

Impact of Preferential Trade Liberalisation on India's Manufacturing Sector Trade Performance: An Analysis of India's Major Trade Agreements

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Impact of Preferential Trade Liberalisation on India's Manufacturing Sector Trade Performance: An Analysis of India's Major Trade Agreements

Smitha Francis*

[Abstract: The shift in India's trade policy focus away from multilateralism towards preferential trade agreements (PTAs) was reflected in the trade deals which India signed with the East and Southeast Asian countries from around the mid-2000s. Earlier work by the author have analysed several broader issues that needs to be inform any systematic assessment of the implications of India's PTAs/FTAs. The present study focuses on the nature and impact of tariff liberalisation under three major PTAs, the India-ASEAN FTA, India-South Korea CEPA and India-Japan CEPA. It was on the basis of bright export prospects that India committed to reducing or eliminating tariffs across manufacturing industries in these PTAs. With a decade having passed since their entry into force, India's trade experience in the light of the expectations from the different agreements was examined. The overall evidence that came out of the in-depth analysis invalidates the widespread argument in the academic and policy literature that FTAs enable India to improve export competitiveness. Increased preferential or tariff-free access to imported intermediate products under these FTAs did not deliver sustained export competitiveness for the Indian manufacturing sector—in these PTA partner markets, or globally. In the absence of strategic industrial policy support for building up the dynamic competitiveness of local value chain segments, domestic producers were put in disadvantageous domestic market access position against imports. The study makes a number of critical policy suggestions in the context of the domestic economic crisis, the dependence on China, and the accelerated digital transformations across sectors.]

Keywords: Smitha Francis, PTAs, free trade agreements, export competitiveness, Indian trade policy, ASEAN FTA, South Korea CEPA, Japan CEPA, tariff liberalisation, market access, gains from FTAs, preferential trade, global value chains (GVCs), FDI-led regional integration, manufacturing sector import dependence, India's export performance, intermediate goods trade, tariff reduction schedules, market shares, rules of origin, Chinese imports, industrial policy

JEL classification: F14; O14; O24; O25; L60; L52

I. Introduction

India's trade reforms since the early 1990s has not lead to sustained export growth as was expected. Except for the 2002–08 phase when the world economy was growing rapidly,

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Indian exports have seen significant fluctuations in growth rate. Further, India's share in global merchandise exports has stagnated around 1.6% - 1.7% since 2011—way before global merchandise exports declined by 3% in 2019 weighed down by the US-China trade tensions and slowing global economic growth. On the other side, India's share in global merchandise imports has risen much faster. While India's shares in both global exports and global imports had stood at 0.8% in 2002, her share in global imports accelerated to 2.6% by 2012. After a decline, this share peaked again at 2.6% in 2018¹ before dropping back to 2.5% in 2019.

There has been growing acknowledgement that the lacklustre growth in India's merchandise exports, particularly in manufactured exports since 2011, is related to the shift in India's trade policy orientation away from multilateralism towards preferential trade agreements (PTAs). This clear break with the past in trade policy was reflected in the PTAs which India signed with the East and Southeast Asian countries from around the mid-2000s (see Francis and Kallummal 2013 and Francis 2015).² As more countries became members of multiple PTAs (globally and in the Asia-Pacific region) following the impasse in the WTO's multilateral trade negotiations after the late 1990s, the desire of the Indian government to avoid the perceived negative effects in terms of marginalisation in the export markets had played an important role in this shift in India's trade policy (Francis 2015). With the ASEAN-China Free Trade Area (ACFTA) coming into being in 2004 followed by other trade deals by ASEAN with South Korea, Japan, Australia, etc., competitive regionalism also increasingly played a role.

Consequently, India began to perceive PTAs as important tools in the overall objective of economic liberalisation and for accelerating industrial growth through greater access to export markets and increased foreign investments (see Francis 2019a). Whether they were in the form of bilateral or regional free trade agreements (FTAs)³ or comprehensive economic partnership agreements (CEPAs), all of India's PTAs with the Southeast and East Asian economies involve the exchange of WTO-plus preferential

¹ India's trade data and global trade data are taken from the WTO. Note that while India's imports in 2018 stood at USD 514.5 billion according to the WTO data, WITS UN Comtrade database provides the figure of USD 617.9 billion for India's global imports for the same year. This level of discrepancy between the two data sources is observed only in the case of India's 2018 total imports. On the other side, in the case of exports, the WITS figure of 323.2 billion for 2019 implies a growth rate of 0.3% in India's total exports, while the WTO figure of USD 324.1 billion implies a decline of 0.2% in India's total exports in 2019. In this study, except for estimating the global shares, we have consistently used WITS Comtrade data for India and the major PTA partners due to the availability of comparable data at a disaggregated level.

² It must be noted that the Early Harvest Program (EHP) of the India-Thailand Free Trade Agreement had come into force in 2004 and a Comprehensive Economic Cooperation Agreement (CECA) between India and Singapore had come into force in 2005. These were subsumed by the India-ASEAN FTA when it came into force in 2010.

³ See the discussion on the difference between PTAs and FTAs, and their WTO compatibility in Francis (2015a).

treatment for the PTA partners. These necessarily involve MFN (most favoured nation)-plus import tariff liberalisation in goods trade with the partners. Additionally, they include, to varying extent, WTO-plus market access for the partners in the areas of services, investments and labour mobility, greater liberalisation in intellectual property rights (IPR) regime, etc.

Earlier work by the author such as Francis and Kallummal (2013) and Francis (2015a and 2019) have highlighted the different broader issues that should inform any discussion of the systemic and developmental implications of PTAs for the Indian economy, including the trade-investment nexus and accompanying production restructuring by multinational corporations (MNCs). As shown in Francis (2019a), the trend in India's trade agreements since the mid-2000s to go beyond goods trade and cover liberalisation in agriculture, services, investment, IPR regime, etc. has exacerbated the disconnect(s) between India's trade policy and its industrial policy intentions through the first two decades of the 21st century. The latter has had implications for India's growth and development trajectories over the last decade.

The present study focuses on the nature and impact of tariff liberalisation under India's major PTAs, namely, India-ASEAN FTA, India-South Korea CEPA and India-Japan. It was on the basis of bright export prospects that India committed to reducing or eliminating tariffs across manufacturing industries in her PTAs with ASEAN, Japan and South Korea. With a decade having passed since the entry into force of both the India-ASEAN FTA and the South Korean CEPA in 2010 (followed by the CEPA with Japan in 2011), it is most pertinent to (re-)examine India's trade experience in the light of the objectives or expectations from the different agreements. Specifically, the paper seeks to analyse the links between the extent and pattern of India's tariff liberalisation under these PTAs and the outcomes in India's manufacturing sector trade performance.

II. The Analytical Framework

The perceived negative effects of marginalisation in export markets has two major assumptions underlying it (Francis 2019b). The first argument in favour of PTAs has been that their WTO-plus tariff liberalisation will enable domestic firms to import intermediate products and capital goods from partner countries at lower (or zero) tariff rates and that this will increase the competitiveness of India's final goods exports. At the same time, the lowering of tariffs by the PTA partners will provide expanded export market access for Indian goods. By definition, the difference between the MFN rate and the preferential tariff rate (known as the margin of preference) is believed to give a comparative cost advantage to a PTA member over both non-member producers as well as domestic producers, leading to market access advantages in partner countries (Francis 2015a). Together, the cheaper intermediate inputs and increased market access would increase India's export growth.

As discussed in detail in Francis (2015a), mainstream trade theory continues to postulate that the removal of trade barriers under a PTA is beneficial and welfare effects

are maximised, when trade creation exceeds trade diversion. This is because the greater “efficiency in resource allocation” that accompanies the trade creation from the PTA is expected to give rise to increased productivity and competitiveness on the production front. The higher the margin of preference and greater the substitutability of products of non-member economies with those of the PTA members, the greater are the chances of trade creation. However, it becomes impossible to predict if the PTA will be trade creating or trade diverting, once we move beyond static efficiency gains and consider the potential dynamic effects. Typically, dynamic effects resulting from the restructuring of member and non-member economies associated with the creation of a PTA are considered to be gains from greater inter- and intra-industry specialisation, economies of scale, etc. (Francis 2015a). Here, the underlying presumption seems to be that these dynamic benefits accrue to a PTA member’s domestic entrepreneurs, which may not be the case at all.

Another segment of the mainstream approach to analysing PTAs’ potential dynamic effects focuses on how PTAs can increase economic growth rate through the effects of increased foreign investments on total factor productivity (see Ali and Perez 2006). In particular, investment chapters in PTAs have been promoted for their ability to attract foreign direct investment (FDI) and facilitate region-wide restructuring of industries. Liberalised trade under region-wide PTAs clearly provides greater flexibility to multinational corporations (MNCs) to source intermediate products from different FTA partner countries. It has therefore been argued that together with liberal FDI policy, entering into regional PTAs would enable India to attract more FDI inflows and develop its manufacturing industries through greater engagement in global value chains (GVCs). Apart from the critique developed in Francis and Kallummal (2013) and Francis 2019a) that the ensuing production restructuring may involve closure of production lines in India, there is, once again, an implicit assumption that greater trade flows and larger foreign direct investment (FDI) translate into greater industrial growth of the desirable kind, that is, the kind of industrial growth with maximal domestic value addition and minimal leakages from the economy in the form of foreign exchange outflows.

It must be noted that a confluence of some of the Southeast countries’ export-led growth strategies (given their small domestic markets) with the MNCs’ production network strategies especially from the mid-1980s, had meant that ASEAN has been the most important production base for not only Japanese but also American and European multinational firms, which have invested and organized production and procurement networks in ASEAN for over half a century. Firms from South Korea and Taiwan Province of China too have built production networks across the region at least since the late 1980s. Consequently, ASEAN countries’ trade links have traditionally been the greatest with other countries in the larger East Asian region that drove or have been part of these production sharing arrangements, and with the western developed countries that had been their major markets in the prominent export sectors (Francis 2011). When the mainstream academic discourse in India also shifted to production network-driven export growth

strategies from around the mid-2000s, this misleadingly began to drive India's regional integration policies with East and South East Asian economies through PTAs.

As pointed out in Francis (2015a), the purported benefits advanced by models based on comparative advantage underlying free trade theory and regional integration theory (in its static or dynamic form), follow logically from a set of premises that guarantee from the start full employment and welfare improvement. The latter are assumed to be given, independently of the initial conditions of the trading partners (such as their size, stage of development, or the range of goods that are domestically produced), the degree of trade linkages, or the trajectory followed in terms of industrial policies; all of these influence and determine the beneficial outcomes of trade liberalisation for the domestic economy. Equally critical is the fact that none of these theories or the expectations about trade creation and greater FDI inflows incorporate the impact of trade liberalisation on the incentives faced by multinational corporations or by indigenous producers for undertaking domestic production. This is informed by the analytical framework developed in Francis (2019a). Any analysis of the impact of PTAs during the pre-COVID decades of globalised production strategies during the 2000s and 2010s, must incorporate these implications of free trade on producers' incentives. Furthermore, it is of important to note that typically the discussion on market access is in the context of tariff liberalisation only and does not address non-tariff barriers (NTBs) (see Kallummal 2006 and Kallummal 2019), which have become more prevalent among developed and developing countries following widespread tariff liberalisation.

Give this backdrop, the proposed study will assess the impact of India's preferential tariff liberalisation on her manufacturing sector trade performance by examining the following aspects:

- Nature and strategy of tariff liberalisation under India's major PTAs;
- Industry-wise impact of preferential tariff liberalisation on India's imports; and
- India's export market access gains in the PTA partners in major industries

All subsequent analysis is based on data from the WITS UN Comtrade data, which refers to calendar years. We split the study period into shorter sub-periods, 2002–2008, 2009–10, 2011–16,⁴ 2017–18 and 2019. This periodisation is based on the observed annual merchandise export growth rates during the study period (see Figure 1), as well as on the major tariff liberalisation thresholds under India's FTAs with ASEAN, South Korea and Japan, as will be seen in the ensuing analysis.

