (HS 01-05) with respect to ASEAN members. The combined percentage share of India under competitively positioned and emerging product under RCA profile for non-fuel primary commodity is the lowest after Indonesia. The ASEAN members such as Lao, Malaysia, Myanmar, Philippines and Vietnam holds the higher combined share percentage. Thereby, demonstrating an marginal competitive edge of ASEAN members over India.

Under Low Skill and Technology Intensive Industry level, though India displays a rising trend in its competitive positioning for 'Base Metal' (HS 72-83) and also high share percentage in both competitively positioned and emerging product line. But still India is experiencing a competitive pressure from the major ASEAN members such as Malaysia, Philippines, Singapore, Thailand and Vietnam. All these ASEAN members are registering a tremendously high share percentage in emerging product line, revealing a threat to the competitive position of India. India, demonstrates an improvement in its competitiveness for both Medium & High Skill and Technology Intensive Manufactures s such as 'Machinery & Mechanical Appliances' (HS 84-85) and 'Chemical Products' (HS 28-38). Both industry levels display an escalating percentage change in product line having RCA value to be greater than one. On the contrary, India is constantly under the rising threat of increasing percentage share of ASEAN members for emerging products, thereby revealing their ascending competitive stress. ASEAN members such as Malaysia, Philippines, Vietnam, Singapore and Thailand spotlights to be bigger threat in comparison with small and emerging members such as Brunei, Cambodia, Lao, Myanmar

Though India pose a gaining momentum in percentage change for Mineral Fuel industry level for 'Miscellaneous Products' (HS 94-96) and 'Wood Pulp Products' (HS 47-49) product line having RCA greater than one, still approximately half of the share percentage of mineral fuel manufactures mirror under weakly positioned and threatened products. Nations such as Thailand, Philippines and Vietnam exhibits a large share percentage for competitively positioned product under the RCA profile for Mineral Fuels thereby depicting a higher competitive advantage of these nations over India. Somewhat same phenomenon take place under Resource Intensive Industry level, where India portrays a high percentage share under competitively positioned product and increase in percentage change for product line having RCA greater than one, still India is losing its competitive advantage for 'Textile & Textile Products' (HS 50-63) over ASEAN members such as Malaysia, Philippines and Vietnam. Countries such as Myanmar and Singapore are the emerging threat for India under resource intensive manufactures with tremendously high parentage share under emerging product category (Tier-1 & Tier-II). Therefore, to endure in the competitiveness, India should focus upon those Industry levels that are reflecting comparative advantage during the study period and should also take into consideration upon those industry levels where, ASEAN members are possessing higher percentage share for emerging products. Thus to gain competitiveness in this swiftly globalizing era, India should work more rigorously both at micro and macro level.

6.3. Competitive Positioning of Exports at Industry Level

This section analyses the changes and pattern of the selected industry level and top product line. The variation in the RCA values from 2010 to 2015 would be examined in brief description for respective industry level.

6.3.1. Non-Fuel Primary Commodities

The number of commodities under non-fuel primary product line participating in India's trade has increased from 949 to 1012 for period 2010-2015 depicting a total change of 7%. Also, there has been a rise in the number of product with comparative advantage greater than one from 215 in 2010 to 252 in 2015, an overall jump of 17%. But ASEAN members such as Philippines with 45% and Thailand with 39% change in product line with RCA greater than one exhibit the higher percentage change in the comparative advantage product line revealing better competitive

position with respect to India. Brunei and Myanmar shows the highest percent change of 125% and 77% in comparative advantage product line. However, Brunei possesses quite low volume of products in RCA>1 product line and Myanmar shows the 486% change in RCA<1 product line, thereby placing them amongst the least competitive economies. Singapore the major ASEAN member holds the negative comparative advantage of -3% followed by the rise of 24% change in comparative disadvantage product line (Table 6.7). Countries such as Vietnam, Malaysia, Lao and Cambodia also show the rise in comparative advantage in non-fuel primary commodity with a increase in percentage share in RCA greater than one product line.

Table 6.7 shows the beginning of India's transformation from an import-competing country to one positioning itself as the export market for non-fuel primary commodity. In the existence of various stumbling blocks, India demonstrates a slow improvement in competitive performance for non-fuel primary commodity.

Table 6.7

Table Profile for Non-Fuel Primary Commodity (2010-2015)

Country	Product line with RCA>1			Product line with RCA<1			Total No. of Product		
	2010	2015	Change	2010	2015	change	2010	2015	Change (%)
Brunei	4 (2.5%)	9 (05%)	125%	153 (97.5%)	170 (95%)	11%	157	179	14%
Cambodia	43 (35%)	58 (30%)	35%	80 (65%)	134 (70%)	68%	123	192	56%
India	215 (23%)	252 (25%)	17%	734 (77%)	760 (75%)	4%	949	1012	7%
Indonesia	186 (27%)	210 (32%)	13%	513 (73%)	456 (68%)	-11%	699	666	-5%
Lao	85 (47%)	93 (49%)	9%	94 (53%)	97 (51%)	3%	179	190	6%
Malaysia	131 (16%)	178 (19%)	36%	676 (84%)	763 (81%)	13%	807	941	17%
Myanmar	52 (59%)	92 (30%)	77%	36 (41%)	211 (70%)	486%	88	303	244%
Philippines	116 (27%)	168 (33%)	45%	317 (73%)	345 (67%)	9%	433	513	18%
Singapore	77 (9%)	75 (8%)	-3%	746 (91%)	922 (92%)	24%	823	997	21%
Thailand	195 (24%)	271 (27%)	39%	622 (76%)	738 (73%)	19%	817	1009	24%
Vietnam	194 (30%)	221 (32%)	14%	462 (70%)	476 (68%)	3%	656	697	6%

Source: UNCOMTRADE

Calculations by the Researcher

Note; Numbers in parenthesis are percentage change in the respective product line.

6.3.2 Resource Intensive Manufactures

The overall position of the India in resource intensive manufacture level exhibits not huge improvement from 2010 to 2015. While the increase of mere 5 percent could be observed in the comparative advantage category, with the decrease in total number of product line from 1198 to 1190, 60 percent of the product line exhibits a comparative disadvantage in 2015. The ASEAN members such as Indonesia and Lao displays the higher level of comparative disadvantage with the negative percent change of -1 and -23 in the RCA greater than one product line and simultaneously a decline in the total number of products by 1 percent.

Nations such as Malaysia and Philippines demonstrates the higher level of enhancement in the competitive positioning in comparison with ASEAN members. Both the economies represent the increase of 514 percent and 22 percent in the comparative advantage product line, followed by the increase in total products from 274 in 2010 to 1671 in 2015 for Malaysia and Philippines reveal the 12 percent change in total product line. Thereby, inferring that Malaysia is gaining high momentum in resource intensive manufactures industry level. Lastly, the nations such as Brunei, Cambodia, Singapore and Vietnam is holding comparative disadvantage with high percent share in product line with RCA less than one for 2015 which can be observed from the Table 6.8. One can easily infer that India's competitive positioning in resource intensive manufacture has not made an enormous addition. Hence, India should formulate some trade policies to achieve a sustainable competitiveness in the particular industry level.

Table 6.8

Table Profile for Resource Intensive Manufactures (2010-2015)

Country	Product line with RCA>1			Product line with RCA<1			Total No. of Product		
	2010	2015	Change	2010	2015	Change	2010	2015	Change
Brunei	8 (3%)	15 (5%)	88%	261 (97%)	276 (95%)	6%	269	291	8%
Cambodia	20 (14%)	32 (14%)	60%	119 (86%)	192 (86%)	61%	139	224	61%
India	455 (38%)	479 (40%)	5%	743 (62%)	711 (60%)	-4%	1198	1190	-1%
Indonesia	358 (36%)	353 (36%)	-1%	634 (64%)	626 (64%)	-1%	992	979	-1%
Lao	94 (33%)	72 (24%)	-23%	187 (67%)	232 (76%)	24%	281	304	8%

Malaysia	124 (45%)	761 (46%)	514%	150 (55%)	910 (54%)	507%	274	1671	509%
Myanmar	35 (55%)	139 (31%)	297%	29 (45%)	310 (69%)	969%	64	449	602%
Philippines	180 (29%)	219 (31%)	22%	448 (71%)	487 (69%)	9%	628	706	12%
Singapore	46 (5%)	56 (5%)	22%	931 (95%)	1054 (95%)	13%	977	1110	14%
Thailand	275 (28%)	300 (29%)	9%	712 (72%)	737 (71%)	4%	987	1037	5%
Vietnam	431 (49%)	432 (44%)	0%	450 (51%)	540 (56%)	20%	881	972	10%

Source: UNCOMTRADE

Calculations by the Researcher

Note; Numbers in parenthesis are percentage change in the respective product line.

6.3.3 Low Skill and Technology Intensive Manufactures

Industry level profile of low skill and technology intensive manufactures has been illustrated in the table 6.9. This industry level examines the comprehensive outlook of the India with respect to ASEAN members. India's portrays a rise in comparative advantage with 9 percent change in product line with RCA greater than unitary and also a negative change of 4 percent in RCA less than one product line with 71% share percent in 2015.

On the contrary, major ASEAN members such as Malaysia, Singapore and Indonesia hold fewer share percentage change of 15, 13 and 10 percent in 2015 for product line RCA greater than one and exhibits a higher percentage share in competitively disadvantage product line with their respective share percent of 85, 87 and 88 percent in 2015, thereby revealing these nations to be less competitive in comparison with India. Vietnam displays the best competitive positioning amongst the ASEAN members with higher percent change of 28 in RCA greater than unitary product line and a decline in share percentage in competitive disadvantage product line with 78 percent in 2015 from 82 percent in 2010.

Brunei, Cambodia, Lao and Myanmar are the least competitive economies in the low skill and technology intensive manufactures with more than average share of 90 percent in product line with RCA less than one in 2015.

Table 6.9

Table Profile for Low Skill & Technology Intensive Manufactures (2001-15)

Country	Product line with RCA>1			Product line with RCA<1			Total No. of Product line		
	2010	2015	Change	2010	2015	Change	2010	2015	Change
Brunei	12 (6%)	18 (9%)	50%	197 (94%)	186 (91%)	-6%	209	204	-2%
Cambodia	6 (8%)	11 (9%)	83%	65 (92%)	109 (91%)	68%	71	120	69%
India	135 (27%)	147 (29%)	9%	373 (73%)	358 (71%)	-4%	508	505	-1%
Indonesia	48 (12%)	52 (12%)	8%	365 (88%)	376 (88%)	3%	413	428	4%
Lao	3 (6%)	6 (10%)	100%	46 (94%)	52 (90%)	13%	49	58	18%
Malaysia	69 (15%)	74 (15%)	7%	385 (85%)	415 (85%)	8%	454	489	8%
Myanmar	2 (20%)	6 (5%)	200%	8 (80%)	106 (95%)	1225%	10	112	1020%
Philippines	22 (10%)	45 (17%)	105%	193 (90%)	226 (83%)	17%	215	271	26%
Singapore	63 (14%)	62 (13%)	-2%	394 (86%)	413 (87%)	5%	457	475	4%
Thailand	85 (19%)	106 (20%)	25%	374 (81%)	421 (80%)	13%	459	527	15%
Vietnam	74 (19%)	95 (22%)	28%	326 (82%)	346 (78%)	6%	400	441	10%

Source: UNCOMTRADE

Calculations by the Researcher

Note; Numbers in parenthesis are percentage change in the respective product line.

6.3.4 Medium Skill and Technology Intensive Manufactures

Under medium skill and technology intensive manufactures, India exhibits a drive from low to moderately advantageous competitive economy with 38 percent change in competitive positioned product line with RCA index greater than one and shows the negative trend in less competitive positioned product from 666 to 616 product items, thereby depicting India's comparative advantage in comparison with the entire ASEAN members in medium skill and technology intensive manufactures as depicted in Table 6.10.

On the contrary, ASEAN members Thailand and Philippines are also positioned as emerging competitive economy in medium skill and technology intensive manufactures.

Philippines exhibits the 116 percent change in competitive positioned product with RCA greater than one and shows the decline in percentage share in less competitive positioned product from 88 percent in 2010 to 82 percent in 2015. Similarly, Thailand also demonstrates the increase of 31percent change in competitively positioned product and 71 percent share in less competitive positioned product line.

ASEAN member such as Myanmar, Brunei, Indonesia and Lao turn up to be the least competitive economies in medium skill and technology intensive manufactures despite the increase in total number of products, especially Myanmar shows the enormous increase from 6 in 2010 to 234 but mostly, with the high percentage share in less competitively positioned product with RCA less than one with their respective percentage values depicted in Table 6.10. Lastly, Malaysia exhibits no percentage share in both product lines. Share percent in RCA greater than one was 16 percent in 2010, which remained to be the same in 2015. Thereby, revealing no gain in competitive advantage.

Table 6.10
Table Profile for Medium Skill & Technology Intensive Manufactures (2001-15)

Country	Product line with RCA>1			Product line with RCA<1			Total No. of Product line		
	2010	2015	Change	2010	2015	change	2010	2015	Change
Brunei	10 (3%)	26 (6%)	160%	387 (97%)	388 (94%)	0%	397	414	4%
Cambodia	8 (8%)	17 (32%)	113%	87 (92%)	36 (68%)	-59%	95	53	-44%
India	138 (17%)	190 (24%)	38%	666 (83%)	616 (76%)	-8%	804	806	0%
Indonesia	76 (11%)	74 (10%)	-3%	634 (89%)	647 (90%)	2%	710	721	2%
Lao	25 (16%)	12 (7%)	-52%	134 (84%)	165 (93%)	23%	159	177	11%
Malaysia	120 (16%)	145 (16%)	21%	612 (84%)	753 (84%)	23%	732	898	23%
Myanmar	0 (0%)	7 (3%)	-	6 (100%)	227 (97%)	3683%	6	234	3800%
Philippines	43 (12%)	93 (18%)	116%	318 (88%)	438 (82%)	38%	361	531	47%
Singapore	141 (19%)	159 (20%)	13%	599 (81%)	623 (80%)	4%	740	782	6%
Thailand	170 (23%)	223 (29%)	31%	566 (77%)	556 (71%)	-2%	736	779	6%
Vietnam	84 (14%)	76 (11%)	-10%	530 (86%)	603 (89%)	14%	614	679	11%

Source: UNCOMTRADE

Calculations by the Researcher

Note; Numbers in parenthesis are percentage change in the respective product line.

6.3.5 High Skill and Technology Intensive Manufactures

The table description of the high skill and technology intensive manufactures reveals that though India possesses a partial comparative advantage in the particular industry level with an increase from 290 products in 2010 to 350 product in 2015, 21 percent change in competitive positioned product line having RCA greater than one and also decline in less competitive product from 73 percent to 68 percent.

However, the ASEAN members such as Cambodia and Philippines are the rapidly emerging economies in the high skill and technology intensive manufactures. Cambodia exhibits the tremendous increase in competitively positioned product line with 70 percent change in share from the year 2010 to 2015 and also displays the decline in less competitive product line with RCA<1. The total number product item also increased from 255 in 2010 to 375 in 2015, depicting a 47 percent increase. Similarly, nations such as Philippines, Thailand, Malaysia and Lao reveal rise in comparative advantage in high skill and technology intensive manufactures with high percentage increase in competitively positioned product greater than one with their respective values to be 33, 27, 24 and 18 percent in 2015 and on the contrary, a decline in percentage share of less competitively positioned product with RCA less than one with respective percent values to be 67, 73, 76 and 82 in 2015 in comparison with 79, 80, 80 and 85 percent in 2010.

Nations as such Brunei, Myanmar and Vietnam are least competitively advantageous with heavy percentage share in less competitively positioned product line possessing RCA value to be less than one with their respective values to be 94, 90 and 87 percent in year 2015.

Table 6.11

Table Profile for High Skill & Technology Intensive Manufactures (2010-2015)

Country	Product line with RCA>1			Product line with RCA<1			Total No. of Product		
	2010	2015	Change	2010	2015	change	2010	2015	Change
Brunei	18 (4%)	26 (6%)	44%	387 (96%)	388 (94%)	0%	405	414	2%
Cambodia	93 (36%)	158 (42%)	70%	162 (64%)	217 (58%)	34%	255	375	47%
India	290 (27%)	350 (32%)	21%	802 (73%)	754 (68%)	-6%	1092	1104	1%
Indonesia	121	120	-1%	659	670	2%	780	790	1%

	(16%)	(15%)		(84%)	(85%)				
Lao	12	19	58%	67	88	31%	79	107	35%
	(15%)	(18%)		(85%)	(82%)				
Malaysia	177	213	20%	724	683	-6%	901	896	-1%
	(20%)	(24%)		(80%)	(76%)				
Myanmar	4	16	300%	12	147	1125%	16	163	918%
	(25%)	(10%)		(75%)	(90%)				
Philippines	94	171	82%	348	343	-1%	442	514	16%
	(21%)	(33%)		(79%)	(67%)				
Singapore	257	248	4%	722	760	-5%	979	1008	3%
	(26%)	(27%)		(74%)	(73%)				
Thailand	180	252	40%	701	679	-3%	881	931	6%
	(20%)	(27%)		(80%)	(73%)				
Vietnam	65	88	35%	545	608	12%	610	696	14%
	(11%)	(13%)		(87%)	(87%)				

Source: UNCOMTRADE

Calculations by the Researcher

Note; Numbers in parenthesis are percentage change in the respective product line.

6.3.6 Mineral Fuel Manufactures

Total number of reported product line for India under mineral fuel in 2010 were 163, out of which 30 products were competitively positioned having a share of 18 percent by 2015 the share percent increased to 25 percent with 41 products. Also, the negative change of 8 percent in less competitively positioned product line with RCA less than one show that India is gaining competitive momentum in mineral fuel manufactures.

On the contrary, ASEAN countries such as Philippines, Thailand and Vietnam are swiftly emerging economies in mineral fuel manufactures and holds higher comparative advantage in comparison with other ASEAN members. Philippines exhibits the 81 percent change in competitively positioned product with increase of total product line from 88 in 2010 to 105 in 2015. Similarly, Thailand also demonstrates the increase in competitively positioned product from 35 in 2010 to 44 in 2015, 26 percent change in competitively positioned product with RCA greater than one and 72 percent share in less competitively positioned product line. Vietnam displays a 33 percent share in product line having RCA value greater than one, with total number of product increasing from 112 to 121 with 8 percent change. States Vietnam is gaining competitive momentum.

Singapore also demonstrates a slow rise in mineral fuel manufactures with high percentage change of 40 percent followed by the decrease in the percentage share from 86 percent in 2010 to 82 percent in 2015 under less competitively positioned products having RCA less than one. On

the other hand countries such as Brunei and Malaysia demonstrates a mere one percent change in competitively positioned product line with RCA greater than one. Lastly, the rest ASEAN members such as Cambodia, Indonesia, Lao and Myanmar holds comparative disadvantage in Mineral Fuel manufacture with high percentage share in less competitively positioned product line having RCA value to be less than one with their respective values to be 93, 74, 90 and 90 percent for the year 2015. These nations also exhibit a negative percentage change for competitively positioned product having RCA greater than one with their respective values to be -50, -6, and -43 percent changes.

Table 6.12
Table Profile for Mineral Fuel Manufactures (2010-2015)

Country	Product line with RCA>1			Product line with RCA<1			Total No. of Product line		
	2010	2015	Change	2010	2015	Change	2010	2015	change
Brunei	2 (3%)	2 (4%)	0%	58 (97%)	51 (96%)	-12%	60	53	12%
Cambodia	4 (18%)	2 (7%)	-50%	18 (82%)	26 (93%)	44%	22	28	28%
India	30 (18%)	41 (25%)	37%	133 (82%)	123 (75%)	-8%	163	164	1%
Indonesia	36 (26%)	34 (26%)	-6%	101 (74%)	98 (74%)	-3%	137	132	-4%
Lao	7 (19%)	4 (10%)	-43%	30 (81%)	36 (90%)	20%	37	40	8%
Malaysia	20 (14%)	23 (15%)	15%	119 (86%)	132 (85%)	11%	139	155	12%
Myanmar	3 (38%)	6 (10%)	100%	5 (63%)	56 (90%)	1020%	8	62	675%
Philippines	16 (18%)	29 (28%)	81%	72 (82%)	76 (72%)	6%	88	105	19%
Singapore	20 (14%)	28 (18%)	40%	123 (86%)	127 (82%)	3%	143	155	8%
Thailand	35 (24%)	44 (28%)	26%	110 (76%)	115 (72%)	5%	145	159	10%
Vietnam	37 (33%)	40 (33%)	8%	75 (67%)	81 (67%)	8%	112	121	8%

Source: UNCOMTRADE

Calculations by the Researcher

Note; Numbers in parenthesis are percentage change in the respective product line.

Conclusion:

Analysis of the study leads to an interesting and insightful observations. Amongst the six different industry levels, India exhibit a slow improvement in its competitiveness for Non-Fuel Primary Commodity such as 'Vegetable Products' (HS 06-14) and 'Animal & Animal Products'

(HS 01-05) with respect to ASEAN members. The combined percentage share of India under competitively positioned and emerging product under RCA profile for non-fuel primary commodity is the lowest after Indonesia. The ASEAN members such as Lao, Malaysia, Myanmar, Philippines and Vietnam holds the higher combined share percentage. Thereby, depicting marginal competitive edge of ASEAN members over India.

Under Low Skill and Technology Intensive Industry level, though India displays a rising trend in its competitive positioning for 'Base Metal' (HS 72-83) and also high share percentage in both competitively positioned and emerging product line. But still India is experiencing a competitive pressure from the major ASEAN members such as Malaysia, Philippines, Singapore, Thailand and Vietnam. All these ASEAN members are registering a tremendously high share percentage in emerging product line, revealing a threat to the competitive position of India. India, demonstrates an improvement in its competitiveness for both Medium & High Skill and Technology Intensive Manufactures s such as 'Machinery & Mechanical Appliances' (HS 84-85) and 'Chemical Products' (HS 28-38). Both industry levels display an escalating percentage change in product line having RCA value to be greater than one. On the contrary, India is constantly under the rising threat of increasing percentage share of ASEAN members for emerging products, thereby revealing their ascending competitive stress. ASEAN members such as Malaysia, Philippines, Vietnam, Singapore and Thailand spotlights to be bigger threat in comparison with small and emerging members such as Brunei, Cambodia, Lao, Myanmar

Though India pose a gaining momentum in percentage change for Mineral Fuel industry level for 'Miscellaneous Products' (HS 94-96) and 'Wood Pulp Products' (HS 47-49) product line having RCA greater than one, still approximately half of the share percentage of mineral fuel manufactures mirror under weakly positioned and threatened products. Nations such as Thailand, Philippines and Vietnam exhibits a large share percentage for competitively positioned product under the RCA profile for Mineral Fuels thereby depicting a higher competitive advantage of these nations over India. Somewhat same phenomenon take place under Resource Intensive Industry level, where India portrays a high percentage share under competitively positioned product and increase in percentage change for product line having RCA greater than one, still India is losing its competitive advantage for 'Textile & Textile Products' (HS 50-63) over ASEAN members such as Malaysia, Philippines and Vietnam. Countries such as Myanmar and Singapore are the emerging threat for India under resource intensive manufactures with

tremendously high parentage share under emerging product category (Tier-1 & Tier-II). Therefore, to endure in the competitiveness, India should focus upon those Industry levels that are reflecting comparative advantage during the study period and should also take into consideration upon those industry levels where, ASEAN members are possessing higher percentage share for emerging products. Thus to gain competitiveness in this swiftly globalizing era, India should work more rigorously both at micro and macro level.

6.4 Import Dependency Industry-Wise

This section analyses the changes and pattern of the selected industry level and top product line. The variation in the RID values from 2001 to 2015 would be examined in brief description for respective industry level.

6.4.1 Non fuel Primary Commodity

Out of 12142HS 6 digit level product line, 2079 of them (17.12 percent of the total) possess the RID value to be greater than unity and the average RID difference are still increasing, thereby placing them under "Rising Dependence" category. Table 6.13, explains that Brunei constitutes 36.49 percent share in rising dependence product line followed by Philippines with 25.97 percent share and Malaysia sketches the 23.67 percent share. The RID profile of the "Non-Fuel Primary Products" highlights the headways made by India with just the 10.17 percent share positioning it to be lowest followed by Lao with mere share of 10.66 percent making these economies highly advantageous in comparison with nation such as Thailand, Singapore and Indonesia. Therefore it's important for Indian economy to gain more advantage under growing global trade by reducing its dependence on other nations, for 'Vegetable Products' (HS 06-14) & 'Mineral Products' (HS 25-27) to have more of competitive edge.

The Emerging Threatened Product is divided into two groups to draw a distinction between two types of product line (a) Tier-I and (b) Tier- II. In the first category of Tier-I, there are total of 875 product line that depicts a percentage of 7.20 of the total product line. In this category, India constitutes least share percent of just 4.90 for 'Vegetable Products' (HS 06-14) followed by Cambodia with 4.97 share percent and Indonesia sketches the third lowest share percent with 4.99. The profile highlights that Singapore and Malaysia depicts the highest share percent in Tier-I category with their respective percent values to be 10.42 and 10.86. The results

from the table spotlights Indian manufacturing is deriving towards the self-sufficiency in emerging threatened product Tier-I category.