The detailed analysis of the PTAs' tariff liberalisation schedules uses the WTO's MTN (Multilateral Trade Negotiation) product classification at the 6 digit level, in addition to the Harmonised System (HS) classification for chapter level analysis. MTN groups categorise HS 6 digit level products into agricultural and non-agricultural sectors, as well

⁴ In the case of Japan CEPA, the periodisation is 2012-16 given that the Agreement came into force in 2011.

as broad product groups within them. Wherever we use non-oil manufactured trade to remove the influence of oil trade, we took out fish and fish products as well as other agricultural products from within the MTN non-agricultural sector. Thus essentially, what we have is the non-oil non-agricultural manufacturing sector.

Further, we use the UNCOMESA Stage of Processing (SoP) classification at the 6 digit HS level available from the World Bank's WITS site to analyse India's trade with the PTA members in terms of capital goods, consumer goods, intermediate goods and raw materials. This is important to examine to what extent the underlying objective of these PTAs to facilitate greater imports of "competitive" intermediate products from PTA partners and their expected beneficial impact on India's manufactured exports have been met. The results are interpreted keeping in mind their sensitivity to the SOP classification scheme.

The rest of this paper is organised as follows. In Section III, we analyse changes in the overall structure of India's merchandise trade since 2002. Subsequently, changes in the composition of India's manufactured exports and imports are examined at the HS 2 digit level. This section also analyses changes in the destination and origin of India's merchandise trade. Sections IV, V and VI undertake detailed analyses of India's tariff liberalisation commitments under the PTAs with ASEAN, South Korea and Japan. The objective is to identify industries with the greatest levels of tariff liberalisation and those with the least degree of tariff liberalisation — in each of these agreements and across these agreements. Given the existing evidence in the literature on the lack of overall beneficial impact on India's exports to these PTA partners available from earlier work such as Francis and Kallummal (2013), Francis (2015a and 2015b), Dhar (2018), Francis and Kallummal (2019), etc. as well as the evidence from Section III, the prime focus in this study is on analysing the impact of India's tariff liberalisation commitments on her manufacturing sector imports from these partner countries and globally. These sections also analyse India's market access gains in the major PTA partners to assess India's export success in the post-PTA phases. The seventh and the final section summarises the main findings of the study and puts forth trade and industrial policy recommendations in the specific context of trade agreements.

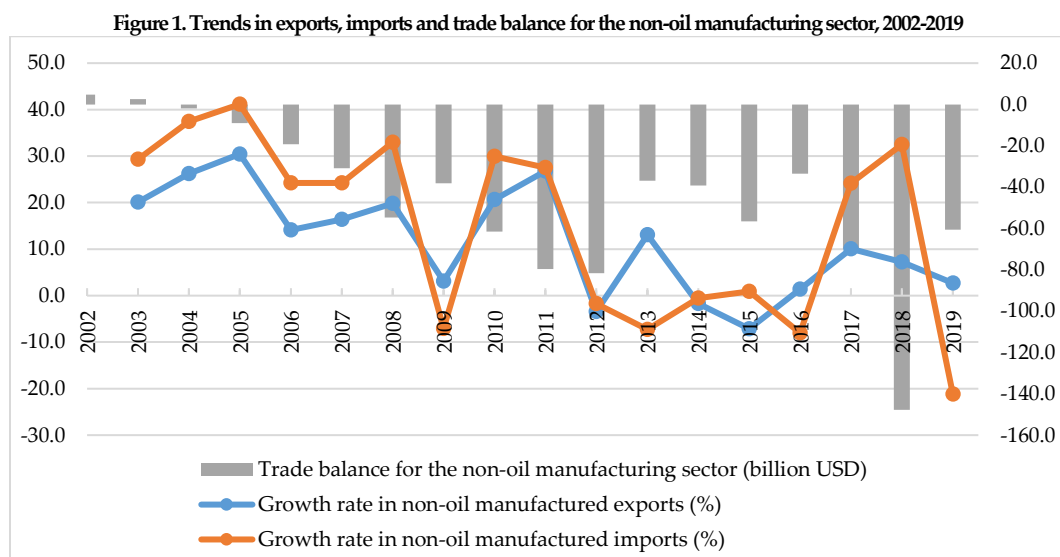
III.Shifts in India's Global Trade Trends

Benefiting from the expansion in global demand during 2002–2007, India's merchandise exports had registered an average annual growth rate of about 23% in the seven years (2002-08) before the impact of the global financial crisis set in. The supply response in this phase was driven primarily by the liberalised access to imported inputs, and was supported by currency appreciation caused by the large foreign capital inflows during these years (Francis 2019, forthcoming). However, average export growth had decelerated to just 6% in the succeeding period (2009-16), with negative export growth rates in 2009, 2012, 2014, 2015 and 2016. The revival in export growth during 2017–18 can be considered

only small, after the decline by nearly 17% in 2015 and another 1.5% in 2016. Consequently, despite growing at an average 11% during 2017–18, India's total merchandise exports (at USD 322 billion) in 2018 was still lower than that in 2013 (USD 337 billion). At USD 323 billion, India's exports were nearly stagnant in 2019.

Overall, traditional labour-intensive and natural resource-based sectors such as apparels, cotton, cereals, fish & crustaceans, coffee, tea and spices, etc., which were dominating India's exports prior to 2002, lost in shares during the study period. Petroleum products remained India's top merchandise export sector, except in 2009 and during 2015–17. Based on the MTN classification, the share of non-oil manufactured exports (as defined earlier) in India's total merchandise exports had peaked at about 82% in 2003. Subsequently, due to the much faster growth in petroleum exports (especially after 2004), this share declined to 68% in 2011. In fact, accounting for 15% of total exports, petroleum products overtook gems and jewellery as India's single largest merchandise export sector in 2006.

Subsequently, despite the declining growth rate in manufactured exports and their absolute decline after 2011, the share of non-oil manufactured exports in India's total exports increased from 2015 due to the sharp drop in the value of petroleum exports with the decline in international oil prices. As seen in Figure 1, non-oil manufactured export growth rates turned negative in 2012, 2014 and 2015, and grew by one per cent in 2016. The slowdown in manufactured export growth particularly since 2011 gives us the first clear indication that India's export performance has suffered despite the additional opening up of markets through FTAs and in spite of the import liberalisation that has been carried out.



Source: Author's calculations based on WITS UN Comtrade data

Although non-oil manufactured exports showed momentum once again during 2017-18 (growing at 10% and 7.2% in 2017 and 2018) after four years of negative or dismal growth, their growth rate fell below 3% in 2019. As a result, at 75%, the share of non-oil manufactured exports in India's merchandise exports was much lower in 2019 than the pre-crisis peak in 2003. The share of petroleum exports stood at 14% in 2019. On the other side, the share of agricultural exports saw a continuous decline from 14% in 2002 to 10% in 2009 before gaining share again to 13% in 2019.

In the case of imports, the share of petroleum products in India's total imports, which was an average 33% during 2002-08 went up and peaked at as much as 41% in 2013, before declining to 32% in 2019. On the other side, the share of non-oil manufactured imports in India's total imports increased from 62% in 2002 to peak at about 67% during 2015-16 and stood at 63% in 2019. Meanwhile, the share of agricultural imports that had stood at 7% in 2002, declined to 3.7% in 2011 and accounted for a share of 4.8% in 2019.

The near synchronous movement in India's manufactured export and import growth rates after 2002 (with a year's lag when exports fall) reflected in Figure 1 points to the increased import dependence of manufactured exports starting with the high export growth phase. In fact, throughout 2012 to 2016 when non-manufactured export growth turned negative, non-oil manufactured imports also registered negative or insignificant growth. Despite this, non-oil manufacturing sector trade balance, which had turned negative from 2004, increased massively afterwards despite some variations.

Petroleum trade deficit has typically dominated India's overall trade balance. But with non-oil manufactured imports picking up momentum during 2017-18, manufactured trade deficit nearly doubled from USD 70 billion in 2017 to 148 billion in 2018 and stood at close parity with petroleum trade deficit (which was at USD 157 billion). However, with the sharp decline of manufactured imports by 21% in 2019 as India's exports were stagnant due to the global trade slump, the manufacturing sector trade deficit dropped significantly and stood at about USD 61 billion in 2019. With the petroleum trade deficit also declining to USD 108 billion, India's total trade deficit stood at USD 154 billion in 2019. The composition of manufactured exports and imports is analysed in detail in the following sub-sections to capture this dynamics.

III.1 Changing Pattern of Manufactured Exports

The gems and jewellery sector has dominated India's non-oil manufactured exports since long now (Table 1). During the study period, its share dropped more or less continuously from about 18% of total exports in 2002 to about 11% in 2019.

If we consider a longer time frame, there were some distinct changes within manufactured exports during the pre-crisis period of rapid export growth (2002-08) when compared to the preceding years. While articles of apparel and clothing (not knitted) and knitted articles of apparel and clothing were the second and third largest contributors to manufactured exports during 1996-2001 (Francis 2005), there was a significant drop in

especially the former's share during 2002-08 (despite retaining the second rank). The sectors that grew faster during 2002-08, and became nearly as prominent as these two sectors, were: organic chemicals; iron and steel; non-electrical machinery and parts; electrical machinery and parts; ores, slag and ash; vehicles and parts; and articles of iron and steel.

Table 1. India's top twenty merchandise exports, 2002-2019

(Period average percentage share in India's total exports; sectors arranged based on their ranks in 2019)

SN.	Chapter	2002-08	2009-10	2011-16	2017	2018	2019	2017 Rank
1	Mineral fuels, mineral oils and their products	11.4	15.9	17.0	12.2	15.1	13.8	2
2	Gems and jewellery	15.3	17.2	14.9	14.0	12.2	11.4	1
3	Non-electrical machinery & mechanical appliances and their parts	4.0	4.0	4.4	5.7	6.3	6.6	3
4	Organic chemicals	4.4	4.0	4.1	4.6	5.5	5.6	5
5	Vehicles and their parts and accessories	2.9	3.8	4.6	5.5	5.7	5.4	4
6	Pharmaceutical products	2.6	2.9	3.9	4.4	4.4	5.0	6
7	Electrical machinery and equipment and their parts	3.0	4.9	3.4	3.0	3.7	4.6	9
8	Iron and steel	4.2	2.9	2.7	4.0	3.1	3.0	7
9	Articles of apparel and clothing accessories, not knitted or crocheted	4.9	3.2	3.0	3.1	2.5	2.6	8
10	Articles of apparel and clothing accessories, knitted or crocheted	3.4	2.6	2.4	2.8	2.3	2.4	10
11	Plastics and their products	2.0	1.5	1.9	1.9	2.4	2.3	15
12	Articles of iron or steel	2.8	2.7	2.4	2.3	2.2	2.2	13
13	Cereals	2.2	1.6	2.7	2.5	2.4	2.2	11
14	Fish and crustaceans, molluscs and other aquatic invertebrates	1.6	0.9	1.5	2.2	1.9	1.9	14
15	Cotton	3.2	2.5	2.9	2.4	2.5	1.9	12
16	Ships, boats and floating structures	0.6	2.1	1.5	1.6	1.1	1.8	17
17	Aluminium and its products	0.7	0.6	0.8	1.2	1.6	1.6	20
18	Other made-up textile articles; sets; worn clothing and worn textile articles; rags	2.1	1.4	1.5	1.7	1.6	1.6	16
19	Miscellaneous chemical products	1.0	1.0	1.0	1.2	1.4	1.6	19
20	Tanning or dyeing extracts; paints and varnishes; putty; etc.	0.9	0.7	0.8	0.9	1.0	1.1	26
21	Meat and edible meat offal	0.6	0.8	1.4	1.5	1.2	1.1	18
22	Optical, medical and other professional apparatus and their parts	0.7	0.7	0.8	1.0	1.0	1.1	23
23	Coffee, tea, maté and spices	1.1	0.9	1.0	1.1	1.0	1.0	22
24	Rubber and their products	1.0	0.8	0.9	1.0	1.0	1.0	24
25	Ores, slag and ash	3.3	3.3	0.8	0.7	0.5	0.9	32
26	Footwear, gaiters and the like; parts of such articles	1.1	0.8	0.9	0.9	0.9	0.9	25