Under 'Emerging Threatened Product' (Tier-II), Myanmar constitutes highest percent share of 76.72 in this category followed by Cambodia and Lao with their respective share of 51.61 and 43.83 percent revealing the comparative disadvantage of these nations. Therefore, the profile draws a special attention that nation such as Vietnam holds the lowest share percent of just 3.13 in this category, thereby exhibiting it comparative advantage in particular product line. India and other countries such as Indonesia, Malaysia, Singapore and Thailand possess the high share percent in the emerging product Tier-II category as depicted in Table 6.13. Results from the table highlights that India should be less dependent for' Vegetable Products' (HS 06-14), 'Animal & Animal Products' (HS 01-04) and 'Food Stuff' (HS 16-24) lying under emerging threatened product Tier-II category.

Under 'Less Threatened' (Tier-I) category, RID indices is less than one but greater than 0.5 and thus have experienced the negative trend in the market for 2001-15. Table 6.13, clearly illustrates that India's share percent of 4.90 is the highest for product line 'Mineral Fuel' (HS 25-27) followed by Indonesia and Malaysia with their respective share percent of 4.33 and 4.04. India's percent share in Tier-1 indicates the higher degree of revealed comparative advantage in this product grouping in comparison with the other economies of the ASEAN members which have less share percent than India.

Emerging Threatened (Tier-II) Product total of 3177 product lines and thus have a percentage of 26.16 out of total product lines. In this category there are those products that reveal RID indices less than 0.5, this show an emerging comparative advantage. As depicted in the table 6.13, Singapore constitutes the maximum share percent of 35.90 in less threatened product Tier-II, followed by India with 34.77 for 'Vegetable products' (HS 06-14) & 'Food Stuff' (HS 16-24) and Indonesia with third highest percent share of 34.07. The large percent share by India in Tier-II product line indicates the less degree of import dependency in comparison with the nations such Malaysia, Brunei and Philippines which possesses the least share percent.

In the case of "Rising Independence Product", product lines manifest the revealed import dependency greater than one, but have experienced a diminishing share in the world market for the time frame of 2001-15. As shown in the Table 6.13, one can infer that Indonesia percent share for rising independence product accounts to be 9.16 followed by India with 8.04 percent share for

'Mineral Products' (HS 25-27) and 'Vegetable Products' (HS 06-14) stands at second position and Lao represents the 7.93 percent share. The major ASEAN members such as Singapore and Philippines exhibits far less share in rising independence product group. The profile highlights that there is a need for determined efforts to ensure that India sustain and strengthen its import dependency by increasing its share percent in particular product line.

Table 6.13
RID Profile for Non-Fuel Primary Commodities (2001-15)

Country	RD	ET(I)	ET(II)	LT(I)	LT(II)	RI	Total
Brunei	358	65	250	29	209	70	981
	(36.49)	(6.62)	(25.48)	(2.95)	(21.03)	(7.13)	(8.07)
Cambodia	91	40	415	14	222	22	804
	(11.31)	(4.97)	(51.61)	(1.74)	(27.61)	(2.73)	(6.62)
India	110	53	410	53	368	87	1081
	(10.17))	(4.90)	(37.92)	(4.90)	(34.77)	(8.04)	(8.90)
Indonesia	154	61	417	53	425	112	1222
	(12.60)	(4.99)	(34.12)	(4.33)	(34.07)	(9.16)	(10.06)
Lao	90	52	370	26	239	67	844
	(10.66)	(6.16)	(43.83)	(3.08)	(28.31)	(7.93)	(6.95)
Malaysia	316	145	492	54	250	78	1335
	(23.67)	(10.86)	(36.85)	(4.04)	(18.72)	(5.84)	(10.99)
Myanmar	168	65	768	-	-	-	1001
	(16.78)	(6.49)	(76.72)				(8.24)
Philippines	273	79	347	37	268	47	1051
	(25.97)	(7.51)	(33.06)	(3.52)	(25.50)	(4.47)	(8.65)
Singapore	165	135	478	28	465	24	1295
	(12.74)	(10.42)	(36.91)	(2.16)	(35.90)	(1.85)	(10.66)
Thailand	172	111	532	47	347	99	1308
	(13.15)	(8.48)	(40.67)	(3.59)	(26.52)	(7.56)	(10.77)
Vietnam	182	69	453	42	384	90	1220
	(14.91)	(5.65)	(3.13)	(3.44)	(31.47)	(7.37)	(10.04)

Source: UNCOMTRADE

Calculations by the Researcher

Note; Numbers in parenthesis are percentage shares in the respective product line.

Notes: RD = Rising Dependence Products; RI = Rising Independence Product; ET(I) = Emerging Threatened Product Tier-I; ET(II) Emerging Threatened Product Tier-II; LT(I) = Less Threatened Product Tier- I & LT(II) = Less Threatened Product.

6.4.2 Resource Intensive Manufactures

"Rising Dependence" product category possesses the RID value greater than unitary and the average RID difference is still increasing, thereby placing them under. Table 6.14 represents clearly that Myanmar constitutes highest percent share of 37.67 in rising dependence product followed by Brunei with 34.00 percent share and Vietnam sketches the third place with 27.23

percent share in rising dependence product line. The profile of the "Resource Intensive Manufactures" highlight nation's such as Singapore and India both the major economies accounts with low percent share as depicted in table for particular product line. India holds the percentage share of 09.33 for 'Textile & Textile Products' (HS 50-63).

"Emerging Threatened Product" has been divided into two category (a)Tier-I & (b)Tier-II

Under Tier-I category, products shows rising import dependency at present and showing a positive difference in average years. In this category, Myanmar constitutes with largest share percent of 12.44 accompanied by Malaysia which portrays the 11.42 share percent. Indonesia and Singapore sketches the third and fourth place with 48 with thin margin of difference with their respective share percent of 9.83 and 9.48 under resource intensive commodities. The revealed import dependency profile spotlights India's share percent is the lowest with just 4.64 in emerging threatened product tier-1 for 'Textile & Textile Articles' (HS 50-63) thereby revealing that India have low import dependency. Nations such as Thailand, Philippines and Brunei accounts the larger share percent in the emerging product Tier-I category.

In the category of "Emerging Threatened Product "Tier-II, there exists a total of 4390 product line, which shows percentage of 33.77 of the total product line. Myanmar constitutes the highest percent share of 49.87 in this category followed by India with 43.33 share percent for 'Textile & Textile Article' (HS 50-63) and Thailand with their respective share of 37.22 percent. Hence, the profile draws a special attention that nations such as Brunei, Singapore and Vietnam possess the least share percent in the emerging product Tier-II category with their respective values depicted in Table 6.14. Results from the table 6.14 spotlight that, India should move towards more of self sufficiency and self reliance for resource intensive manufactures.

Less Threatened Product has been sub-divided into mainly two groups or categories Tier-I and Tier-II. In the first category of Tier-I products, there are total of 548 product line that depicts a percentage share of 4.21 of the total product line. Table 6.14, clearly illustrates that Thailand share percent of 8.62 is the highest in this product line followed by Malaysia and Lao with their respective share percent of 6.80 and 5.82. Nations such as Brunei registers the lowest share percent followed by Cambodia and India with same share percent of 3.58 reveals that these nations also possess lower degree of comparative advantage in this product line. India's low percent share in Tier-1 category for 'Textile & Textile Article' (HS 50-63) & 'Article of Stone, Plaster, Cement & Mica' (HS 68-70) indicates lower import dependency

Under “Less Threatened” product under Tier-II category, total of 3460 product lines having a percentage of 26.62 of total product lines. In this category there are those products that reveal RCA index values to be less than 0.5; depicting a low import dependence. From the Table 6.14 it could be demonstrated that, Singapore constitutes the maximum share percent of 50.24 in less threatened Tier-II, followed by India with 34.79 for ‘Textile & Textile Article (50-63) and Cambodia with third highest percent share of 32.27 indicates . The large percent share by these nations in Tier-II product line indicates the larger degree of comparative advantage in this product grouping in comparison with the nations such as Brunei, Vietnam and Indonesia with the least share percent of 21.16, 22.07 and 23.46 respectively.

Under ‘Rising Import Dependence’ product there are 884 product lines out of total 729, which exhibit the percentage share of 5.60 of total product line. These product lines show the revealed import dependency greater than one, but have experienced a declining share during 2010-15 (Table 6.14). However, table clearly illustrates that Singapore constitutes the lowest percent share for rising independence product which accounts to be 1.21 followed by India with 3.11 percent share stands at second position and Indonesia represents the 3.95 percent share. Low percent share in this category signifies to be more of comparative advantage. ASEAN members such as Vietnam, Lao and Brunei exhibits higher share percent in rising independence product group which signifies that these nations are less of import dependent.

The RID profile spotlights that there exist a low percentage share of rising independence products, which could be an alarming situation for the competitiveness in coming years for Indian import sector.

Table 6.14
RID Profile for Resource Intensive Manufactures (2001-15)

Country	RD	ET(I)	ET(II)	LT(I)	LT(II)	RI	Total
Brunei	355	73	271	28	221	96	1044
	(34.00)	(6.99)	(25.95)	(2.68)	(21.16)	(9.19)	(8.03)
Cambodia	180	44	332	34	306	52	948
	(18.98)	(4.64)	(35.02)	(3.58)	(32.27)	(5.48)	(7.29)
India	117	73	543	45	436	39	1253
	(9.33)	(5.82)	(43.33)	(3.58)	(34.79)	(3.11)	(9.64)
Indonesia	333	122	399	46	291	49	1240
	(26.85)	(9.83)	(32.17)	(3.70)	(23.46)	(3.95)	(9.54)
Lao	210	59	294	62	339	101	1065
	(19.71)	(5.53)	(27.60)	(5.82)	(31.83)	(9.48)	(8.19)
Malaysia	185	131	408	78	292	53	1147
	(16.12)	(11.42)	(35.57)	(6.80)	(25.45)	(4.62)	(8.82)

Myanmar	445	147	589	-	-	-	1181
	(37.67)	(12.44)	(49.87)				(9.07)
Philippines	336	118	426	57	365	55	1357
	(24.76)	(8.69)	(31.39)	(4.20)	(26.89)	(4.05)	(10.44)
Singapore	115	117	324	43	620	15	1234
	(9.31)	(9.48)	(26.25)	(3.48)	(50.24)	(1.21)	(9.49)
Thailand	154	111	466	108	316	97	1252
	(12.30)	(8.86)	(37.22)	(8.62)	(25.23)	(7.74)	(9.63)
Vietnam	338	72	338	47	274	172	1241
	(27.23)	(5.80)	(27.23)	(3.78)	(22.07)	(13.85)	(9.54)

Source: UNCOMTRADE

Calculations by the Researcher

Note; Numbers in parenthesis are percentage shares in the respective product line.

Notes: RD = Rising Dependence Products; RI = Rising Independence Product; ET(I) = Emerging Threatened Product Tier-I; ET(II) Emerging Threatened Product Tier-II; LT(I) = Less Threatened Product Tier- I & LT(II) = Less Threatened Product Tier-

6.4.3 Low Skill and Technology Intensive Manufacturing

Of total 5569 HS 6 digit level product line, 1385 of them (24.86 percent of the total) possess the RID value to be greater than unitary and still ramping, thereby placing them under "Rising Dependence" product category. Table 6.15 illustrates clearly that Brunei stands highest with 41.50 percent share in low skill and technology intensive manufactures accompanied by Myanmar at second position with 39.96 percent share and Indonesia sketches the third position with 29.67 percent share in low skill and technology intensive manufactures. The RID profile draws special attention towards nations such as India which accounts with least percent share of 14.23 for 'Base Metal and Article' (HS 72-83) accompanied by Cambodia and Singapore which compose of low share percent of 15.86 and 17.42 under rising dependence product category.

Emerging Threatened Product are those products, which demonstrates the comparative disadvantage at present but broadcast a positive trend from some past years. In the first category of emerging product Tier-I, there are total of 667 product line which outlines the share percentage of 11.97 of the total product line. In this category, Philippines constitute the largest share percent of 18.18 positioning it to be at top followed by Myanmar which portray the share percentage of 16.89. Malaysia and Thailand sketches the third and fourth position with respective percentage share of 14.55 and 14.50. The RID profile spotlights that prominent economies such as Singapore, India and Indonesia also states large share percent in Tier-1 category revealing the high level of dependency on imports and comparative disadvantage. Cambodia and Brunei sketches the lowest share percent of 6.66 and 5.59 in the emerging threatened product Tier-I

category. The Outcome drawn from the RID profile Table 6.15 highpoints that though India should need to focus more on the product line that lies under this category.