SN.	Chapter	2002-08	2009-10	2011-16	2017	2018	2019	2017 Rank
27	Articles of leather; saddlery and harness; travel goods, handbags etc.; articles of animal gut (other than silkworm gut)	1.2	0.8	0.8	0.8	0.8	0.8	27
28	Copper and its products	1.4	1.7	1.0	1.1	0.5	0.3	21
29	Man-made filaments and other man-made textile materials	1.1	1.0	0.8	0.7	0.7	0.7	30
30	Carpets and other textile floor coverings	1.0	0.6	0.6	0.6	0.5	0.5	36
31	Residues and waste from the food industries; prepared animal fodder	1.1	1.0	0.7	0.5	0.5	0.4	38
32	Total exports (Billion USD)	10.4	19.3	29.1	29.3	32.2	32.3	-

Source: Author's calculation based on WITS Comtrade

In the post crisis period of export growth slow down during 2011-16, vehicles and parts had become the second largest manufactured export sector following gems and jewellery. Non-electrical machinery, organic chemicals and pharmaceuticals followed with roughly similar average shares around 4%. Electrical machinery and iron and steel, followed by articles of iron and steel increased in shares. From 2017 onwards, the export shares of non-electrical machinery increased further, followed by organic chemicals, vehicles and parts, and pharmaceuticals. However, iron and steel, apparel and clothing, and articles of iron and steel have seen a distinct decline in share. The share of electrical machinery, on the other hand, has declined since 2011 and began rising again in 2018. With a share of 4.6% in 2019, it was the sixth largest non-oil exports from India in that year.

Strikingly, even as India's non-oil manufactured exports seemingly increased in capital and technology-intensive sectors, the share of India's manufactured exports going to developed country markets have declined (Table 2). While the USA continue to be the single largest market, its share has dropped from about 21% in 2002 to about 13% in 2014, before increasing to nearly 17% in 2019. The shares of India's exports going to most of the European developed markets such as the UK, Germany, Italy, France, Netherlands, Switzerland and Canada, as well as that to the PTA partner Japan have also declined over the phases. The share of exports going to the PTA partner Singapore also declined significantly, while that to South Korea increased slightly during 2017-18. On the other hand, the share of manufactured exports going to developing countries like the UAE, followed by Bangladesh, Nepal, Mexico, Turkey, Brazil, and the ASEAN FTA partner Vietnam increased (except in 2019). The shares of exports going to Sri Lanka (until 2018), South Africa and Nigeria had also increased. The shares of exports going to Saudi Arabia remained rather stable around 1.8%, those going to the three ASEAN PTA partners Indonesia, Malaysia and Thailand fluctuated, despite posting minor increases compared to the 2002-08 phase. India's exports to many other developing country markets also remain strong.

Table 2. Country-wise destinations of India's merchandise exports, 2002-2019
(Period average percentage share in India's global exports)

<i>SN.</i>	<i>Country</i>	<i>2002-08</i>	<i>2009-10</i>	<i>2011-16</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>	<i>Rank in 2017</i>
1	United States	16.2	10.8	13.5	15.6	16.0	16.8	1
2	United Arab Emirates	8.4	13.4	11.3	9.7	8.8	9.1	2
3	China	5.5	6.9	4.5	4.2	5.1	5.3	4
4	Hong Kong, China	4.3	4.2	4.4	5.1	4.1	3.6	3
5	Singapore	4.1	4.0	3.8	3.9	3.2	3.3	5
6	Netherlands	2.4	3.3	2.5	1.8	2.7	2.8	14
7	United Kingdom	4.4	3.3	3.1	3.0	3.0	2.7	6
8	Germany	3.5	3.0	2.6	2.8	2.8	2.7	7
9	Bangladesh	1.9	1.3	1.8	2.4	2.7	2.6	9
10	Nepal	0.8	0.8	1.2	1.9	2.3	2.2	13
11	Malaysia	1.3	1.8	1.5	1.9	2.0	1.9	12
12	Belgium	2.8	2.1	2.0	2.1	2.1	1.9	10
13	Saudi Arabia	2.0	2.1	2.8	1.8	1.7	1.8	15
14	Vietnam	0.7	1.1	1.8	2.8	2.1	1.7	8
15	France	1.9	2.0	1.7	1.7	1.6	1.7	16
16	Italy	2.6	1.9	1.6	1.9	1.7	1.6	11
17	Japan	2.5	2.0	1.9	1.5	1.5	1.5	18
18	Korea, Rep.	1.5	1.9	1.4	1.5	1.5	1.4	20
19	Turkey	0.9	0.9	1.5	1.7	1.6	1.4	17
20	Indonesia	1.5	1.9	1.6	1.3	1.5	1.4	24
21	Thailand	1.2	1.0	1.1	1.2	1.4	1.3	26
22	Spain	1.5	1.1	1.1	1.3	1.3	1.3	23
23	Sri Lanka	1.8	1.2	1.6	1.5	1.4	1.3	19
24	Brazil	1.1	1.3	1.7	1.0	1.1	1.3	29
25	South Africa	1.2	1.4	1.6	1.4	1.2	1.2	21
26	Iran, Islamic Rep.	1.3	1.1	1.1	0.9	0.9	1.2	30
27	Mexico	0.4	0.3	0.8	1.3	1.2	1.2	25
28	Nigeria	0.8	0.9	0.9	0.7	0.9	1.1	35
29	Israel	1.1	1.1	1.2	1.1	1.2	1.1	27
30	Australia	0.8	0.8	0.9	1.3	1.2	0.9	22
31	Canada	1.0	0.6	0.7	0.8	0.9	0.9	32
32	Russian Federation	0.9	0.6	0.7	0.7	0.7	0.9	34
33	Egypt, Arab Rep.	0.7	0.8	0.9	0.8	0.9	0.8	31
34	Unspecified	1.6	2.6	1.9	0.7	0.8	0.8	36

SN.	Country	2002-08	2009-10	2011-16	2017	2018	2019	Rank in 2017
35	Other Asia, nes	0.9	0.9	0.8	0.7	0.9	0.5	33
36	Philippines	0.5	0.4	0.4	0.5	0.5	0.5	39
37	Myanmar	0.1	0.1	0.3	0.4	0.4	0.3	45
38	Cambodia	0.0	0.0	0.0	0.0	0.1	0.1	113
39	Lao PDR	0.00	0.01	0.01	0.01	0.01	0.01	158
40	Brunei	0.01	0.01	0.06	0.02	0.02	0.02	140
41	Total merchandise exports (Billion USD)	0.0	0.0	0.0	0.0	0.0	0.0	-

Note: The table represents countries which accounted for at least a one per cent share in India's manufactured exports during any of the phases and all the ASEAN-10 members.

Source: Author's estimates based on WITS UN COMTRADE data

III.2 Changing Pattern of Manufactured Imports

India's global imports have come to be dominated by gems and jewellery and electrical machinery and parts. The cumulative share of the top ten manufactured import sectors shows that India's manufactured imports have been much more concentrated than manufactured exports. It is also evident that as many as six out of the top ten manufactured exports were also among the top ten manufactured imports, namely, gems and jewellery, electrical machinery and parts, non-electrical machinery and parts, organic chemicals, iron and steel, and vehicles and parts (Table 3). The other significant manufactured imports were: optical, medical and other professional equipment and their parts; fertilisers; inorganic and miscellaneous chemicals. At the same time, copper and its products, aluminium and its products, articles of iron and steel, as well as ships and other floating structures have witnessed an increase in shares, and have become almost as important as imports of vehicles and parts. But the increase in concentration within the top ten manufactured imports was particularly attributable to electrical machinery and parts, plastics and its products, in addition to vehicles and parts. Among these, the electrical machinery sector, comprising largely of electronics products, has seen the largest increase in import share since the early 2000s.

While the US was the most important supplier of India's imports traditionally, it has been overtaken by China. Three other countries that have become increasingly important sources of India's imports are the middle eastern countries, United Arab Emirates, Saudi Arabia and Iraq. Table 4 on the origin-wise distribution of India's imports also reveals some important shifts between 2017 and 2019. While China's emergence as the single largest import supplier for India's non-oil manufactured products has been clear for several years now, there has been noticeable increases in the share of imports originating from Hong Kong China, Singapore, and Vietnam since 2017. There is evidence to believe - especially in the case of electronics products (but not necessarily limited to them), that Chinese imports have been diverted and are entering India through these three countries, after there was increased focus on the rising trade deficit with China (see Francis and Kallummal 2019b). While Hong Kong, China and Singapore had traditionally played the

entrepot trade roles, their shares in India's imports had declined in the immediate post-PTA period (2011-16) after the AIFTA came into force. This was a reversal and increase in shares since 2017.

Table 3. India's top twenty merchandise imports, 2002-2019

(Period average percentage share in India's total imports; sectors arranged based on their ranks in 2019)

SN.	Chapter	2002-08	2009-10	2011-16	2017	2018	2019	2017 Rank
1	Mineral fuels, mineral oils and their products	33.4	32.1	34.5	28.0	33.4	32.0	1
2	Gems and jewellery	15.2	18.2	15.9	16.9	12.9	12.4	2
3	Electrical machinery and equipment and their parts	7.8	8.3	7.8	10.6	10.2	10.6	3
4	Non-electrical machinery & mechanical appliances and their parts	9.3	8.7	8.0	8.2	8.6	9.4	4
5	Organic chemicals	3.5	3.4	3.8	4.1	4.5	4.3	5
6	Plastics and their products	1.6	2.1	2.5	3.0	3.0	3.1	6
7	Iron and steel	3.0	3.2	2.7	2.3	2.3	2.5	8
8	Animal or vegetable fats and oils, and waxes and their cleavage products; prepared edible fats	2.0	1.9	2.4	2.7	2.1	2.1	7
9	Optical, medical and other professional apparatus and their parts	1.9	1.7	1.7	1.9	1.9	2.0	9
10	Fertilisers	1.5	2.1	1.6	1.0	1.1	1.5	16
11	Inorganic chemicals; organic or inorganic compounds of precious metals, etc.	1.6	1.2	1.2	1.3	1.4	1.4	11
12	Miscellaneous chemical products	0.8	0.9	1.0	1.2	1.2	1.2	13
13	Vehicles and their parts and accessories	0.8	1.1	1.2	1.2	1.2	1.1	12
14	Copper and its products	0.5	0.4	0.7	1.0	1.0	1.1	15
15	Articles of iron or steel	1.0	1.0	0.9	0.9	1.0	1.1	20
16	Aluminium and its products	0.5	0.6	0.8	0.9	1.1	1.0	18
17	Ships, boats and floating structures	1.4	1.1	1.2	1.0	1.1	0.9	14
18	Aircraft, spacecraft, and their parts	1.9	1.5	0.6	0.9	0.3	0.7	17
19	Rubber and their products	0.6	0.7	0.8	0.7	0.7	0.7	22
20	Edible fruit and nuts; peel of citrus fruit or melons	0.5	0.4	0.6	0.8	0.7	0.6	21
21	Paper and paperboard, and their products	0.7	0.5	0.6	0.7	0.6	0.6	23
22	Ores, slag and ash	1.4	1.5	1.5	1.3	1.2	0.6	10
23	India's global imports (Billion USD)	152	301	426	440	615	477	-

Source: Author's calculation based on WITS UN Comtrade data

Table 4. Country-wise origin of India's merchandise imports, 2002-19

(Period average percentage share in India's global imports)