Under Tier-II category of emerging threatened product, there prevails a total of 1462 product line, which portrays the share percentage of 26.25 of the total product line. Cambodia constitutes the highest share percent in tier-II category with respective share percent to be 35.40 stating the higher import dependency. India also sketches the second highest share percent of 30.92. Similarly all other members of ASEAN such as Lao, Malaysia, Myanmar, Singapore and Thailand also represent somewhat similar share percent in this category of product line with the combined share percent averaged at 24.15. However, the profile spotlights that India holds the high share percent in the emerging product Tier-II category which is worsening its comparative advantage and shifting nation towards more import dependency. Results from the table 6.15 spotlights that India should cautiously evaluate for higher potentiality and competency in the world market thereby, reducing its percentage share for emerging product Tier-II and deriving towards self-sufficiency and self reliance.

Less Threatened Product has been categorized into two different sub-groups Tier-I and Tier-II. The RID indices for Tier I is less than one but greater than 0.5 and have experienced negative difference for the average time frame of 2001-15. In this category Philippines and Cambodia share percent of 2.96 and 3.90 is the lowest in this product line thereby, revealing more of import dependence under this category. Similarly other nations such as India, Singapore, Malaysia and Indonesia also register low share percent in this category thereby revealing all nations are heavily import dependent Emerging economies such as Cambodia and Brunei should register the higher share percentage in this category to possess higher degree of comparative advantage and less of import dependency in this product line.

On the other hand India also sketches with the low percent share in Tier-1 category for ‘Base Metal & Articles’ (HS 72-83) thereby, indicating the higher degree of revealed comparative disadvantage in this product grouping in comparison with the ASEAN members.

Under rising independence product line, there are 469 products out of total 5569, which demonstrate the percentage share of 8.42. Particular product lines display the revealed import dependency (RID>1) greater than one, but have experienced a declining share in the world market during 2001-15. Table 16.3 clearly illustrates that Vietnam constitutes the top most percent share for rising independence product line which accounts to be 16.19 followed by

Indonesia with 15.87 percent share stands at second position and Lao represents the 11.01 percent share.The major ASEAN economies such as Philippines and Singapore exhibit fewer shares in threatened product group with 2.78 & 0.99 percent. The RID profile spotlights that there exist a lower share percentage of rising independence product line, which could be an alarming situation for the competitiveness in coming years for 'Transport Equipment' (86-89) & 'Base Metal and Article' (HS 72-83) under Indian import sector.

Table 6.15
RID Profile for Low Skill and Technology Intensive Manufactures (2010-15)

Country	RD	ET(I)	ET(II)	LT(I)	LT(II)	RI	Total
Brunei	193	26	79	28	88	51	465
	(41.50)	(5.59)	(16.98)	(6.02)	(18.92)	(10.96)	(8.34)
Cambodia	69	29	154	17	137	29	435
	(15.86)	(6.66)	(35.40)	(3.90)	(31.49)	(6.66)	(7.81)
India	75	57	163	37	149	46	527
	(14.23)	(10.96)	(30.92)	(7.02)	(28.27)	(8.72)	(9.46)
Indonesia	157	58	83	55	92	84	529
	(29.67)	(10.81)	(15.68)	(10.39)	(17.39)	(15.87)	(9.49)
Lao	110	45	120	23	130	53	481
	(22.86)	(9.35)	(24.94)	(4.78)	(27.02)	(11.01)	(8.63)
Malaysia	135	77	121	44	77	52	529
	(25.51)	(14.55)	(22.87)	(8.31)	(14.55)	(9.82)	(9.49)
Myanmar	201	85	122	-	-	-	503
	(39.96)	(16.89)	(24.25)				(9.03)
Philippines	105	98	123	16	135	15	539
	(19.48)	(18.18)	(22.82)	(2.96)	(25.04)	(2.78)	(9.67)
Singapore	88	66	124	36	195	5	505
	(17.42)	(13.06)	(24.55)	(7.12)	(38.61)	(0.99)	(9.06)
Thailand	129	77	125	31	114	49	531
	(24.29)	(14.50)	(23.54)	(5.83)	(21.46)	(9.22)	(9.53)
Vietnam	123	49	126	44	138	85	525
	(23.42)	(9.33)	(24)	(5.38)	(26.28)	(16.19)	(9.42)

Source: UNCOMTRADE

Calculations by the Researcher

Note; Numbers in parenthesis are percentage shares in the respective product line.

Notes: RD = Rising Dependence Products; RI = Rising Independence Product; ET(I) = Emerging Threatened Product Tier-I; ET(II) Emerging Threatened Product Tier-II; LT(I) = Less Threatened Product Tier- I & LT(II) = Less Threatened Product Tier-

6.4.4 Medium Skill and Technology Intensive Manufactures

"Rising Dependence Product" constitutes the RID index to be greater than unity and is still strengthening import dependence. Table 6.16 encapsulates that Brunei constitute the highest share percentage of 52.51 followed by Myanmar at with 45.55 percentage share and Indonesia and Vietnam stands at third and fourth position with their respective share percentage of 40.00 and 28.80 for particular product line. The RID profile of the "Medium Skill and Technology

Intensive Manufactures" also spotlight toward those economies which accounts with small share percentage. India portrays low share percent of 16.30 for 'Machinery & Mechanical Appliances' (HS 84-85) followed by Singapore and Lao with their percentage share of 18.03 and 23.68 respectively for rising dependence product, thereby signifying low import dependency.

Emerging Product Group is bifurcated into two product category (a) Tier-I product line are those products, which represents the import dependence at present and making way to become entitled for high import dependent product groups (b) Tier-II . In this particular category, Myanmar constitutes highest share percent of 18.88 followed by Philippines with 18.76 share percent and Thailand sketches the third place with 16.46 percent share. RID profile highlights that majority of the ASEAN members comprises of high share percentage in this category. But, nations such as Brunei, Cambodia depict the low share percent in this category with respective percent of 8.12 & 8.75. Indian manufacturing is shifting towards more of import dependence in coming future for particular product category for 'Machinery & Mechanical Appliances' (HS 84-85). Therefore, India should need to focus on these product lines to make it a competitive performer in near future.

Under emerging product Tier-II, there exists a total of 1917 product line, which shows percentage share of 21.60 of the total product line. Myanmar holds the large percentage share of 35.55 in this category followed by Philippines and Cambodia with their respective share of 31.47 and 29.69 percent. Therefore, the profile draws a special attention that nations such as India, Lao and Brunei also possess the moderately high share percent in the emerging threatened product Tier-II category with their respective values as depicted in table 6.16.demonstrating high import dependence. Results from the table highlights that India should prudently scrutinize for higher potentiality and competency in the world market thereby, lowering its percentage share for emerging threatened product Tier-II.

Less Threatened Tier-I product are those having RID indices are less than unitary but greater than 0.5 and thus average difference experience the negative growth for 2001-15. Table 6.16 encapsulate that India share percentage of 12.65 is the highest for product line such as 'Plastic and Rubber' (HS 39-40) & 'Machinery & Mechanical Appliances' (HS 84-85) followed by Singapore with respective share percent of 10.42 thereby revealing both nations experience comparative advantage in particular product line. Emerging economies of ASEAN such as

Brunei, Philippines, Cambodia and Lao register the low share percentage with an combined average of 3.97 revealing that these nations possess higher degree of comparative disadvantage and import dependency.

Total of 1556 product lines are lies under less threatening Tier-II category, exhibiting a percentage share of 17.53 out of total product lines. In this category there are those products that reveal RID indices as less than 0.5. Table 6.16 displays that, Singapore constitutes the maximum share percent of 36.44, followed by Cambodia with 27.41 share percent and Lao with third highest percent share of 26.38. The large percent share in Tier-II product line indicates the larger degree of less import dependence for particular product grouping. Though, India sketches the fourth highest share percentage with 23.60 still there lies the potential for India to achieve more comparative advantage by reducing its import dependency.

In the case of "Rising Independence Product", RID for particular product line is greater than one, but have experienced a negative share in the world market during the time frame of 2001-15.Table 6.16 exhibits that Vietnam percent share for rising independence product accounts to be 21.50 accompanied by Indonesia with 17.07 percent share at second position and Thailand constitutes the 16.95 percent share sketching it to be at third place. These nations are more self reliant and import independent for medium skill and technology intensive manufactures. ASEAN members such as Philippines, Brunei and Singapore exhibits far less share in rising independence product group with 3.44, 4.38 & 5.15 percent, thereby revealing more of import dependence for particular economies in product line.

The RID profile for medium skill and technology intensive manufactures highlights that India should thrive for more share percent in particular product category for 'Plastics and Rubber' (HS 39-40) & 'Machinery & Mechanical Appliances' (84-85) to have less of import dependence from ASEAN members.

Table 6.16

RID Profile for Medium Skill and Technology Intensive Manufactures (2001-15)

Country	RD	ET(I)	ET(II)	LT(I)	LT(II)	RI	Total
Brunei	407	63	156	20	95	34	775
	(52.51)	(8.12)	(20.12)	(2.58)	(12.25)	(4.38)	(8..73)
Cambodia	190	69	234	39	216	40	788
	(24.11)	(8.75)	(29.69)	(4.94)	(27.41)	(5.07)	(8.87)
India	134	107	200	104	194	83	820
	(16.30)	(13.01)	(24.33)	(12.65)	(23.60)	(10.09)	(9.23)

Indonesia	328	120	93	62	77	140	822
	(40)	(14.63)	(11.34)	(7.56)	(9.39)	(17.07)	(9.26)
Lao	184	82	168	46	205	92	777
	(23.68)	(10.55)	(21.62)	(5.92)	(26.38)	(11.84)	(8.75)
Malaysia	230	137	155	77	84	120	803
	(28.64)	(17.06)	(19.30)	(9.58)	(10.46)	(14.94)	(9.04)
Myanmar	369	153	288	-	-	-	810
	(45.55)	(18.88)	(35.55)				(9.12)
Philippines	227	158	265	31	132	29	842
	(26.95)	(18.76)	(31.47)	(3.68)	(15.67)	(3.44)	(9.48)
Singapore	147	111	133	85	297	42	815
	(18.03)	(13.61)	(16.31)	(10.42)	(36.44)	(5.15)	(9.18)
Thailand	220	134	129	75	118	138	814
	(27.02)	(16.46)	(15.84)	(9.21)	(14.49)	(16.95)	(9.17)
Vietnam	233	98	96	70	138	174	809
	(28.80)	(12.11)	(11.86)	(8.65)	(17.05)	(21.50)	(9.11)

Source: UNCOMTRADE

Calculations by the Researcher

Note; Numbers in parenthesis are percentage shares in the respective product line.

Notes: RD = Rising Dependence Products; RI = Rising Independence Product; ET(I) = Emerging Threatened Product Tier-I; ET(II) Emerging Threatened Product Tier-II; LT(I) = Less Threatened Product Tier- I & LT(II) = Less Threatened Product Tier-

6.4.5 High Skill and Technology Intensive Manufactures

Under "Rising Dependence" product category the RID indices value comprises to be greater than one and is still ramping exponentially. Table 6.17 enumerates that Brunei accounts the highest share percentage of 32.87 followed by Philippines with 31.15 percentage share. India and Thailand constitutes somewhat same share percent of 21.54 averagely, thereby depicting that India accounts largely for 'Chemical Products' (HS 28-38) imports. Hence more efforts and determined policies should be framed to reduce India's share percentage in this category

The RID profile also draws special attention towards countries which constitute small share percentage such as Lao and Cambodia depicting low degree of import dependency for high skilled and technology products.

The Emerging Product Group is diverged into two product category (a) Tier-I and (b) Tier-II. Under Emerging Product Tier-I category, there are total of 1373 product line which displays a share percentage of 11.26 of the total 12176 product line. In this category, Lao sketches the highest share percent of 15.97 followed by Myanmar with 15.19 share percent and Thailand ranks the third place with 12.91 percent share and India also possess the high

percent share of 10.55 signifying import dependency for 'Chemical Products' (HS 28-38) falling under particular category. Lao displays the minimal share percentage in this category with respective percentage of 4.90 revealing its low import dependency in future.

In this category of Tier-II, Myanmar accounts percent share of 60.50 accompanied by Brunei and Lao with their respective share percent of 27.50and 37.91. Therefore, the profile spotlights attention on nations such as India, Singapore and Thailand which possess the low share percent in the emerging threatened product Tier-II category with their respective values depicted in Table 6.17 revealing low import dependency for particular product category. On the contrary rest other ASEAN economies such as Vietnam, Philippines, and Indonesia holds larger percentage share with combined average of 20.39 in high skill and technology intensive manufactures stating their competitive disadvantage/high import dependency.

Less Threatened (Tier-I) products RID index values is less than unity but greater than or equal to 0.5, thus facing a negative growth for 2001-15. In the first category of Tier-I, Singapore's percentage share of 9.74 is the highest in product line followed by Thailand with 9.19 percentage share and India with their respective share percent of 8.44 for 'Measuring & Musical Instruments' (HS 90-92) and 'Chemical Products' (HS 28-38). Most of the economies in this category have low share percentage, there by revealing more of import dependency. Brunei and Cambodia accounts the least percentage share of 3.26 and 2.27 which shows that both these nations are heavily import dependent. India's large percent share in Tier-1 associates with higher degree of comparative advantage in this product grouping.