SN.	Country	2002-08	2009-10	2011-16	2017	2018	2019	Rank in 2017
1	China	7.3	11.6	13.3	16.2	14.6	14.3	1
2	United States	6.4	5.7	5.0	5.4	6.3	7.3	2
3	United Arab Emirates	3.8	8.1	6.5	5.2	5.2	6.3	3
4	Saudi Arabia	3.6	5.6	6.4	4.7	5.6	5.6	4

SN.	Country	2002-08	2009-10	2011-16	2017	2018	2019	Rank in 2017
5	Iraq	1.1	2.1	3.5	3.4	4.6	4.6	8
6	Switzerland	4.4	5.1	5.4	4.6	3.5	3.7	5
7	Hong Kong, China	1.5	2.1	1.8	2.5	3.0	3.6	12
8	Korea, Rep.	2.8	3.0	3.0	3.6	3.2	3.4	7
9	Indonesia	2.2	2.8	3.2	3.7	3.2	3.3	6
10	Singapore	2.6	2.2	1.7	1.6	2.7	3.1	19
11	Japan	2.8	2.4	2.4	2.4	2.5	2.7	13
12	Germany	3.7	3.7	3.0	2.9	2.7	2.6	10
13	Nigeria	1.4	2.5	2.8	1.9	2.2	2.2	16
14	Australia	3.2	4.0	2.5	3.2	2.8	2.2	9
15	Malaysia	2.3	1.8	2.2	2.0	2.1	2.2	14
16	Qatar	0.7	1.7	2.8	1.8	2.1	2.0	17
17	Belgium	3.7	2.1	2.2	1.3	1.8	2.0	23
18	Kuwait	1.4	2.7	2.8	1.4	1.6	1.9	22
19	Vietnam	0.1	0.2	0.6	0.9	1.4	1.6	30
20	Thailand	0.8	1.1	1.3	1.5	1.5	1.5	21
21	United Kingdom	3.0	1.5	1.3	1.0	1.4	1.4	29
22	South Africa	2.1	1.9	1.6	1.6	1.3	1.4	20
23	Russian Federation	1.2	1.2	1.0	1.8	1.4	1.3	18
24	Venezuela	0.3	1.1	2.2	1.3	1.4	1.2	24
25	Mexico	0.2	0.3	0.7	0.8	1.0	1.0	33
26	Italy	1.3	1.3	1.0	1.0	1.0	1.0	28
27	Other Asia, nes	1.0	1.0	0.9	0.8	0.9	0.9	32
28	Canada	0.8	0.7	0.7	1.1	0.7	0.8	27
29	France	1.6	1.4	0.8	1.1	0.7	0.8	26
30	Angola	0.1	1.3	1.2	0.9	0.9	0.8	31
31	Iran, Islamic Rep.	1.9	3.6	2.3	2.5	2.9	0.7	11
32	Brazil	0.5	1.0	1.0	1.1	0.9	0.6	25
33	Brunei	0.0	0.1	0.2	0.1	0.1	0.1	67
34	Philippines	0.1	0.1	0.1	0.2	0.1	0.1	59
35	Myanmar	0.4	0.4	0.3	0.2	0.1	0.1	57
36	Lao PDR	0.00	0.00	0.03	0.06	0.00	0.00	86
37	Cambodia	0.001	0.002	0.006	0.011	0.010	0.010	123
38	Iran, Islamic Rep.	1.9	3.6	2.3	2.5	2.9	0.7	11
39	Brazil	0.5	1.0	1.0	1.1	0.9	0.6	25
40	India's global imports (Billion USD)	154.6	308.2	437.4	444.1	617.9	478.9	

Note: The table represents countries which accounted for at least a one per cent share in India's manufactured exports during any of the phases and all the ASEAN-10 members.

Source: Author's calculation based on WITS UN Comtrade data

It is also clear that among the major PTA partners, while Japan's relative significance as India's import supplier decreased until 2017, it has shown an increase in 2018 and 2019. South Korea's share within India's global imports increased until 2017 and has shown variations after that. Among ASEAN partners, the share of India's non-oil manufactured imports originating from Vietnam has increased the fastest, followed by Thailand and Indonesia, while Singapore and Malaysia's import shares showed some decline. However, as mentioned above, Singapore's market share has begun growing after 2017. There are bound to be industry-wide differences in these countries' importance as India's import suppliers; we will examine this in detail in the later sections.

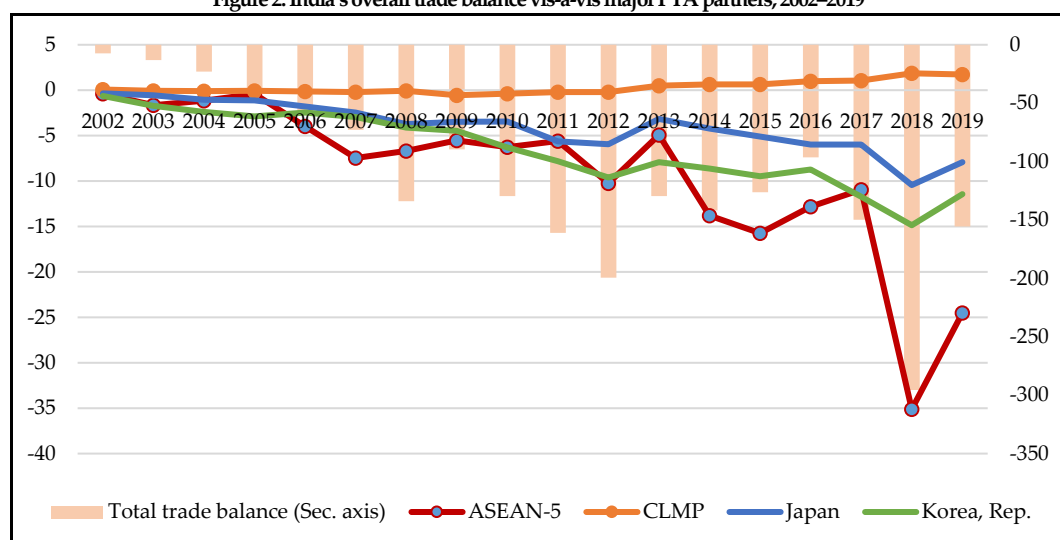
III.3 India's Global Export Competitiveness and vis-à-vis PTA Partners

An analysis of India's global market performance in her top ten manufactured export sectors has revealed that only four sectors, namely, organic chemicals, pharmaceuticals, vehicles and parts and non-electrical machinery registered some increase in global export shares (Francis and Kallummal, Forthcoming). All others among India's top ten export sectors had seen drop in their global export shares in the recent years, reflecting the inability of Indian firms to compete in her major markets. The four sectors which saw some increase in global export shares were precisely the ones wherein specific industrial policy measures until the early 2000s helped to build and maintain the base for a wide spectrum of capabilities in engineering, pharmaceuticals, and vehicles and parts (*ibid*). But even in these four sectors (organic chemicals, pharmaceuticals, vehicles and parts and non-electrical machinery), India's global export shares in 2018 remained very low, at 4%, 2.6%, 1% and 0.8%, respectively. Further, country-wise growth rates for India's manufactured exports discussed earlier also clearly established that there was a distinct decline in the growth in India's exports to the developed countries. It was the share of exports going to low income markets that recorded increase.

It is also revealing that while only 20 out of the 64 HS chapters representing manufacturing sector had recorded trade deficits during 1996-2001, as many as 52 sectors registered trade deficits during 2015-18.

When we examine India's overall competitive performance vis-a-vis her major partners in her PTAs with ASEAN, South Korea and Japan, it is clear that subsequent to the mutual MFN-plus tariff liberalisation, total trade with all these economies indeed witnessed significant growth. However, as observed in Figure 2, India's trade deficit with respect to these PTA partners also grew, particularly after 2013 (except 2016-17), and sharply in 2018. There was a reduction in the trade deficits with these countries (particularly ASEAN-5 and South Korea) in 2019, following the drop in imports due to India's stagnant exports in that year.

Figure 2. India's overall trade balance vis-à-vis major PTA partners, 2002–2019



Note: Indonesia, Malaysia, Singapore, Thailand and Vietnam constitute ASEAN-5, and CLMP stands for Cambodia, Laos, Myanmar and the Philippines.

Source: Author's calculation based on WITS UN Comtrade data

It is therefore important to look at how India's trade balance to total trade ratios with respect these PTA partners performed over the last two decades during the pre- and post-PTA phases. As seen in Table 5, except for the least developed countries (LDCs - Cambodia, Laos, Myanmar) and the Philippines, the ratio of India's trade balance to total trade has deteriorated drastically for every major ASEAN member country (including for the fourth ASEAN LDC - Vietnam, from 2018), as well as for ASEAN-10 as a group. This is true whether we consider the pre- and post-PTA performance in terms of single years 2009 and 2018, or during the phases 2002–08 and 2017–18. The ratio of trade balance to total trade deteriorated for India's trade with South Korea and Japan as well. It is critical to note that despite some improvement observed in the trade balance to total trade ratios for all these PTA partners for 2019, India's trade with them continued to remain highly adverse.

Indeed, this analysis clearly establishes that ASEAN, South Korea and Japan have achieved greater overall market penetration in India than what India could achieve in their markets. The increasing trade deficit to total trade ratio clearly reflects the fact that India's capacity to compete against these FTA partners in her domestic market too had declined over the last decade after these PTAs came into force.

Against this backdrop, the next three sections carry out in-depth analyses of the industry-wise impact of India's tariff liberalisation commitments in her PTAs with ASEAN, South Korea and Japan.

Table 5. India's pre- and post-PTA trade balance/total trade ratios vis-a-vis major partners, 2002–2019

Country	Trade balance/Total trade (%)				
	2002-08	2016-18	2009	2018	2019
Brunei	-79.7	-83.1	-90.2	-79.8	-82.2
Cambodia	92.5	46.0	83.5	49.8	62.8
Indonesia	-37.2	-60.9	-43.4	-60.8	-55.0
Malaysia	-44.3	-30.3	-17.2	-32.6	-24.8
Myanmar	-63.8	19.3	-70.0	41.8	30.8
Philippines	48.8	42.4	34.1	39.5	49.2
Singapore	5.5	-2.4	5.3	-23.5	-16.2
Thailand	-4.5	-31.9	-23.7	-36.5	-23.8
Vietnam	72.3	13.3	61.1	-12.6	-14.9
Lao PDR	87.4	-67.6	98.6	34.9	83.6
ASEAN-5	-16.0	-29.6	-17.4	-36.8	-27.7
CLMP	16.2	13.6	12.9	-6.1	43.5
ASEAN -10	-13.6	-21.9	-14.5	-31.5	-25.0
South Korea	-41.2	-58.3	-37.1	-60.7	-55.2
Japan	-24.2	-46.2	-35.1	-52.4	-45.2
Total	-19.1	-23.6	-20.2	-31.4	-16.6

Note: Indonesia, Malaysia, Singapore, Thailand and Vietnam constitute ASEAN-5, and CLMP stands for Cambodia, Laos, Myanmar and the Philippines.

Source: Based on Francis and Kallummal (2019)

IV. The ASEAN-India FTA

As known, India's PTA with the ASEAN-10 countries came into force in January 2010. The Agreement on Trade in Goods under the Framework Agreement on Comprehensive Economic Cooperation between the Republic of India and the Association of Southeast Asian Nations (signed in October 2003) set up the ASEAN-India Free Trade Area (hereafter, AIFTA). It provided for a phased reduction of import duties on Indian and ASEAN member countries' agricultural and non-agricultural goods between January 2010 and January 2016. These duties came down from their respective 2007 applied MFN tariff levels for each partner – the base rate.

There were two tariff reduction phases or tracks - Normal Track-1 (NT-1) and Normal Track-2 (NT-2) products. India, Indonesia, Malaysia, Singapore, Thailand and Brunei Darussalam (ASEAN-5) had agreed to eliminate tariffs on a reciprocal basis by December 2013 for products listed under Normal Track-1 (NT-1) and by December 2016 for Normal Track-2 (NT-2) products. For the new members too - Cambodia, Laos, Myanmar and Vietnam (the CLMV countries), India agreed to the same timeline for reduction of bilateral duties – that is, 2013 for NT-1 products and 2016 for NT-2 products. However, these four countries were allowed a longer phaseout period. Thus the CLMV partners made NT-1 products duty free by December 2018, while they will eliminate tariffs

on NT-2 products only by December 2021. On the other hand, the deadlines for reciprocal duty elimination for India and the Philippines were 2018 and 2019 respectively.

It is relevant to discuss how India's trade with ASEAN member countries had occurred prior to the shift in India's trade policy strategy towards PTAs. While in the mid-1990s, Singapore followed by Indonesia were the most important markets for India within ASEAN, Malaysia and Thailand had also become more important later on. However, as shown in Francis (2011), the Early Harvest Program (EHP) of the India-Thai FTA that came into force in 2004 had a major impact in changing the composition of bilateral trade between India and Thailand. In fact, India's continuous trade surplus vis-à-vis Thailand during 1995–2004 turned into a trade deficit in 2005, due to the higher growth in Thailand's exports to India. On the other hand, it was seen that by 2004, Singapore's shares in Indian exports increased much faster and following the signing of the CECA with that country in 2005, this increased to nearly 5% in 2008 (Francis 2011).⁵

Meanwhile, India's total imports from ASEAN had already shown a steady rise since the late 1990s. Singapore followed by Malaysia were the most important sources within ASEAN in the mid-1990s. But, by 2002, Indonesia too had become equally important, followed by Thailand.

However, neither the Philippines nor four of the newer ASEAN members other than Vietnam (Cambodia, Laos, Myanmar and Brunei Darussalam) have accounted for even a one per cent share in India's exports or imports until now. Therefore, we focus the rest of the detailed analysis in this paper to the following five ASEAN countries namely, Singapore, Malaysia, Indonesia, Thailand and Vietnam. These are also the economies that are more integrated with regional and global value chains than the former five.

Given our focus on import penetration into India by the ASEAN partners, the analytical focus is on the tariff liberalisation offered by India, which followed the same timeline for all these five countries. In the following analysis, therefore, we consider 2002–08 period as the pre-FTA phase and three periods 2011–13, 2014–16 and 2017–18 as the post-FTA phases. This would enable us to capture the trends related to both NT-1 and NT-2 products.

Overall, by 2017–18, Indonesia had emerged as India's largest ASEAN import supplier overtaking Singapore, which has played the role of an entrepot and regional headquarter since some decades. However, it is Vietnam that has registered the largest increase in share as a source of India's global imports, with Indonesia and Thailand registering the second largest increase. The jump in Vietnam's as well as Singapore's market shares since 2018 can be linked to the diversion of Chinese exports through these

⁵ See 'Impact of China and India's Emergence on Developing Asia: A case study of Thailand' in IDEAs Report (2009), *opcit.*

countries for capital and consumer goods, followed by intermediate goods (see Francis and Kallummal 2019b).

But a disaggregation of India's imports from the AIFTA members based on the Stage of Processing (SoP) (Table 6) clearly reveals that Singapore has remained the largest supplier of capital goods in the pre- and post-PTA phases. However, its share in India's total capital goods imports had dropped significantly between 2002-08 and 2017-18, before increasing to the pre-FTA level in 2019. Meanwhile, Vietnam and Thailand increased their shares in capital goods imports, with Vietnam's share jumping further in 2019. Surprisingly, while Singapore was India's lead ASEAN supplier for consumer goods, its share dropped in this category too between 2002-08 and 2017-18, and Indonesia emerged as a top supplier of consumer goods imports in 2017-18, followed by Malaysia. Again, Singapore's share increased in 2019; however, the ranks changed, with Malaysia emerging as the top supplier of consumer goods, followed by Singapore and Indonesia. In the case of intermediate imports, the share of India's imports supplied by them has increased most rapidly and consistently for Vietnam, followed by Thailand and Singapore. Once again, it was Indonesia which dominated during 2017-18, followed by Malaysia and Singapore with equal shares. But with a sharper rise in 2019, Singapore became the second largest import supplier for intermediate goods after Indonesia. Thailand and Vietnam followed, with Vietnam's share increasing rapidly after 2016. Indonesia was also the clear leader as supplier of raw material imports to India, followed (at a distance) by Malaysia.

Table 6. Major ASEAN countries' share in India's total imports based on stage of processing, 2002-2019
(Percentage share in India's global imports)

<i>Stage of processing</i>	<i>2002-08</i>	<i>2011-13</i>	<i>2014-16</i>	<i>2017-18</i>	<i>2019</i>
INDONESIA					
Capital goods	0.5	0.7	0.9	0.7	0.8
Consumer goods	2.9	3.2	4.0	3.8	3.0
Intermediate goods	3.8	3.6	3.4	3.8	3.5
Raw materials	1.9	3.6	5.0	4.7	4.4
India's total imports from Indonesia	2.3	3.1	3.5	3.4	3.2
MALAYSIA					
Capital goods	2.8	2.5	2.1	1.8	1.7
Consumer goods	3.4	3.4	3.2	3.0	3.5
Intermediate goods	2.4	2.4	3.2	2.5	2.6
Raw materials	1.9	1.5	1.9	1.5	1.5
India's total imports from Malaysia	2.4	2.1	2.5	2.1	2.1
SINGAPORE					
Capital goods	6.4	4	3.6	4.3	6.0
Consumer goods	6.1	4.4	2.4	2.5	3.3
Intermediate goods	1.9	1.7	2.2	2.5	2.9
Raw materials	0.2	0.1	0.3	0.5	0.8
India's total imports from Singapore	2.6	1.7	1.8	2.2	2.9

<i>Stage of processing</i>	<i>2002-08</i>	<i>2011-13</i>	<i>2014-16</i>	<i>2017-18</i>	<i>2019</i>
THAILAND					
Capital goods	1.3	2.4	2.8	2.5	2.3
Consumer goods	1.5	1.9	2.1	2.1	2.0
Intermediate goods	1.1	1.4	1.6	2.0	2.2
Raw materials	0.2	0.3	0.3	0.2	0.2
India's total imports from Thailand	0.8	1.1	1.4	1.5	1.5
VIETNAM					
Capital goods	0.0	1.4	1.7	2.4	3.3
Consumer goods	0.3	0.5	1.1	1.7	2.2
Intermediate goods	0.0	0.3	0.5	1.1	1.2
Raw materials	0.1	0.2	0.3	0.3	0.3
India's total imports from Vietnam	0.1	0.4	0.7	1.2	1.5

Source: Author's calculation based on WITS UN Comtrade data

The jump in Vietnam's as well as Singapore's market shares since 2018 can be linked to the diversion of Chinese exports through these countries for capital and consumer goods, followed by intermediate goods (Francis and Kallummal 2019). This happened in the aftermath of growing pressure on China from the US regarding their burgeoning bilateral trade deficit.

In the following discussion, we examine to what extent these changed trends were influenced by the tariff reduction commitments undertaken by India under its FTA with ASEAN, with a special focus on the various manufacturing sectors.

IV.1 Nature of India's Tariff Reduction Commitments

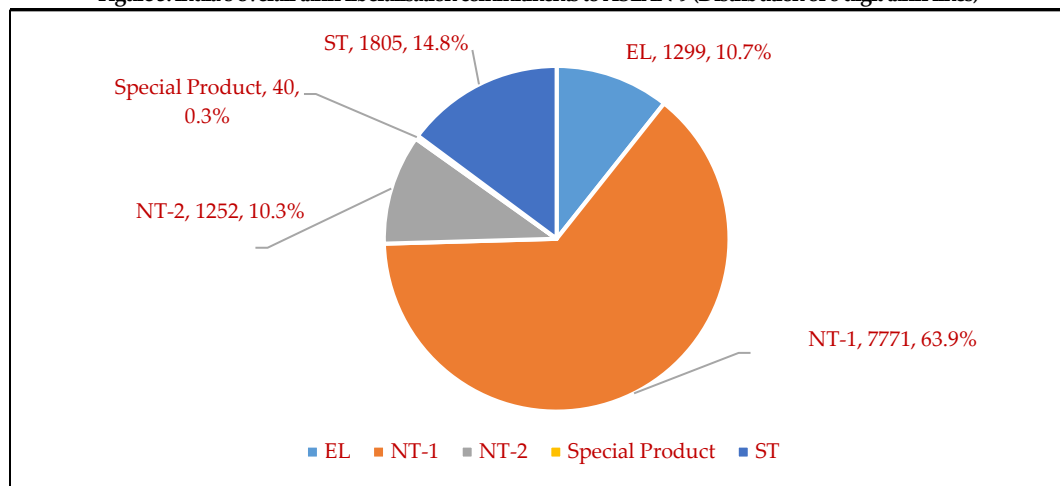
Under the AIFTA, India eliminated tariffs for over 74% of its agriculture, marine and manufactured goods by 2016. Nearly 64% of India's total tariff lines fell under Normal Track-1, for which tariffs reduced to zero by 2013 itself (Figure 4). In the case of manufactured products, India eliminated tariffs on a higher share of products (67%) under NT-1. Another 10% tariff lines fell under Normal Track-2, for which tariffs reduced to zero by 2016 (Figure 5).

There was an Exclusion List of products for which no tariff reduction commitments were made. The products kept under the Exclusion List constituted more than 10% of India's total tariff lines. However, within the manufacturing sector, only about 6% were excluded. The remaining products were split into a list of Special Products and Sensitive Track. Special Products constituted just 0.3% of total tariff lines and all of them were agricultural products.⁶ It is clear that India undertook far greater liberalisation of its

⁶ For Special Products, tariffs were reduced at a much lower pace than the Normal Track and Sensitive Track. India's special Products are: crude palm oil (CPO; Applied MFN - 80%); refined

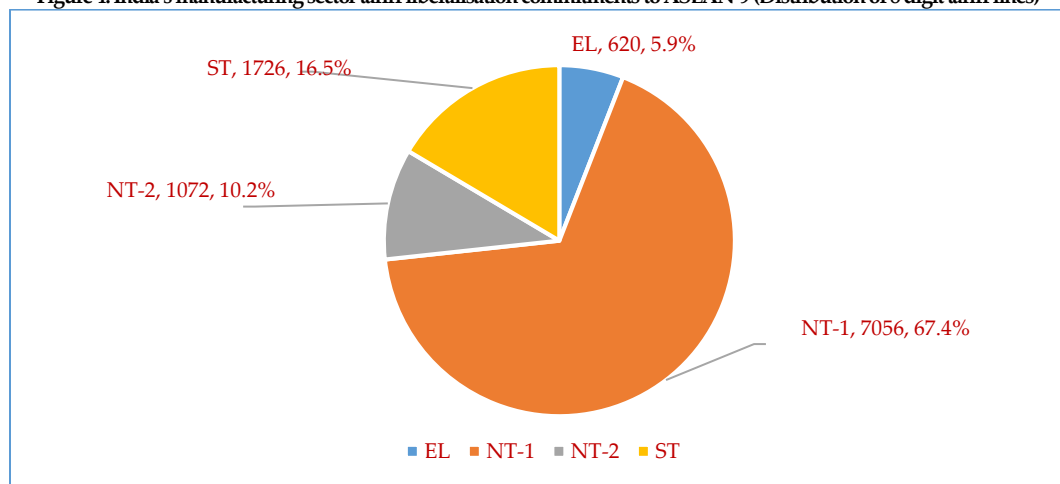
manufacturing sector under AIFTA, as compared to the agricultural sector. This is also evident from an analysis of the products in the Sensitive Track, in which India had kept about 15% of its total tariff lines.