Under Less Threatened (Tier-II) product total of 2906 product line accounts for 23.66 percent share out of 12176 product line. In this category products exhibit the RID values as less than 0.5 and furthermore depicting negative average values for time frame 2001-15. Table 6.17 demonstrates, Cambodia constitutes the maximum share percent of 38.13followed by Lao with 35.16 percentage and Singapore with the third highest percent share of 33.30. India ranks at the fourth position with 27.28 percentage share for 'Chemical Products' (HS 28-38). Though India is positioned at fourth position, still it holds larger share percent of total 1184 product line at country level. The higher percent share by India in Tier-II product line states the lower degree of import dependence in this product grouping in comparison with the nations such as Indonesia and Malaysia with the least share percent of 18.86 and 16.97 respectively.

Rising Independence product lines shows the revealed import dependence (RID>1) greater than one, but have experienced a negative share during 2001-15. Table 6.17 clearly illustrates that Indonesia sketches the highest percent share which accounts to be 21.36 followed by Thailand for 15.86 percent share. Countries such as Malaysia, India and Thailand with low combined average share percent of 13.66 exhibit low degree of comparative advantage. The major ASEAN members such as Singapore and Philippines demonstrates far less share percent in particular product group as detailed in table.

Table 6.17

RID Profile for High Skill and Technology Intensive Manufactures (2001-15)

Country	RD	ET(I)	ET(II)	LT(I)	LT(II)	RI	Total
Brunei	312	72	261	31	222	51	949
	(32.87)	(7.58)	(27.50)	(3.26)	(23.39)	(5.37)	(7.79)
Cambodia	96	72	350	21	352	32	923
	(10.40)	(7.80)	(37.91)	(2.27)	(38.13)	(3.46)	(7.58)
India	258	125	217	100	323	161	1184
	(21.79)	(10.55)	(18.32)	(8.44)	(27.28)	(13.59)	(9.72)
Indonesia	251	133	237	95	226	256	1198
	(20.95)	(11.10)	(19.78)	(7.92)	(18.86)	(21.36)	(9.83)
Lao	88	42	345	28	301	52	856
	(10.28)	(4.90)	(40.30)	(3.27)	(35.16)	(6.07)	(7.03)
Malaysia	320	192	232	92	204	162	1202
	(26.62)	(15.97)	(19.30)	(7.65)	(16.97)	(13.47)	(9.87)
Myanmar	259	162	645	-	-	-	1066
	(24.29)	(15.19)	(60.50)				(8.75)
Philippines	391	143	262	92	291	76	1255
	(31.15)	(11.39)	(20.87)	(7.33)	(23.18)	(6.05)	(10.37)
Singapore	241	149	202	115	393	80	1180
	(20.42)	(12.62)	(17.11)	(9.74)	(33.30)	(6.77)	(9.69)
Thailand	252	153	201	109	282	188	1185
	(21.26)	(12.91)	(16.96)	(9.19)	(23.79)	(15.86)	(9.73)
Vietnam	225	130	242	105	312	164	1178
	(19.10)	(11.03)	(20.54)	(8.91)	(26.48)	(13.92)	(9.67)

Source: UNCOMTRADE

Calculations by the Researcher

Note; Numbers in parenthesis are percentage shares in the respective product line.

Notes: RD = Rising Dependence Products; RI = Rising Independence Product; ET(I) = Emerging Threatened Product Tier-I; ET(II) Emerging Threatened Product Tier-II; LT(I) = Less Threatened Product Tier- I & LT(II) = Less Threatened Product Tier-

6.4.6 Mineral Fuels Manufactures

Out of total 1862 HS 6 digit level product line, 382 of them (20.51 percent of the total) maintains the RID value to be greater than one and the mean RID difference still escalating, hence positioning them under "rising dependence product" category. Table 6.18 explains clearly that Brunei hold enormous percentage share at 45.69, accompanied by Myanmar with 29.94 percentage share and Philippines sketches the third place with 26.08 percent share. India accounts for the lowest percent share of 5.11 for 'Wood Pulp Products' (HS 47-49) product grouping.

The RID profile of the "Mineral Fuel Intensive Manufactures" spotlights that all ASEAN members such as Vietnam, Thailand, Malaysia and Singapore comprises of higher share percent in the particular product group , which explains rise in import dependence by the ASEAN members.

Under emerging threatened product Tier-I, there are total of 177 product line that depicts low share percentage of 9.50 of the total 1862 product line. In this category, India constitutes the lowest percentage share of 3.97 for 'Miscellaneous Products' (HS 94-96) & 'Wood Pulp Products' (HS 47-49) followed by Vietnam with 5.52 share percent standing at the second lowest position and Indonesia sketches the third position with just 6.17 percent share in this category, thereby displaying low import dependence. The profile highlights that majority of the ASEAN members constitutes very low share percent. Countries such as Brunei, Cambodia, Malaysia and Lao almost explain the same average share percent share of 8.78 averagely.

Under Emerging Threatened (Tier-II) product, Myanmar comprehends the major share percentage of 59.28 followed by India with share percent of 48.29 for 'Wood and Wood Products' (HS 44-46) & 'Miscellaneous Products' (HS 94-96) in the particular product category, Malaysia and Lao also represents the high share percent in emerging threatened product category with their respective share of 40.33 and 39.21 percent. Therefore, the profile draws a special attention that economies with higher share percent in particular category holds the more of import dependency. Table 6.18 infers that India should look for higher competency by reducing its percentage share for emerging product Tier-II and simultaneously look for import substitutes lying under particular product category.

Less Threatened Tier-I Products are those products whose RID indices value is less than one but greater than 0.5 and thus the average difference also turns to be negative for 2001-15. Table 6.18, clearly illustrates that Indonesia share percent of 8.98 is the highest accompanied by

Thailand with 8.69 and Singapore portrays the third position with 7.55 as respective share percentage. Vietnam and Brunei almost share the low percentage share which indicates the higher degree of import dependence. India also holds the low share percent of 6.25, thereby revealing that India should thrive for higher percent share to overcome the import dependency for 'Wood Pulp Product' (HS 47-49) and 'Miscellaneous Products' (HS 94-96).

Under Less Threatened (Tier-II) product group has total of 469 product lines and thus accounts for the percentage share of 25.18 out of total product lines under the mineral fuel industry level. As depicted in the Table 6.18, Singapore constitutes the maximum share percent of 37.57 in less threatened product Tier-II, followed by Vietnam with 34.35 and India with third highest percent share of 31.25 for 'Wood Pulp Products' (HS 47-49). The large percentage share in Tier-II product line indicates lower import dependency. Nation such as Brunei, Indonesia, Philippines and Vietnam also constitutes the higher share percent in this category with their respective RID indices as represented in table 6.18, thereby revealing lower import dependency for particular product category.

Rising Independence product lines display the revealed import dependency (RID) value to be greater than unity, but witnessed a declining share during 2001-15. Table 6.18 clearly explains that Lao constitutes highest percent share of 9.15 accompanied by Brunei and Cambodia with similar 8.60 percent share and Malaysia sketches the 7.18 percent share, which shows the greater comparative advantage with low import dependence. Major ASEAN members such as Singapore and Philippines exhibits low share percentage of 2.31 and 2.71 under rising independence product category, thereby showing high degree of import dependence. The RID profile spotlights that there exist a lower percentage share in rising independence products for India, which is considered to be an alarming situation for 'Miscellaneous Products' (HS 94-96) and 'Wood and Wood Products' (HS 44-46).

Table 6.18
RID Profile for Mineral Fuel Manufactures (2001-15)

Country	RD	ET(I)	ET(II)	LT(I)	LT(II)	RI	Total
Brunei	69	12	19	7	31	13	151
	(45.69)	(7.94)	(12.58)	(4.63)	(20.52)	(8.60)	(8.10)
Cambodia	20	13	59	5	42	13	152
	(13.15)	(8.55)	(38.81)	(3.28)	(27.63)	(8.60)	(8.16)
India	9	7	85	11	55	9	176
	(5.11)	(3.97)	(48.29)	(6.25)	(31.25)	(5.11)	(9.45)

Indonesia	37	11	50	16	55	9	178
	(20.78)	(6.17)	(28.08)	(8.98)	(30.89)	(5.05)	(9.55)
Lao	19	15	60	6	39	14	153
	(12.41)	(9.80)	(39.21)	(3.92)	(25.49)	(9.15)	(8.21)
Malaysia	32	16	73	6	41	13	181
	(17.67)	(8.83)	(40.33)	(3.31)	(22.65)	(7.18)	(9.72)
Myanmar	50	18	99	-	-	-	167
	(29.94)	(10.77)	(59.28)				(8.96)
Philippines	48	22	61	4	44	5	184
	(26.08)	(11.95)	(33.15)	(2.17)	(23.91)	(2.71)	(9.88)
Singapore	32	25	34	13	65	4	173
	(18.49)	(14.45)	(19.65)	(7.55)	(37.57)	(2.31)	(9.29)
Thailand	36	29	52	16	41	10	184
	(19.56)	(15.76)	(28.26)	(8.69)	(22.28)	(5.43)	(9.88)
Vietnam	30	9	50	7	56	11	163
	(18.40)	(5.52)	(30.67)	(4.29)	(34.35)	(6.74)	(8.75)

Source: UNCOMTRADE

Calculations by the Researcher

Note; Numbers in parenthesis are percentage shares in the respective product line.

Notes: RD = Rising Dependence Products; RI = Rising Independence Product; ET(I) = Emerging Threatened Product Tier-I; ET(II) Emerging Threatened Product Tier-II; LT(I) = Less Threatened Product Tier- I & LT(II) = Less Threatened Product Tier-

6.5 Competitive Positioning of Imports at Industry Level

This section analyses the changes and pattern of the selected industry level and top product line. The variation in the RID values from 2010 to 2015 would be examined in brief description for respective industry level.

6.5.1 Non-Fuel Primary Commodities

The total number of commodities under non-fuel primary product line participating in India's import has increased from 821 in 2010 to 845 in 2015, 24 percent change in the less competitively positioned product line with RID index to be greater than one and also the negative change of 2 percent in competitively positioned product line with RID less than one states the emergence of import dependence of India for non-fuel primary commodity.

On the contrary, the ASEAN members such as Brunei, Malaysia, Lao, Philippines and Indonesia hold the comparative disadvantage with heavy dependence on imports for non-fuel primary commodity with exponential rise in share percent in less competitively positioned product line having RID greater than one with their respective values to be 52, 38, 39, 36 and 29 percent in 2015 in comparison with 47, 30, 31, 27 and 27 share percent in 2010 and also a decline in the competitively positioned product line having RID less than one for 2015. Singapore and

Vietnam holds the comparative advantage in the non-fuel primary commodity with less of dependence on imports. Singapore reveals the high percent share of 80 in competitively positioned product line having RID value less than one in 2015 with an increase in total number of products from 864 in 2010 to 1013 in 2015.Similarly, Vietnam also reveals a comparative advantage with 78 percent share in RID less than one product line in 2015 and also a rise in total number of products from 817 in 2010 to 994 in 2015.

Table 6.19
Table Profile for Non-Fuel Primary Manufactures (2010-2015)

Country	Product line with RID>1			Product line with RID<1			Total No. of Product line		
	2010	2015	Change	2010	2015	Change	2010	2015	Change
Brunei	286 (47%)	320 (44%)	12%	326 (53%)	393 (56%)	21%	612	713	14%
Cambodia	77 (19%)	94 (24%)	22%	318 (81%)	347 (76%)	9%	395	441	10%
India	152 (19%)	188 (23%)	24%	669 (81%)	657 (77%)	-2%	821	845	3%
Indonesia	236 (27%)	252 (29%)	7%	631 (73%)	539 (71%)	-15%	867	791	-10%
Lao	136 (31%)	173 (39%)	27%	307 (69%)	381 (61%)	24%	443	554	20%
Malaysia	272 (30%)	345 (38%)	27%	646 (70%)	816 (62%)	26%	918	1161	21%
Myanmar	79 (25%)	105 (33%)	33%	243 (75%)	480 (67%)	98%	322	585	45%
Philippines	228 (27%)	296 (36%)	30%	604 (73%)	552 (64%)	-9%	832	848	2%
Singapore	130 (15%)	173 (20%)	33%	734 (85%)	840 (80%)	14%	864	1013	15%
Thailand	203 (23%)	295 (33%)	45%	692 (77%)	761 (67%)	10%	895	1056	15%
Vietnam	233 (29%)	182 (22%)	-22%	584 (71%)	812 (78%)	39%	817	994	18%

Source: UNCOMTRADE

Calculations by the Researcher

Note; Numbers in parenthesis are percentage shares in the respective product line.