Figure 3. India's overall tariff liberalisation commitments to ASEAN-9 (Distribution of 8 digit tariff lines)



Source: Author's calculations based on the India-ASEAN FTA

Figure 4. India's manufacturing sector tariff liberalisation commitments to ASEAN-9 (Distribution of 8 digit tariff lines)



Source: Author's calculations based on the India-ASEAN FTA

Under the Sensitive Track (ST), the country had to bring down tariffs on products with applied MFN tariffs above 5% to 5% by 2016. Applied MFN tariffs could be maintained at 5% for only 50 tariff lines. Out of 1805 Sensitive Track (ST) products, as many as 1726 lines belonged to the manufacturing sector (Figure 5). When compared to all

palm oil (RPO; 90%), coffee (100%), black tea (100%); and pepper (70%). India's Exclusion List also consists of some agricultural products, namely, coconut, cotton, milk/dairy products, wheat, paddy/rice, sugarcane, apples, etc. See Francis (2011).

products, this represented a higher proportion of manufactured products in the ST list. In the entire Sensitive Track list, all except 'residue of food and animal fodder' had their 2007 applied MFN tariffs above 5%. Apart from product lines under the automobiles sector with the highest average 2007 applied tariff of 32.5%, there were several other manufactured sectors including organic chemicals, plastic products, rubber products, machinery and electrical machinery, textiles, footwear & parts, etc., whose 2007 applied MFN rates ranged from 7% to 25%. All these tariffs were also brought down to 5% by 2016. Many of these were further brought down to zero by 2019 as tariffs on only 50 lines could be maintained at 5% under AIFTA. This implied quite significant tariff reduction across a wide range of manufactured products even in the so-called Sensitive Track.

India's tariff reductions in the manufacturing sector based on MTN's broad product categories are presented in Table 7. It is evident that minerals and metals followed by manufactures, n.e.s. and wood, paper, etc. underwent the highest tariff elimination by 2013. The other broad product categories in India that faced significantly increased import competition from ASEAN countries by 2013 were non-electrical machinery, chemicals and electrical machinery.

However, petroleum was the most heavily protected (94%), followed by transport equipment (37%) and clothing (22%) categories. But unlike petroleum, non-significant shares of transport equipment (53%) and clothing (46%) categories also were put under Normal Track-1, for which the tariffs dropped to zero by 2013. In the case of clothing, tariffs on an additional 19% lines became zero by 2016.

Table 7. India's tariff reduction in major manufacturing sectors
(Distribution of 8 digit tariff lines within each MTN manufactured product category)

<i>MTN broad category</i>	<i>Exclusion list</i>	<i>Normal Track-1 (NT-1)</i>	<i>Normal Track-2 (NT-2)</i>	<i>Sensitive Track</i>	<i>Total</i>
Chemicals	5.1	67.9	4.0	23.0	2493
Clothing	21.5	45.8	19.0	13.8	400
Electrical machinery	3.0	66.4	18.9	11.7	694
Leather, footwear, etc.	4.2	38.2	5.2	52.4	330
Manufactures, n.e.s.	3.2	90.5	4.7	1.6	619
Minerals & metals	2.0	91.5	2.2	4.3	1921
Non-electrical machinery	2.6	79.3	13.3	4.8	1363
Petroleum	94.4	0.0	0.0	5.6	18
Textiles	8.7	34.1	23.5	33.8	1895
Transport equipment	36.8	53.2	2.8	7.2	250
Wood, paper, etc	1.0	84.7	9.0	5.3	491
Manufacturing sector total	5.9	67.4	10.2	16.5	10474

Source: Author's calculations based on the India-ASEAN FTA

We now examine the extent of India's tariff reductions under Normal Track-1 and Normal Track-2 on the basis of their margin of preference (the difference between the base rate and the AFTA rate; that is, MoP) at a more disaggregated level using HS 2 digit classification. We first consider the sectors that were significant in two-way trade between India and individual ASEAN-5 countries.

Table 8. India's tariff reduction in major sectors involved in two-way trade with ASEAN

Sector	NT-1 products			NT-2 products		
	Avg. 2007 MFN rate	Avg. prefer. tariff in 2010	Avg. prefer. tariff in 2013	Avg. 2007 MFN rate	Avg. prefer. tariff in 2010	Avg. prefer. tariff in 2013
Mineral fuels, oils, distillation products, etc.	8.5	6.4	0	-	-	-
Organic chemicals	7.1	4.9	0	7.5	5.0	2.0
Miscellaneous chemical products	8.8	6.3	0	10.0	7.5	3.0
Plastics and articles thereof	7.5	5.0	0	8.5	6.2	2.5
Rubber and articles thereof	9.4	7.1	0	10.0	7.5	3.0
Gems and jewellery	9.2	6.9	0	-	-	-
Iron and steel	10.0	7.5	0	-	-	-
Articles of iron or steel	10.0	7.5	0	-	-	-
Copper and articles thereof	6.5	5.0	0	7.5	5.8	2.5
Non-electrical machinery and parts	7.0	4.8	0	7.5	5.0	2.0
Electrical, electronic equipment and parts	6.1	4.4	0	9.2	6.7	2.7
Vehicles other than railway, tramway and parts	17.0	9.1	0	10.0	7.5	3.0
Optical, medial & other professional apparatus and parts	7.3	5.1	0	8.0	5.5	2.2

Note: The blank cells denote that there were no products listed under that category (NT-2) in those particular sectors.

Source: Based on Francis (2011; Table 10)

It is evident from Table 8 that India's tariff reductions under Normal Track-1 were the most significant in the case of automobiles. From an average MFN rate of 17% in 2007, NT-1 tariffs dropped significantly by 2010 and subsequently to zero by 2013, and NT-2 tariffs also dropped significantly by 2013 (and became zero by 2016). The other sectors with significant tariff reduction included: iron and steel; articles of iron and steel; electrical machinery; non-electrical machinery; optical, photo, medical etc. apparatus; rubber & articles; miscellaneous chemical products; organic chemicals; plastics & articles; copper & articles; etc.

Table 9 considers the manufactured sectors under Normal Track-1, in which India's imports from any of the ASEAN-5 countries contributed to at least a 5 per cent share in India's total imports in those sectors in 2007. It was observed that man-made staple

fibres, furniture, lighting and prefabricated buildings; musical instruments and parts; rubber and rubber products; wood and wood products were the sectors with the highest average MFN applied tariff rates in 2007 (10%). While the immediate drop in tariffs with the entry into force of AIFTA in January 2010 was not very drastic, all these tariffs had become zero by 2013. As revealed in Table 11, there were an additional set of products within these sectors that came under NT-2 (except for musical instruments and parts), for which average tariffs dropped from 10% (in 2007) to 3% by 2013 and to zero by 2016.

Table 9. India's tariff reduction in major manufacturing sectors under Normal Track-1*

<i>Manufacturing sector</i>	<i>2007 Aver. MFN (%)</i>	<i>Average prefer. tariff in 2010 (%)</i>	<i>Average pref. tariff in 2013 (%)</i>
Ores, slag and ash	3.3	2.8	0.0
Rubber and articles thereof	9.4	7.1	0.0
Wood and articles of wood, wood charcoal	9.0	6.8	0.0
Pulp of wood, fibrous cellulose material, waste etc.	5.5	4.4	0.0
Printed books, newspapers, pictures etc	4.7	3.5	0.0
Manmade staple fibres	10.0	7.5	0.0
Tin and articles thereof	6.0	4.7	0.0
Musical instruments, parts and accessories	10.0	7.5	0.0
Furniture, lighting, signs, prefabricated buildings	10.0	7.5	0.0
Average for the above nine sectors	7.5	5.7	0.0

Source: Francis (2011; Table 8)

Additionally, as Table 10, sectors such as: pulp of wood, fibrous cellulose material, etc; tin & articles thereof; printed books, newspapers, etc., followed by ores, slag & ash also faced zero duty imports from ASEAN by 2013.

Table 10. India's tariff reduction in major manufacturing sectors under Normal Track-2*

<i>HS Chapter Description</i>	<i>2007 Aver. MFN rate (%)</i>	<i>Average Preferential tariff in 2010 (%)</i>	<i>Average Preferential tariff in 2013 (%)</i>	<i>Average Preferential tariff in 2016 (%)</i>
Rubber and articles thereof	10.0	7.5	3.0	0.0
Wood and articles of wood, wood charcoal	10.0	7.5	3.0	0.0
Pulp of wood, fibrous cellulose material, waste etc	10.0	7.5	3.0	0.0
Manmade staple fibres	10.0	7.5	3.0	0.0
Furniture, lighting, signs, prefabricated buildings	10.0	7.5	3.0	0.0
Average for the above five sectors	10.0	7.5	3.0	0.0

Source: Based on Francis (2011; Table 9)

Juxtaposing the share of tariff lines in a sector falling under NT-1 and NT-2 with their respective margins of preference, it is evident that several manufacturing segments came under zero duty from ASEAN partners by 2016, if not 2013 itself.

It is pertinent to briefly examine the scope for India's market access scenario in the major ASEAN countries. Compared with India, the base rates for Normal Track-1 products were already relatively low in Malaysia and Indonesia. As a result, although Malaysia had kept 65% of its tariff lines under NT-1 compared to Indonesia's 42%, average tariff drops (that is, the margin of preference or MoP for Indian exports) in their NT-1 products by 2013 were quite low for both countries (Francis 2011).

Furthermore, having undertaken the least liberalisation among these ASEAN-5 economies under NT-1 (42%) and NT-2 (5%), Indonesia had included the largest share of its tariff lines (40%) in the Sensitive Track. Thus India was not expected to have major (immediate) benefits in the Malaysian and Indonesian markets in their NT-1 products. The chapters with the highest tariff reductions (or large MoP for India) by Indonesia were: cocoa and its preparations (with 12.8% MFN rate in 2007); cereals and milk products (6.5%); beverages & spirits (6.3%); food preparations of vegetables and fruits (6%); preparations of meat, fish and seafood (5.9% in NT-1 and 7.5% in NT-2 products); sugar and sugar confectionary (5.9%); dairy and edible animal products (5.6%); meat and edible offal (5% in both NT-1 and NT-2), etc. It must be noted that in 2008 India was not a significant exporter to Indonesia in any of these sectors in which Indonesia was to carry out significant tariff reductions by 2013 and 2016 (Francis 2011).⁷

In the case of Malaysia, among major manufactured goods, miscellaneous manufactured articles (spread across NT-1- 10.8% and NT-2 categories- 21.3%), man-made staple fibres (7.4%), man-made filaments (7%), tools and implements of base metals (6.5% and 25% for NT-1 and NT-2) , rubber & its articles (6.4% and 20.9% for NT-1 and NT-2 products), and paper & paperboard (6.1% and 20%) were the sectors which offered high margins of preference to India (Francis 2011). Thus any preferential market access gains made by India in Malaysia in these sectors (if any) would have been apparent in the post-2016 years. Based on MoP, India was also expected to benefit significantly from the increase in market access for cotton, rubber & rubber articles as well as manmade filaments, given that these are already among India's exports to Malaysia.

Thailand, on the other hand, despite having a large share of its tariff lines (about 67% compared to India's 64%) in Normal Track-1, had included nearly 13% of its lines in the Exclusion List. However, in Thailand's case, the average drop in tariffs for NT-1 products by 2013 was 6.5 percentage points. This offered a significant margin of preference to India. In particular, automobiles was an important sector of Indian exports to Thailand, which was expected to gain from the significant tariff reductions under AIFTA.

When it comes to NT-2 products, Malaysia and Thailand had significantly higher 2007 MFN tariffs than India. Therefore, the margin of preference obtained by India in Malaysia and Thailand both in 2010 (15.8% and 14% respectively) and by 2013 were

⁷ See Tables 12 and 13 in Francis (2011).

significantly high (see Francis 2011) and this was expected to offer some potential market access benefits to India.

Vietnam too had a large Exclusion List with 19% of its total tariff lines in that category. Moreover, while 60% of its total tariff lines were under NT-1, Vietnam had only about 9% tariff lines under NT-2 (see Dhar 2018; p. 10, Table 7). In the case of Vietnam, while the share of tariff lines with base rates less than 10% was comparable to that of India (34.4% and 35.9% respectively), Vietnam (along with Malaysia) had a much larger share of its total tariff lines (28%) with base rates ranging between 11-50% when compared to India (11%) (see Dhar 2018; p. 11, Table 9). That is, even though the total share of Vietnam's tariff lines becoming duty free by 2016 was only 69% (compared to India's 74%), the margin of preference that Indian exports would gain from liberalisation by Vietnam was significant. Interestingly, Vietnam did not give any tariff information on about 17% of its total tariff lines in its AIFTA schedule, which reflects some degree of protection maintained in those lines.

Overall, India had reduced its level of protection across the manufacturing sector substantially more than its partners under the AIFTA. Apart from sectors consisting largely of agriculture and food products, the largest tariff reductions under AIFTA for Indonesia, Malaysia and Thailand occurred in a range of light manufacturing products, in which they were already leading exporters.

IV.2 Impact on India's Manufactured Imports

Given our focus on the impact of India's tariff liberalisation, we now analyse the pattern and structure of India's major manufactured imports from Indonesia, Malaysia, Singapore, Thailand and Vietnam.

In the pre-FTA phase, agricultural products and manufactured products (52% being the latter's average share during 2002-08; see Table 11) constituted roughly equal shares in India's imports from Indonesia at the aggregate level. But post-AIFTA, even as India's total imports from Indonesia posted a decline after 2012, the share of manufactured products in her imports began rising gradually, with a dramatic jump from 2013 onwards. During 2017-18, manufactured products comprised an average 81% of India's imports from Indonesia. In 2019, in tandem with India's global imports, there was a drop in imports from Indonesia too (in fact, this was the case with imports from all the East and Southeast Asian countries too). With a significant increase in agricultural imports, the share of manufactured imports dropped to about 79% in 2019.

Table 11 clearly reveals that it is petroleum imports that dominated India's imports from Indonesia during pre- and post-FTA phases. Raw materials in the petroleum group has been the single largest import group from Indonesia. The share of electrical machinery and non-electrical machinery followed by chemicals also went up in the post-FTA phases. Within electrical machinery, it is capital goods, followed by consumer goods that increased

in share. Within non-electrical machinery and manufactures n.e.s. too, the share of capital goods increased, while it was the share of intermediates that increased for chemicals.

Table 11. India's non-agricultural manufactured imports from Indonesia based on MTN product categories, 2002-2019

(MTN categories ranked in the order of their average share in total imports from Indonesia during 2017-18)

<i>Broad MTN product category</i>	<i>2002-08</i>	<i>2011-13</i>	<i>2014-16</i>	<i>2017-18</i>	<i>2019</i>
Petroleum	27.5	27.9	21.0	22.6	46.0
Consumer goods	0.7	1.0	1.8	1.9	0.3
Raw materials	26.8	26.9	19.2	20.7	45.7
Minerals & metals	6.0	7.7	12.8	18.1	12.5
Capital goods	0.02	0.01	0.02	0.05	0.0
Consumer goods	0.6	0.5	0.9	1.9	0.4
Intermediate goods	2.9	4.7	9.6	13.4	9.0
Raw materials	2.5	2.5	2.3	2.7	3.0
Electrical machinery	1.5	5.6	13.0	14.2	1.1
Capital goods	1.3	3.3	8.1	8.0	0.7
Consumer goods	0.1	2.3	4.9	6.1	0.4
Intermediate goods	0.01	0.02	0.04	0.05	0.0
Raw materials	0.00	0.00	0.00	0.00	0.0
Chemicals	6.4	5.1	8.2	8.9	6.0
Consumer goods	0.4	0.5	1.0	1.0	0.7
Intermediate goods	6.0	4.6	7.3	7.9	5.2
Raw materials	0.01	0.00	0.00	0.00	0
Non-electrical machinery	2.0	3.5	6.6	6.7	1.2
Capital goods	2.0	3.5	6.6	6.7	1.2
Consumer goods	0.00	0.01	0.01	0.00	0.0
Intermediate goods	0.00	0.00	0.00	0.00	0.0
Wood, paper, etc	3.6	4.1	7.6	5.5	3.1
Consumer goods	0.1	0.4	1.1	1.2	0.2
Intermediate goods	3.2	1.7	1.4	1.7	2.9
Raw materials	0.2	2.1	5.2	2.6	0.0
Transport equipment	0.9	1.1	1.2	1.5	6.8
Capital goods	0.8	1.0	0.9	1.2	6.8
Consumer goods	0.01	0.01	0.03	0.04	0.0
Intermediate goods	0.1	0.1	0.2	0.3	0.1
Manufactures, n.e.s.	0.3	0.6	1.3	1.4	0.5
Capital goods	0.2	0.5	1.2	1.2	0.4
Consumer goods	0.1	0.1	0.1	0.2	0.1
Intermediate goods	0.1	0.0	0.1	0.1	0.0
Leather, footwear, etc.	1.4	1.8	1.1	1.3	2.1
Capital goods	0.00	0.01	0.00	0.01	0.0
Consumer goods	0.1	0.2	0.5	0.7	0.3
Intermediate goods	0.4	0.1	0.2	0.3	0.1
Raw materials	0.9	1.4	0.4	0.4	1.7
Textiles	2.7	0.8	0.9	0.8	1.7
Capital goods	0.00	0.00	0.00	0.00	0.0

<i>Broad MTN product category</i>	<i>2002-08</i>	<i>2011-13</i>	<i>2014-16</i>	<i>2017-18</i>	<i>2019</i>
Consumer goods	0.1	0.1	0.4	0.5	0.1
Intermediate goods	2.6	0.6	0.5	0.3	1.5
Raw materials	0.03	0.01	0.03	0.04	0.0
Clothing	0.03	0.02	0.04	0.04	0.1
Consumer goods	0.03	0.02	0.04	0.04	0.1
Intermediate goods	0.00	0.00	0.00	0.00	0.0
Total manufactured imports from Indonesia	51.6	57.0	73.9	81.2	78.6

Source: Author's calculations based on WITS UN Comtrade data

Table 12 presents a more disaggregated composition of India's imports from Indonesia at the HS 2 digit level. When we look at non-petroleum manufactured sectors, the significant rise in the share of electrical machinery imports from Indonesia is very striking. Such imports included capital goods and consumer goods. All the other top ten manufactured imports, namely: non-electrical machinery; copper, aluminium, iron and steel and their products; organic chemicals, plastics, professional equipment and parts, etc. also witnessed significant increase in shares, in addition to wood and wood products. The analysis of India's imports from Indonesia at the HS 6 digit level (see Appendix Table 1) also brings forth the remarkable and rising importance of electrical machinery/electronics imports from that country, followed by metal products, organic chemicals, etc.

Table 12. India's imports from Indonesia at the HS 2 digit level, 2002-2019
(Period average percentage share in India's total imports from Indonesia)

<i>SN.</i>	<i>Chapter description</i>	<i>Chapter</i>	<i>2002-08</i>	<i>2011-13</i>	<i>2014-16</i>	<i>2017-18</i>	<i>2019</i>
1	Mineral fuels, mineral oils and their products	27	22.1	34.4	21.5	23.9	46.0
2	Animal or vegetable fats, oils and waxes and their cleavage products; prepared edible fats	15	40.7	32.0	24.2	16.1	17.3
3	Electrical machinery and equipment and parts thereof	85	1.5	5.6	13.0	14.2	1.1
4	Non-electrical machinery & mechanical appliances; parts thereof	84	2.0	3.4	6.6	6.7	1.2
5	Copper and articles thereof	74	0.1	0.8	3.3	5.8	0.7
6	Aluminium and articles thereof	76	0.1	0.4	2.2	4.4	0.1
7	Organic chemicals	29	2.5	2.6	4.0	4.2	1.4
8	Wood and articles of wood; wood charcoal	44	0.3	2.4	6.0	3.9	0.9
9	Miscellaneous chemical products	38	3.0	1.2	1.9	2.7	2.4
10	Iron and steel	72	1.0	0.8	2.4	2.6	5.2
11	Plastics and articles thereof	39	0.9	0.9	2.1	2.1	0.4
12	Optical, medical and other professional apparatus and their parts	90	0.3	0.5	1.3	1.3	0.4
13	Rubber and articles thereof	40	1.1	1.7	1.1	1.3	1.9
14	Furniture; bedding, and similar stuffed furnishings; lamps and lighting fittings, nes; prefabricated buildings; etc.	94	0.1	0.3	0.9	1.1	0.1
15	Ships, boats and floating structures	89	0.5	0.8	0.8	1.1	6.3
16	Glass and glassware	70	0.4	0.2	0.3	0.9	0.2
17	Articles of iron or steel	73	0.3	0.8	0.8	0.8	0.3

SN.	Chapter description	Chapter	2002-08	2011-13	2014-16	2017-18	2019
18	Inorganic chemicals; organic or inorganic compounds of precious metals, etc.	28	1.4	0.4	0.7	0.7	2.0
19	Tin and articles thereof	80	0.1	0.9	1.0	0.7	1.0
20	Salt; sulphur; earths and stone; plastering materials, lime and cement	25	0.1	0.2	0.4	0.6	0.0
21	Paper and paperboard, and their products	48	0.4	0.4	0.4	0.4	1.4
22	Fertilisers	31	0.4	0.0	0.0	0.0	1.4
23	Man-made staple fibres	55	0.2	0.1	0.1	0.1	1.0
24	Pulp of wood or of other fibrous cellulosic material; recovered (waste and scrap) paper or paperboard	47	1.0	0.3	0.0	0.4	0.7
25	Ores, slag and ash	26	3.5	0.1	0.2	0.2	0.6
26	Pharmaceutical products	30	0.4	0.0	0.0	0.2	0.6
27	India's total imports from Indonesia (Billion USD)		3.3	12.3	9.6	10.6	15.6

Source: Author's calculations based on WITS UN Comtrade data

With a sharp rise in the share of petroleum imports, there were dramatic changes in the relative shares of individual industries in 2019, with significant drops especially in the shares of electrical and non-electrical machinery, etc. At the same time, the import shares of transport equipment (ships, boats and other floating structures), leather and footwear, as well as textiles went up.

In the case of Malaysia, mineral fuels and their products (accounting for as much as a quarter of the total) as well as vegetable or animal fats and oils have consistently been the top ranking imports by India throughout the study period (Table 13). But within manufactures, wood and articles of wood, followed by non-electrical machinery, electrical machinery, miscellaneous chemical products, organic chemicals, iron and steel, plastics and its articles, and inorganic chemicals were the dominant import sectors during 2002-08 (Table 14). Post-AIFTA, the shares of non-electrical machinery, organic chemicals as well as wood and articles of wood saw significant decline. On the other hand, electrical machinery, copper and its products, aluminium and its products saw significant increase in their shares, followed by iron and steel, miscellaneous chemical products, plastics and articles, ships, boats & other floating structures, rubber and its articles, as well as optical and other professional measuring instruments and their parts and accessories. While raw materials dominated within petroleum imports, consumer goods, intermediates/capital goods were dominant in the other product groups. These changes are also captured in Appendix Table 2, analysing India's imports from Malaysia at the HS 6 digit level.