6.5.2 Resource Intensive Manufactures

The overall position of the India in resource intensive manufacture level exhibits an exponential increase in the import dependence from total number of product 116 in 2010 to 908

in 2015, 51 percent share in less competitive positioned product line having RID index value to be greater than one in 2015.

On the contrary, ASEAN members depict a mixed trend towards resource intensive manufactures. Singapore and Malaysia are the top most economies with least import dependence in spite of a mere increase of one percent in less competitively positioned product line with RID greater than one. Table-27 reveal that Singapore holds competitive advantage with high percentage share of 87 percent in 2015 for product line having RID index value to be less than one, in comparison to only 13 percent in RID greater than one product line for 2015. Similarly, Malaysia also exhibits comparative advantage. Out of total number of 1122 product in 2015, 893 which constitutes 80 percent share lies under competitively positioned product line with RID value less than unitary.

Countries such as Indonesia, Myanmar and Philippines demonstrate a rise in import dependence for resource intensive manufactures. From the table 6.20, it could be clearly deduced that Indonesia, Myanmar and Philippines shows an exponential increase in share percent in import dependence product line having RID value to be greater than one with their respective values to be 33, 37 and 34 percent in 2015, in comparison with 29, 36 and 24 percent share in 2010. Lastly, also reveals a decline in share percentage for low import dependence product line possessing RID value to less than one with their respective value to be 67, 63 & 66 percent in 2015, in comparison with 71, 64 and 76 percent in 2010.

Lastly, countries such as Lao and Vietnam, displays a decline in import dependency for resource intensive manufactures with a negative trend in percentage change of -16 and -1 in more import dependence product line having RID value to greater than one, followed by an increase in share percent from 62 in 2010 to 73 in 2015 for Indonesia and 63 percent in 2010 to 66 percent in 2015 for Vietnam in less import dependence product line possessing RID to be less than one.

From the table below one could be easily inferred that India's is heavily import dependent and thereby losing its competitive positioning in resource intensive manufacture. Hence, India should formulate some trade policies to achieve a sustainable competitiveness and less import dependency in the particular industry level.

Table 6.20

Table Profile for Resource Intensive Manufactures (2010-2015)

Country	Product line with RID>1			Product line with RID<1			Total No. of Product line		
	2010	2015	Change	2010	2015	change	2010	2015	change
Brunei	281 (39%)	290 (38%)	3%	448 (61%)	480 (62%)	7%	729	770	6%
Cambodia	161 (33%)	192 (30%)	19%	323 (67%)	443 (70%)	37%	484	635	31%
India	116 (45%)	908 (51%)	683%	141 (55%)	871 (49%)	518%	257	1779	592%
Indonesia	297 (29%)	352 (33%)	19%	729 (71%)	713 (67%)	-2%	1026	1065	4%
Lao	240 (38%)	201 (27%)	-16%	387 (62%)	534 (73%)	38%	627	735	17%
Malaysia	168 (17%)	229 (20%)	36%	840 (83%)	893 (80%)	6%	1008	1122	11%
Myanmar	169 (36%)	333 (37%)	97%	306 (64%)	568 (63%)	86%	475	901	90%
Philippines	251 (24%)	378 (34%)	51%	795 (76%)	745 (66%)	-6%	1046	1123	7%
Singapore	122 (12%)	141 (13%)	16%	879 (88%)	932 (87%)	6%	1001	1073	7%
Thailand	220 (21%)	248 (22%)	13%	827 (79%)	865 (78%)	5%	1047	1113	6%
Vietnam	370 (37%)	368 (34%)	-1%	626 (63%)	709 (66%)	13%	996	1077	8%

Source: UNCOMTRADE

Calculations by the Researcher

Note; Numbers in parenthesis are percentage shares in the respective product line.

6.5.3 Low Skill and Technology Intensive Manufactures

The industry level of low skill and technology intensive manufactures has been illustrated in the table 6.21. This industry level investigates the inclusive vista of the India with respect to ASEAN members. A minor shift towards low import dependence has been observed from India's perspective. The table depicts a percentage share of 76 for 2015 in less import dependent positioned product line with RID value to be less than and on the contrary the negative decline of -5 percent change reveal India's less import dependence for low skill and technology intensive manufactures.

ASEAN members such as Philippines, Thailand and Indonesia hold comparative disadvantage in low skill and technology intensive manufactures with high import dependency. Philippines reveal the increase in total number of products from 79 in 2010 to 148 in 2015, 87 percent change in less competitively positioned product line with RID index to be greater than

unity. Similarly, Thailand and Indonesia also demonstrates an increase in percentage share with their respective values to 43 and 47 percent in 2015 in comparison with 35 and 45 percent in 2010 for product line having RID greater than one and simultaneously a decrease in percentage share for product line having RID less than unity from 55 and 65 percent in 2010 to 53 and 60 percent in 2015.

Lastly, the ASEAN members such as Brunei, Lao and Vietnam hold the comparative advantage in low skill and technology intensive manufactures with low import dependency. The percentage share of Brunei, Lao and Vietnam shows a declining trend in import dependency product line having RID value greater than one with their respective share percent to be 46, 37and 35 for 2015, in comparison with 48, 39 and 43 percent in 2010. Moreover, table represents an increasing trend in low import dependency product line with RID less than one for 2015 with their high share percent of 54, 66, and 65 percent as illustrated in the table 6.21.

However, Malaysia experiences no change in competitive positioning in low skill and technology intensive manufactures. Percentage share for both competitively positioned product line remained to be constant for 2010 and 2015.

Table 6.21

Table Profile for Low Skill and Technology Intensive Manufactures (2010-2015)

Country	Product line with RID>1			Product line with RID<1			Total No. of Product line		
	2010	2015	Change	2010	2015	change	2010	2015	change
Brunei	181 (48%)	177 (46%)	-2%	200 (52%)	202 (54%)	1%	381	379	-1%
Cambodia	71 (23%)	101 (32%)	42%	244 (77%)	260 (68%)	7%	315	361	15%
India	122 (25%)	116 (24%)	-5%	358 (75%)	345 (76%)	-4%	480	461	-4%
Indonesia	216 (45%)	227 (47%)	5%	269 (55%)	253 (53%)	-6%	485	480	-1%
Lao	150 (39%)	140 (37%)	-7%	233 (61%)	276 (63%)	18%	383	416	9%
Malaysia	151 (31%)	152 (31%)	1%	332 (69%)	352 (69%)	6%	483	504	4%
Myanmar	146 (43%)	148 (44%)	1%	191 (57%)	290 (66%)	52%	337	438	30%
Philippines	79 (17%)	148 (31%)	87%	397 (83%)	348 (69%)	-12%	476	496	4%

Singapore	98 (21%)	102 (22%)	4%	362 (79%)	416 (78%)	15%	460	518	13%
Thailand	167 (35%)	206 (43%)	23%	313 (65%)	310 (57%)	-1%	480	516	8%
Vietnam	204 (43%)	165 (35%)	-19%	270 (57%)	327 (65%)	21%	474	492	4%

Source: UNCOMTRADE

Calculations by the Researcher

Note; Numbers in parenthesis are percentage shares in the respective product line.

6.5.4 Medium Skill and Technology Intensive Manufactures

Under medium skill and technology intensive manufactures industry level India exhibits its comparative advantage with increasing percentage share from 69 percent in 2010 to 74 percent in 2015 for low import dependency product line having an RID value to be lesser than unity accompanied by the decline in the total product from 228 in 2010 to 213 in 2015, -7 percent change in heavily import dependent product line having an RID value to be greater than one.

On the other hand amongst ASEAN member's countries such as Cambodia, Lao and Vietnam reveal the rise in comparative advantage with low import dependence for medium skill and technology intensive manufactures. Cambodia displays the increase in total number of product from 445 in 2010 to 473 in 2015 with a 6 percent change followed by a negative 7 percent change in less competitively positioned product line having RID value greater than one. Similarly Lao and Vietnam also reveal the increase in share percent for low import dependent product line having RID less than one with their respective share percentage to be 67 and 55 percent for 2015 in comparison with share percentage of 63 and 55 percent in 2010, thereby positioning them under less import dependent countries.

Lastly, the rest of ASEAN members exhibit the decline in comparative advantage with rising import dependency for medium skill and technology intensive manufactures. Countries such as Singapore, Thailand, Philippines, Malaysia and Indonesia reveal the high percentage share in import dependent product line having an RID index value to be greater than unity with their respective percentage share of 25, 44, 39, 40 and 57 percent for 2015 in comparison with 24, 41, 23, 41 and 54 percent share in 2010. Hence, depicting a rising dependence on imports for medium skill and technology intensive manufactures.

Table 6.22

Table Profile for Medium Skill and Technology Intensive Manufactures (2010-2015)

Country	Product line with RID>1			Product line with RID<1			Total No. of Product line		
	2010	2015	Change	2010	2015	change	2010	2015	change
Brunei	189 (29%)	223 (35%)	18%	453 (71%)	421 (65%)	-7%	642	644	1%
Cambodia	150 (25%)	106 (18%)	-29%	445 (75%)	473 (82%)	6%	595	579	-3%
India	228 (31%)	213 (26%)	-7%	519 (69%)	598 (74%)	15%	747	811	9%
Indonesia	394 (53%)	434 (57%)	10%	355 (47%)	327 (43%)	-8%	749	761	2%
Lao	233 (37%)	219 (33%)	-6%	401 (63%)	453 (67%)	13%	634	672	6%
Malaysia	289 (41%)	310 (40%)	7%	416 (59%)	472 (60%)	13%	705	782	11%
Myanmar	208 (34%)	291 (39%)	40%	403 (66%)	446 (61%)	11%	611	737	21%
Philippines	179 (23%)	307 (39%)	72%	592 (77%)	475 (61%)	-20%	771	782	1%
Singapore	180 (24%)	199 (25%)	11%	566 (76%)	588 (75%)	4%	746	787	5%
Thailand	310 (41%)	351 (44%)	13%	441 (59%)	451 (56%)	2%	751	802	7%
Vietnam	406 (54%)	356 (45%)	-12%	342 (46%)	427 (55%)	25%	748	783	5%

Source: UNCOMTRADE

Calculations by the Researcher

Note; Numbers in parenthesis are percentage shares in the respective product line.

6.5.5. High Skill and Technology Intensive Manufactures

The table description of the high skill and technology intensive manufactures reveal that India portrays a rising import dependency in the particular industry level with an increase in import dependence from 345 products in 2010 to 383 product in 2015, 11 percent change in import dependence product line having RID value to be greater than one and also a decline share percent from 66 percent in 2010 to 61 percent in 2015 under low import dependence product line having an RID less than unitary shows the rising import dependency for India.

Major ASEAN members such as Indonesia, Malaysia, Philippines and Thailand also demonstrate the increasing competitive disadvantage with large import dependence for high skill and technology intensive manufactures. Table 6.23 illustrates the increase in the percentage share for import dependence product line possessing RID greater than one for Indonesia, Malaysia, Philippines and Thailand with their respective percentage values to be 47,40, 39and 41 percent

for 2015 in comparison to 43, 39,35 and 39 percent in 2010. Thereby, reflecting a comparative disadvantage in high skill and technology intensive manufactures.

Lastly, ASEAN members such as Brunei, Cambodia, Lao, Myanmar and Vietnam reveal the rising comparative advantage with low import dependence for high skill and technology intensive manufacture. Table 6.23 illustrates the increase in percentage share for low import dependence product line with RID less than unitary for Brunei, Cambodia, Lao, Myanmar and Vietnam with their respective percentage values to be 68, 83, 81,76 and 68 percent for 2015 in comparison to 67,82,79,73 and 62 percent in 2010.

Table 6.23

Table Profile for High Skill and Technology Intensive Manufactures (2010-2015)

Country	Product line with RID>1			Product line with RID<1			Total No. of Product line		
	2010	2015	Change	2010	2015	change	2010	2015	change
Brunei	217 (33%)	223 (32%)	3%	450 (67%)	480 (68%)	7%	667	703	5%
Cambodia	96 (18%)	109 (17%)	14%	428 (82%)	536 (83%)	25%	524	645	23%
India	345 (34%)	383 (39%)	11%	664 (66%)	589 (61%)	-11%	1009	972	-4%
Indonesia	438 (43%)	473 (47%)	8%	575 (57%)	541 (53%)	-6%	1013	1014	0%
Lao	116 (21%)	121 (19%)	4%	433 (79%)	519 (81%)	20%	549	640	17%
Malaysia	395 (39%)	436 (40%)	10%	617 (61%)	651 (60%)	6%	1012	1087	7%
Myanmar	158 (27%)	195 (24%)	23%	428 (73%)	621 (76%)	45%	586	816	39%
Philippines	366 (35%)	430 (39%)	17%	689 (65%)	667 (61%)	-3%	1055	1097	4%
Singapore	262 (27%)	283 (27%)	8%	726 (73%)	757 (73%)	4%	988	1040	5%
Thailand	392 (39%)	426 (41%)	9%	613 (61%)	623 (59%)	2%	1005	1049	4%
Vietnam	369 (38%)	321 (32%)	-13%	610 (62%)	688 (68%)	13%	979	1009	3%

Source: UNCOMTRADE

Calculations by the Researcher

Note; Numbers in parenthesis are percentage shares in the respective product line.

6.5.6 Mineral Fuel Manufactures

Total number of reported product line of India under mineral fuel manufactures in 2010 were 148, out of which 129 products were having an share percent of 87, by 2015 percentage share decreased to 86 percent with 125 products. Also, the positive change of 5 percent in import dependence product line with RID greater than one show the rise of comparative disadvantage or import dependence of India in mineral fuel manufactures.

On the contrary, ASEAN countries such as Brunei, Cambodia, Indonesia, Lao and Myanmar are swiftly emerging economies in mineral fuel manufactures and holds higher comparative advantage of low import dependence in comparison with other ASEAN members. Lao exhibits the 41 percent change in low import dependency product line having RID value to be less than one. Also, exhibit the increase in percentage share in low import dependency product line having RID value less than one from 66 percent in 2010 to 78 percent in 2015. Similarly, Myanmar and Indonesia also demonstrates the rise in percentage share in low import dependence product line having RID<1 from 68 percent in 2010 to 71 percent in 2015 for Myanmar and 67 percent in 2010 to 71 percent share in 2015. Thereby, reflecting the low import dependence for these economies.

Major ASEAN countries such as Singapore, Philippines and Malaysia exhibit the slow rise in comparative disadvantage in mineral fuel manufactures with increasing percentage share in import dependency product line having RID greater than one. Singapore, Philippines and Malaysia shows the decline or fall in the percentage share for low import dependence product line having RID value less than one from 85, 79 and 82 percent in 2010 to 80,71and 81in 2015. Thereby, exhibiting the rise in the import dependence of Singapore, Philippines and Malaysia in mineral fuel manufactures.

Table 6.24

Table Profile for Mineral Fuel Intensive Manufactures (2010-2015)

Country	Product line with RID>1			Product line with RID<1			Total No. of Product line		
	2010	2015	Change	2010	2015	change	2010	2015	change
Brunei	50 (40%)	35 (27%)	-30%	75 (60%)	94 (73%)	25%	125	129	3%
Cambodia	29 (30%)	27 (26%)	-7%	69 (70%)	77 (74%)	12%	98	104	6%
India	19 (13%)	20 (14%)	5%	129 (87%)	125 (86%)	-3%	148	145	-2%
Indonesia	49 (33%)	42 (29%)	-14%	101 (67%)	102 (71%)	1%	150	144	-4%
Lao	31	23	-26%	59	83	41%	90	106	18%

	(34%)	(22%)		(66%)	(78%)				
Malaysia	26	29	12%	121	126	4%	147	155	5%
	(18%)	(19%)		(82%)	(81%)				
Myanmar	27	39	44%	58	94	62%	85	133	56%
	(32%)	(29%)		(68%)	(71%)				
Philippines	32	46	44%	117	114	-3%	149	160	7%
	(21%)	(29%)		(79%)	(71%)				
Singapore	22	28	27%	120	115	-4%	142	143	1%
	(15%)	(20%)		(85%)	(80%)				
Thailand	33	36	9%	119	124	4%	152	160	5%
	(22%)	(23%)		(78%)	(78%)				
Vietnam	32	32	0%	97	110	13%	129	142	10%
	(25%)	(23%)		(77%)	(77%)				

Conclusion:

From the study it could be inferred that amongst the six distinct industry levels, India demonstrates an rising trend in its import dependence under Non-Fuel Primary Commodity in comparison with ASEAN members. The rising percentage change under *'Vegetable Products' (HS 06-14) and 'Mineral Products' (HS 25-27)* product line having RID value greater than one and the high combined share percentage under rising dependence and emerging threatened products reveals India's rising import dependence. ASEAN members such as Singapore and Vietnam holds less of import dependence with low share percent and negative percent change in product line having RID greater than one. ASEAN nations such as Brunei, Cambodia, Indonesia and Lao also reveal their increasing dependence for imports.

Under the Resource Intensive Manufactures India highlights its rising import dependence for 'Textile & Textile Products' (HS 50-63) product line lying under the respective industry level. With the tremendous increase in products from 116 in 2010 to 908 under product line having RID value to be greater than on reveals increasing import dependency of India. On the contrary ASEAN members such as Vietnam, Thailand, Singapore, Malaysia etc. exhibits the low import dependency for resource intensive manufactures, thereby, revealing their competitive advantage over India. Under Low Skill and Technology Intensive Manufactures, India displays a declining trend in its import dependency for *'Base Metal and Article' (HS 72-83)* with a negative percentage change in product line having RID greater than one and low percentage share for rising dependence products in comparison with other ASEAN members. India is still under the constant threat of competitive pressure from nations such as Vietnam, Myanmar, Malaysia and

Lao that are also registering low percentage change for product line possessing RID value greater than unitary.

India highlights declining and diminishing import dependence under Medium Skill and Technology Intensive Manufactures industry level with negative percentage change under for '*Machinery & Mechanical Appliances'* (HS 84-85) product line having RID value less than one and also a low share percent for rising dependence product category. ASEAN members such as Vietnam, Lao and Cambodia also demonstrate shrinking import dependence. For High Skill and Technology Intensive Manufactures India reveals the import dependency for *'Chemical Products'* (HS 28-38) with high share percentage in rising dependence and emerging threatened products followed by a higher percentage change in product line possessing RID value greater than one. Vietnam, Thailand, Singapore and Lao displays a less of import dependency with low share percent in rising dependence product category and low percentage change in product line having RID value greater than one, in comparison with India. Thereby, demonstrating a rising threat to India's competitive advantage under high skill and technology intensive manufactures.

Lastly, under Mineral Fuel industry level India reveals a rising import dependency with increasing share percent under emerging threatened products and increasing percentage change for *'Wood Pulp Products'* (HS 47-49) and '*Miscellaneous Products'* (HS 94-96) product line having RID value greater than one. On the contrary, ASEAN members such as Vietnam, Lao, Indonesia, Cambodia and Brunei illustrate declining import dependence. Hence, to achieve higher competitiveness India should concentrate upon those industry levels where it pose low import dependency and should also look up for import substitution policies for products which India imports more from ASEAN members.

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Chapter-7

Conclusion and Policy Suggestions

The Particular study reveals the different aspects of the ASEAN-India Free Trade Agreement (AIFTA). In current scenario, India-ASEAN relation seems to be important both politically and economically. ASEAN members have emerged as the main trading partner of India. The main aim of the study undertaken is to understand and unearth the dynamics of trade specialization and trade competitiveness of India-ASEAN in context of free trade agreement (AIFTA) during the pre and post AIFTA scenario and hence concluding essence is given below.

Ex post result of ASEAN-India Free Trade Agreement (AIFTA) demonstrates that as far as trade is concerned, ASEAN has benefitted more than India. The trends and pattern of ASEAN-India trade has been observed region-wise, commodity-wise and country-wise. An impressive rise in India's export to ASEAN region has been escalating from US$ 3.31 billion in 2001 to US$ 19.43 billion in 2008 and to US$ 37.88 billion in the year 2013, which is almost 11-12 times over the period from 2001 to 2013. But, India registered a decline in its exports to US$ 26.42 billion for two consecutive years 2014-15. Similarly, India's import from ASEAN has also demonstrated an exponential rising trend from US$ 4.3 billion dollar in 2001 to US$ 29.6 billion in 2010 and to US$ 41.5 billion in 2015, which is almost 9-10 times from 2001 to 2015. India's total trade with ASEAN members reveal an average annual growth of 19.2 percent from 2001-15. From the region-wise study it has been observed that India is facing a huge average trade deficit of US$ 5.62 billion per annum.

India's export growth in ASEAN region depicts a mixed trend; initially India's export growth to ASEAN region was more than global export growth. But India's export growth to ASEAN region has witnessed descending trend for two consecutive years, which is -05.66 in year 2014 and -16.74 in 2015. India's top-5 exporting commodities to ASEAN region includes mineral fuel, mineral oils & products (HS code-27), meat & edible offal (HS code-02), nuclear reactor, boilers, machinery & mechanical appliances (HS code-84), organic chemicals (HS code-29), natural or cultured pearls, precious source (HS code-71).

Correspondingly, India's import growth from ASEAN members has registered a higher trend throughout the period of study with an average value of 18.86 percent from year 2001 to 2015, in contrast to the average of global import growth at 17.46 from 2001 to 2015. India's top-

5 importing commodities from ASEAN includes mineral fuel, mineral oils & products (HS code-27), animal or vegetable fats & oil (HS code-15), electrical machinery &equipments (HS code-85), nuclear reactors, boilers, machinery and mechanical appliances (HS code-84), organic chemicals (HS code-29).

ASEAN members Singapore, Indonesia, Malaysia and Thailand are the dominant export destination for the India. India's exports to Singapore stand at average of US$ 7.3 billion from 2001 to 2015 followed by Indonesia with US$ 2.9 billion and Malaysia ranks third in the list of largest exporting nation with an average of US$ 2.6 billion. The ASEAN members such as Cambodia, Brunei and Lao PDR are the least favorable trade destination for India in ASEAN region. The study also highlights that India is also the net importer from the same nation such as Indonesia, Singapore and Malaysia to whom it's a net exporter. India's net imports from Indonesia have been registered highest with an average volume of imports at US$ 7.58 billion from 2001 to 2015.

Thus, from the first objective of the study it could be inferred that though there has been a tremendous increase in both export and import structure of India, still ASEAN members are benefitting more from AIFTA. The mounting rise in the imports from ASEAN and inflating average trade deficit of US$ 5.62 billion has been a big matter of concern, thereby depicting that India's bilateral Free Trade Agreement (FTA) with ASEAN is statistically insignificant for India's both import & export efficiency.

The direction of India-ASEAN trade has been rapidly shifting from less specialized economies towards more specialized economies. Under non-fuel primary commodity, India reflects a mixed trend in trade specialization from 2001-02 to 2009-10, but after AIFTA, India experienced decline in trade specialization for 2014-15 (LFI -0.52) for '*Vegetable Products'*(HS 06-14), '*Food Stuff '* (HS 16-24) and '*Mineral Products'* (HS 25-27). ASEAN member such as Brunei has constantly experienced an exponential increase in its trade specialization. On the other hand ASEAN members such Singapore and Thailand has experienced the constant decline in their trade specialization. India, observed a varied trend in trade specialization for resource intensive manufactures for the time span of 2001-15. India experienced decline in trade specialization from 2001-10. But after AIFTA, India noticed a rise in trade specialization (LFI value 0. 64) for 2014-15 for '*Textile & Textile Articles'* (HS 50-63). ASEAN member such as Vietnam and Myanmar experienced an exponential rise in their trade specialization. On the

contrary, economies such as Indonesia and Malaysia are losing their trade specialization constantly from 2001-15.

Under Low Skill and Technology Intensive Manufactures India observes positive and higher degree trade specialization for '*Base Metal and Articles'* (HS 72-83) after AIFTA. With the passage of time most of the ASEAN members such as Cambodia, Singapore, Thailand, Vietnam, Philippines and Lao are experiencing low improvement in trade specialization in comparison with India under low skill and technology intensive manufactures. Countries such as Brunei and Myanmar are facing deterioration in trade specialization. For Medium Skill and Technology Intensive Manufactures, India noticed a tremendous improvement in its trade specialization from low specialized nation to positively high trade specialized nation for '*Machinery & Mechanical Appliances*' (HS 84-85) with LFI of 0.12 in 2014-15. On the other hand ASEAN members such as Singapore, Thailand, Malaysia and Cambodia are also demonstrating an improvement in trade specialization from 2001-15. Countries such as Brunei, Lao and Myanmar reveal a decline trade specialization under particular industry level.

High skill & technology intensive manufactures ASEAN members such as Singapore, Thailand, Philippines and Malaysia are more specialized than India with positive LFI values. On the contrary India is also gaining momentum under particular industry level for '*Chemical Products*' (HS 28-38) product line with Lafay index value varying from -0.27 in 2001-02 to -0.18 for 2014-15. Lastly, Indonesia and Brunei display low level of trade specialization. India demonstrates a positive and high degree of trade specialization for Mineral Fuel industry level for 'Miscellaneous Products' (HS 94-96) and 'Wood Pulp' (HS 47-49) with respective LFI value of 0.23 in 2014-15. ASEAN members Singapore and Indonesia register a higher degree of trade specialization and competitiveness under mineral fuel industry level in comparison with India. Nations such as Brunei, Lao, Malaysia and Thailand displays the deterioration of trade specialization with rising negative LFI values in 2014-15.

Hence, from the second objective of the study it could be summarized that though India is swiftly moving towards achieving a higher degree of trade specialization, but still it faces the tough competition from the dynamic and vibrant ASEAN members such as Singapore, Malaysia, Philippines, Thailand and Vietnam. In majority of the industrial levels, after the AIFTA came into action India has experienced an improvement in its trade specialization irrespective of Non-Fuel Primary Commodity where India observed an deterioration in its trade specialization.

Therefore, India has to work upon lot of spheres to attain high trade specialization with respect to ASEAN members.

Ultimately, for determining the trade competitiveness between India and ASEAN members, the Revealed Comparative Advantage (RCA) and Revealed Import Dependency (RID) method has been taken into consideration. The analysis of the study leads to an interesting and insightful observations. Amongst the six different industry levels as proposed by Basu & Das (2011), under non-fuel primary manufactures percentage change of export competitiveness for India using RCA approach is low as depicted in (Table 6.7) in comparison with percentage change of import dependency using RID approach depicted in (Table 6.19), thereby exhibiting a decline and deterioration in India's trade competitiveness for non-fuel primary commodity such as '*Vegetable Products'* (HS 06-14), '*Food Stuff*' (HS 16-24) and '*Mineral Products'* (HS 25-27) with respect to ASEAN members. The ASEAN members such as Malaysia, Myanmar, Philippines and Vietnam holds trade competitiveness by possessing higher share percentage for export in comparison with India. Thereby, portraying ASEAN members competitive advantage over India.

Under Low Skill and Technology Intensive Manufactures, India displays a rising trend in its trade competitiveness for '*Base Metal and Articles'* (HS 72-83) with high percentage change of exports under competitive positioning profile (Table 6.9) using RCA and on the contrary India observed a negative percentage change for import dependency under RID competitive positioning profile (Table 6.21). But still India is experiencing a competitive pressure from the major ASEAN members such as Lao, Malaysia, Philippines, Thailand and Vietnam. All these ASEAN members are registering a tremendously high share percentage under competitive positioning of exports, revealing a threat to the competitive position of India.

India, demonstrates an improvement in its Trade competitiveness for Medium Skill and Technology Intensive Manufactures such as '*Machinery and Mechanical Appliances'* (HS 84-85) . Industry levels display an escalating percentage rise in Export competitiveness positioning (Table 6.10) using RCA approach in comparison with low import dependency positioning depicted in Table (6.22) using RID tool. On the contrary, India is constantly under the rising threat of increasing trade competitiveness of ASEAN members such as Malaysia, Philippines, Vietnam, Singapore and Thailand for Medium skill and technology intensive manufactures,

thereby revealing India's ascending competitive stress. Though India poses a gaining momentum in its Trade competitiveness for Mineral Fuel manufactures under product line '*Wood Pulp Products'* (HS 47-49) and '*Miscellaneous Products'* (HS 94-96). Percentage change under export competitive positioning is high as depicted in (Table 6.12) in comparison with percent change under import dependency position (Table 6.24). Nations such as Thailand, Philippines and Vietnam exhibits a large share percentage for competitively positioned product under the RCA profile for Mineral Fuels thereby depicting a competitive advantage of these nations over India.

Somewhat different phenomenon happens to take place under Resource Intensive Industry level; India portrays a decline and deterioration in its trade competitiveness for '*Textile &Textile Article'* (HS 50-63). High percentage share and change is observed under import dependency positioning as mentioned in (Table 6.8) and a decline in percentage change and share for competitive positioning of export using RCA approach as depicted in (Table 6.20). India is losing its competitive advantage over ASEAN members such as Malaysia, Philippines and Vietnam. Lastly, countries such as Myanmar and Singapore are the emerging threat for India under resource intensive manufactures with tremendously high parentage share under emerging product category (Tier-1 & Tier-II).

Lastly, under high skill & technology intensive manufactures such as '*Chemical Products'* (HS 28-38) *and 'Measuring & Musical Instruments'* (HS 90-92) India is gaining its trade competitiveness with higher percent change under export competitive positioning using the RCA tool as depicted in (Table 6.11) and on the contrary rise in import dependency competitive positioning of India is low under particular industry level. ASEAN nations such as Singapore, Philippines, Malaysia, Thailand and Vietnam possess better competitive positioning than India for high skill and technology intensive manufactures.

Therefore from the 3rd Objective of the study it could be inferred that to endure trade competitiveness, India should focus upon those industry levels that are reflecting comparative advantage during the study period and should also take measures upon those industry levels where, ASEAN members are possessing higher percentage share for competitively positioned & emerging products. Thus to gain competitiveness in this swiftly globalizing era, India should work more rigorously both at micro and macro level.

Following are the policy suggestions arrived at, by studying the ASEAN-India relation in context of Free Trade Agreement:

- India needs to be more precautious before deciding to further liberalize the current AIFTA; which means including more products in normal track list.
- More vigorous attempts need to be put in by India in strengthening its domestic industries and economic institutions, so they are better equipped to overcome the future challenges of liberalization.
- India should confront issues such as skill level, nature of product & technology in use, scale of production, quality sophistication, reliability etc at industry level, which constrain 'export creation'.
- Under Non-Fuel Primary manufactures, India should put more efforts in reviving and strengthening the 'Mineral Products' (HS 25-27) and 'Vegetable Products' (HS 06-14) product line. In which India is losing its trade competitiveness & specialization in comparison with ASEAN members.
- Rigorous efforts are need to be undertaken by India for lowering the import dependence from ASEAN members for 'Textile & Textile Articles' (HS 50-63) product line lying under Resource Intensive manufactures.
- Though India observe specialization and competitive advantage under both low and medium skill & technology intensive manufactures for 'Base Metal & Articles' (HS 72-83) and 'Machinery & Mechanical Appliances' (HS 84-85) product line, India should purse a policy to overcome the stiff competitive pressure it faces from ASEAN members.
- India must concentrate on the commodity group that are of top-most priority and significance to ASEAN, so that Indian exports to the region may reach the targeted level.
- The extent to which India can thrive for higher value added export industries are those, in which knowledge and technology intensive industries plays an crucial role such as informational technology industry (IT).

- Domestic capacity and quality of product line 'Chemical Products' (HS 28-38) and 'Measuring & Musical Instruments' (HS 90-92) falling under high skill & technology intensive need to be improvised using regulatory & effective frame work, so that products overcome the competitive pressure faced from ASEAN members such as Singapore, Vietnam, Thailand, Philippines and Malaysia.

- India should need to invest more on research and development (R&D) wing to have greater access to new technologies and bring new innovation techniques, so that to sustain cost advantage and achieving quality sophistication.

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Annexure

Non-Fuel Primary Commodity Description 2 digit Harmonised System Code			
Code	**Product label**	**Code**	**Product Lable**
1	Live animals	**24**	Tobacco and manufactured tobacco substitutes
2	Meat and edible meat offal	**25**	Salt, sulphur, earth, stone, plaster, lime and cement
3	Fish, crustaceans, molluscs, aquatic invertebrates nes	**26**	Ores, slag and ash
4	Dairy products, eggs, honey, edible animal product nes	**27**	Mineral fuels, oils, distillation products, etc.
5	Products of animal origin, nes	**40**	Rubber and articles thereof
6	Live trees, plants, bulbs, roots, cut flowers etc	**41**	Raw hides and skins (other than furskins) and leather
7	Edible vegetables and certain roots and tubers	**43**	Furskins and artificial fur, manufactures thereof
8	Edible fruit, nuts, peel of citrus fruit, melons	**44**	Wood and articles of wood, wood charcoal
9	Coffee, tea, mate and spices	**45**	Cork and articles of cork
10	Cereals	**47**	Pulp of wood, fibrous cellulosic material, waste etc.
11	Milling products, malt, starches, inulin, wheat gluten	**51**	Wool, animal hair, horsehair yarn and fabric thereof
12	Oil seed, oleagic fruits, grain, seed, fruit, etc., nest	**52**	Cotton
13	Lac, gums, resins, vegetable saps and extracts nes	**53**	Vegetable textile fibres nes, paper yarn, woven fabric
14	Vegetable plaiting materials, vegetable products nes	**55**	Manmade staple fibres
15	Animal, vegetable fats and oils, cleavage products, etc.	**71**	Pearls, precious stones, metals, coins, etc.
16	Meat, fish and seafood food preparations nes	**74**	Copper and articles thereof
17	Sugars and sugar confectionery	**75**	Nickel and articles thereof
18	Cocoa and cocoa preparations	**76**	Aluminium and articles thereof
19	Cereal, flour, starch, milk preparations and products	**78**	Lead and articles thereof
20	Vegetable, fruit, nut, etc. food preparations	**79**	Zinc and articles thereof
21	Miscellaneous edible preparations	**81**	Other base metals, cermet's, articles thereof
22	Beverages, spirits and vinegar	**82**	Tools, implements, cutlery, etc. of base metal

Resource Intensive Commodity Description 2 digit Harmonized System Code			
Code	Product Label	**Code**	Product Label
40	Rubber and articles thereof	**60**	Knitted or crocheted fabric
41	Raw hides and skins (other than furskins) and leather	**61**	Articles of apparel, accessories, knit or crochet
43	Furskins and artificial fur, manufactures thereof	**62**	Articles of apparel, accessories, not knit or crochet
44	Wood and articles of wood, wood charcoal	**63**	Other made textile articles, sets, worn clothing etc.
45	Cork and articles of cork	**64**	Footwear, gaiters and the like, parts thereof
48	Paper & paperboard, articles of pulp, paper and board	**65**	Headgear and parts thereof
51	Wool, animal hair, horsehair yarn and fabric thereof	**66**	Umbrellas, walking-sticks, seat-sticks, whips, etc.
52	Cotton	**67**	Bird skin, feathers, artificial flowers, human hair
53	Vegetable textile fibres nes, paper yarn, woven fabric	**68**	Stone, plaster, cement, asbestos, mica, etc. Articles
54	Manmade filaments	**69**	Ceramic products
55	Manmade staple fibres	**70**	Glass and glassware
56	Wadding, felt, nonwovens, yarns, twine, cordage, etc.	**71**	Pearls, precious stones, metals, coins, etc.
57	Carpets and other textile floor coverings	**94**	Furniture, lighting, signs, prefabricated buildings
58	Special woven or tufted fabric, lace, tapestry etc.	**95**	Toys, games, sports requisites
59	Impregnated, coated or laminated textile fabric		

Medium Skill and Technology Commodity Description 2 digit Harmonized System code			
Code	Product Label	**Code**	Product Label
39	Plastics and articles thereof	**85**	Electrical, electronic equipment
40	Rubber and articles thereof	**87**	Vehicles other than railway, tramway
84	Machinery, nuclear reactors, boilers, etc.	**90**	Optical, photo, technical, medical, etc. Apparatus

Low Skill and Technology Commodity Description 2digit Harmonized System Code			
Code	Product Label	**Code**	Product Label
72	Iron and steel	**80**	Tin and articles thereof
73	Articles of iron or steel	**81**	Other base metals, cermet's, articles thereof
74	Copper and articles thereof	**82**	Tools, implements, cutlery, etc. of base metal
75	Nickel and articles thereof	**83**	Miscellaneous articles of base metal
76	Aluminium and articles thereof	**86**	Railway, tramway locomotives, rolling stock, equipment
77	Reserved for possible future use	**87**	Vehicles other than railway, tramway
78	Lead and articles thereof	**89**	Ships, boats and other floating structures
79	Zinc and articles thereof	**94**	Furniture, lighting, signs, prefabricated buildings

High Skill and Technology Commodity Description 2 digit Harmonized System Code			
Code	Product Label	**Code**	Product Label
28	Inorganic chemicals, precious metal compound, isotopes	**36**	Explosives, pyrotechnics, matches, pyrophorics, etc.
29	Organic chemicals	**37**	Photographic or cinematographic goods
30	Pharmaceutical products	**38**	Miscellaneous chemical products
31	Fertilizers	**39**	Plastics and articles thereof
32	Tanning, dyeing extracts, tannins, derivs,pigments etc.	**84**	Machinery, nuclear reactors, boilers, etc.
33	Essential oils, perfumes, cosmetics, toiletries	**85**	Electrical, electronic equipment
34	Soaps, lubricants, waxes, candles, modelling pastes	**88**	Aircraft, spacecraft, and parts thereof
35	Albuminoids, modified starches, glues, enzymes	**90**	Optical, photo, technical, medical, etc. Apparatus

Mineral Fuel Commodity Description 2 digit Harmonized System Code			
Code	Product Label	**Code**	Product Label
46	Manufactures of plaiting material, basketwork, etc.	**92**	Musical instruments, parts and accessories
49	Printed books, newspapers, pictures etc.	**93**	Arms and ammunition, parts and accessories thereof
71	Pearls, precious stones, metals, coins, etc.	**96**	Miscellaneous manufactured articles
85	Electrical, electronic equipment	**97**	Works of art, collectors pieces and antiques