Table 13. India's non-agricultural manufactured imports from Malaysia based on MTN product categories, 2002-2019

(MTN categories ranked in the order of their average share in total imports from Malaysia during 2017-18)

Broad MTN product category	2002-08	2011-13	2014-16	2017-18	2019
Petroleum	19.53	24.98	21.74	23.32	21.10
Consumer goods	1.09	2.59	1.90	1.96	4.31
Raw materials	18.44	22.38	19.84	21.36	16.79
Minerals & metals	11.53	12.16	13.54	19.37	18.68
Capital goods	0.02	0.01	0.02	0.03	0.07

<i>Broad MTN product category</i>	<i>2002-08</i>	<i>2011-13</i>	<i>2014-16</i>	<i>2017-18</i>	<i>2019</i>
Consumer goods	5.75	1.89	0.98	1.99	2.34
Intermediate goods	4.23	8.21	10.19	14.58	13.79
Raw materials	1.53	2.05	2.35	2.78	2.48
Electrical machinery	8.16	9.21	12.06	11.43	7.90
Capital goods	6.25	4.47	6.98	5.05	5.36
Consumer goods	1.87	4.67	5.05	6.32	2.47
Intermediate goods	0.04	0.07	0.04	0.05	0.06
Raw materials	0.00	0.00	0.00	0.00	0.00
Chemicals	11.72	9.88	8.53	9.25	8.76
Consumer goods	0.88	1.01	0.99	1.00	0.84
Intermediate goods	10.82	8.88	7.54	8.25	7.92
Raw materials	0.02	0.00	0.00	0.00	0.00
Wood, paper,etc	12.38	8.26	7.89	5.70	4.25
Capital goods	0.00	0.00	0.00	0.00	0.00
Consumer goods	1.19	0.93	1.14	1.25	1.13
Intermediate goods	0.63	1.06	1.42	1.79	1.55
Raw materials	10.56	6.27	5.33	2.67	1.56
Non-electrical machinery	10.79	6.63	4.60	5.58	7.62
Capital goods	10.77	6.61	4.60	5.58	7.62
Consumer goods	0.02	0.02	0.01	0.00	0.00
Intermediate goods	0.00	0.00	0.00	0.00	0.00
Transport equipment	0.90	1.87	1.13	2.38	2.82
Capital goods	0.78	1.73	0.87	1.99	2.38
Consumer goods	0.00	0.02	0.03	0.05	0.01
Intermediate goods	0.11	0.12	0.23	0.34	0.42
Leather, footwear, etc.	1.08	0.96	1.15	1.38	1.98
Capital goods	0.00	0.01	0.00	0.00	0.01
Consumer goods	0.26	0.36	0.56	0.69	0.82
Intermediate goods	0.14	0.19	0.18	0.29	0.46
Raw materials	0.68	0.40	0.42	0.40	0.70
Manufactures, n.e.s.	0.88	1.03	1.30	1.29	1.58
Capital goods	0.75	0.87	1.07	0.89	1.24
Consumer goods	0.10	0.10	0.08	0.16	0.18
Intermediate goods	0.03	0.07	0.16	0.25	0.17
Textiles	1.92	0.77	0.98	0.87	0.76
Capital goods	0.00	0.00	0.00	0.00	0.00
Consumer goods	0.13	0.24	0.44	0.50	0.34
Intermediate goods	1.73	0.51	0.52	0.33	0.38
Raw materials	0.06	0.01	0.03	0.04	0.05
Clothing	0.08	0.02	0.04	0.04	0.04
Consumer goods	0.07	0.02	0.04	0.04	0.04
Intermediate goods	0.00	0.00	0.00	0.00	0.00
Total manufactured imports from Malaysia	79.0	75.8	73.0	80.6	75.5

Source: Author's calculations based on WITS UN Comtrade data

Table 14. India's imports from Malaysia at the HS 2 digit level, 2002-2019
(Period average percentage share in total imports from Malaysia)

SN.	Chapter	Chapter description	2002-08	2011-13	2014-16	2017-18	2019
1	27	Mineral fuels, mineral oils and their products	24.9	26.3	22.4	24.7	22.2
2	15	Animal or vegetable fats and oils, and waxes and their cleavage products; prepared edible fats	18.2	21.9	25.0	16.6	22.2
3	85	Electrical machinery and equipment and parts thereof	8.2	9.2	12.1	11.4	7.9
4	74	Copper and articles thereof	1.2	1.9	3.5	6.0	5.9
5	84	Non-electrical machinery & mechanical appliances; parts thereof	10.8	6.6	4.6	5.6	7.6
6	76	Aluminium and articles thereof	0.5	0.8	2.2	4.5	3.8
7	29	Organic chemicals	7.8	5.5	4.1	4.4	4.2
8	44	Wood and articles of wood; wood charcoal	10.9	6.9	6.2	4.1	2.9
9	72	Iron and steel	1.8	2.3	2.5	3.2	3.1
10	38	Miscellaneous chemical products	2.4	2.1	1.9	2.8	2.3
11	39	Plastics and articles thereof	1.5	1.8	2.2	2.2	2.1
12	89	Ships, boats and floating structures	0.7	0.9	0.4	1.8	2.3
13	40	Rubber and articles thereof	1.0	0.9	1.1	1.3	1.9
14	90	Optical, medical and other professional apparatus and their parts	0.8	0.9	1.2	1.2	1.4
15	94	Furniture; bedding, and similar stuffed furnishings; lamps and lighting fittings, nes; prefabricated buildings; etc.	1.2	0.8	0.9	1.1	1.0
16	70	Glass and glassware	0.3	0.2	0.3	0.9	1.2
17	73	Articles of iron or steel	0.8	1.7	0.8	0.8	1.0
18	28	Inorganic chemicals; organic or inorganic compounds of precious metals, etc.	1.4	1.2	0.8	0.8	0.7
19	80	Tin and articles thereof	0.8	1.4	1.0	0.7	0.2
20	25	Salt; sulphur; earths and stone; plastering materials, lime and cement	0.2	0.4	0.4	0.6	0.7
India's total imports from Malaysia (Billion USD)			3.4	9.0	9.3	10.3	10.4

Source: Author's calculations based on WITS UN Comtrade data

In the case of imports from Singapore, unsurprisingly, manufactured imports constituted as much as 96 per cent to more than 99 per cent of the total through the study period. While non-electrical machinery dominated in the pre-FTA phase, chemicals (in particular, organic chemicals, followed by plastics) became the most important import group during 2017-18, followed by electrical machinery (Tables 15 and 16). But in 2019, all these three product groups (electrical machinery, non-electrical machinery and chemicals) accounted for roughly similar shares close to 20%; but electrical machinery industry ranked first. In the case of Singapore too, there has been an increase in the share of intermediate products within different manufactured imports like minerals and metals, and chemicals. Apart from petroleum and textiles that were dominated by consumer goods, consumer goods imports were significant in the minerals and metals group too.

However, imports in electrical machinery, non-electrical machinery, transport equipment and manufactures n.e.s. were dominated by capital goods. This has to be seen against the backdrop that several intermediate products within these sectors (especially HS 84 ad 85) have been classified as capital goods. (see Appendix Table 3).

Table 15. India's non-agricultural manufactured imports from Singapore based on MTN product categories, 2002-2019
(Ranked in the order of their average share in total imports from Singapore during 2017-18)

<i>Broad MTN product category</i>	<i>2002-08</i>	<i>2011-13</i>	<i>2014-16</i>	<i>2017-18</i>	<i>2019</i>
Chemicals	17.4	28.5	35.9	29.0	20.3
Consumer goods	1.2	1.3	1.1	1.8	1.5
Intermediate goods	16.1	27.2	34.8	27.2	18.8
Raw materials	0.0	0.0	0.0	0.0	0.0
Electrical machinery	16.1	17.3	12.4	21.0	19.3
Capital goods	12.4	14.4	11.4	18.3	16.7
Consumer goods	3.5	2.7	0.9	2.5	2.3
Intermediate goods	0.1	0.2	0.1	0.2	0.2
Raw materials	0.0	0.0	0.0	0.0	0.1
Non-electrical machinery	27.6	16.2	17.2	16.9	18.8
Capital goods	27.5	16.2	17.1	16.8	18.8
Consumer goods	0.1	0.0	0.0	0.0	0.0
Intermediate goods	0.0	0.0	0.0	0.0	0.0
Minerals & metals	7.3	13.6	10.3	14.7	15.9
Capital goods	0.1	0.1	0.0	0.1	0.0
Consumer goods	1.9	1.6	1.0	1.4	2.7
Intermediate goods	3.3	10.0	4.7	4.3	5.1
Raw materials	2.1	2.0	4.5	9.0	8.1
Manufactures, n.e.s.	4.6	5.3	5.3	6.4	6.3
Capital goods	4.0	4.6	4.8	5.8	5.6
Consumer goods	0.3	0.3	0.2	0.3	0.3
Intermediate goods	0.3	0.3	0.3	0.3	0.4
Transport equipment	10.1	9.7	3.1	5.9	6.7
Capital goods	8.4	8.4	2.4	5.3	6.1
Consumer goods	0.0	0.0	0.0	0.1	0.2
Intermediate goods	1.7	1.3	0.7	0.5	0.4
Leather, footwear, etc.	0.6	0.6	0.8	1.9	2.0
Capital goods	0.0	0.0	0.0	0.0	0.0
Consumer goods	0.4	0.4	0.3	0.6	0.6
Intermediate goods	0.1	0.1	0.4	1.0	0.9
Raw materials	0.0	0.0	0.0	0.3	0.5
Wood, paper, etc	5.3	3.9	0.9	1.0	2.0
Capital goods	0.0	0.0	0.0	0.0	
Consumer goods	4.7	3.5	0.6	0.4	0.4

<i>Broad MTN product category</i>	<i>2002-08</i>	<i>2011-13</i>	<i>2014-16</i>	<i>2017-18</i>	<i>2019</i>
Intermediate goods	0.3	0.3	0.2	0.5	1.0
Raw materials	0.2	0.1	0.1	0.2	0.5
Petroleum	9.8	3.1	12.8	0.8	4.2
Consumer goods	9.8	3.1	12.8	0.8	4.2
Raw materials	0.0	0.0	0.0	0.0	0.0
Textiles	0.5	0.5	0.3	0.5	0.5
Capital goods	0.0	0.0	0.0	0.0	0.0
Consumer goods	0.1	0.1	0.1	0.1	0.1
Intermediate goods	0.4	0.4	0.3	0.4	0.4
Raw materials	0.0	0.0	0.0	0.0	0.0
Clothing	0.0	0.1	0.0	0.0	0.0
Consumer goods	0.0	0.1	0.0	0.0	0.0
Intermediate goods	0.0	0.0	0.0	0.0	0.0
India's manufactured imports from Singapore	99.3	98.7	98.9	98.2	95.9

Source: Author's calculations based on WITS UN Comtrade data

Table 16. India's imports from Singapore at the HS 2 digit level, 2002-2019
(Period average percentage share in total imports from Singapore)

<i>SN.</i>	<i>HS code</i>	<i>Chapter</i>	<i>2002-08</i>	<i>2011-13</i>	<i>2014-16</i>	<i>2017-18</i>	<i>2019</i>
1	85	Electrical machinery and equipment and parts thereof	16.1	17.3	12.4	21.0	19.3
2	29	Organic chemicals	10.5	17.2	20.3	17.3	8.6
3	84	Non-electrical machinery & mechanical appliances; parts thereof	27.6	16.2	17.2	16.9	18.8
4	39	Plastics and articles thereof	3.4	7.1	11.6	6.6	7.6
5	90	Optical, medical and other professional apparatus and their parts	4.4	5.1	5.2	6.2	6.1
6	71	Gems and jewellery	0.9	8.3	3.6	5.8	2.8
7	89	Ships, boats and floating structures	7.5	8.2	2.1	4.9	5.0
8	27	Mineral fuels, mineral oils and their products	10.8	3.6	13.1	4.4	10.5
9	38	Miscellaneous chemical products	1.7	2.4	2.4	2.9	2.0
10	72	Iron and steel	1.6	1.4	2.1	2.9	3.0
11	40	Rubber and articles thereof	0.5	0.5	0.7	1.9	1.9
12	32	Tanning or dyeing extracts; paints and varnishes; putty; etc.	0.8	0.5	0.8	1.0	0.9
13	73	Articles of iron or steel	1.4	1.0	0.7	0.6	0.9
14	87	Vehicles and their parts and accessories	0.2	0.3	0.0	0.6	1.5
15	30	Pharmaceutical products	0.1	0.2	0.2	0.5	0.3
16	74	Copper and articles thereof	0.5	0.3	0.2	0.5	0.5
		India's total imports from Singapore (Billion USD)	2.6	4.5	5.0	8.1	14.9

Source: Author's calculations based on WITS UN Comtrade data

In imports from Thailand, non-electrical machinery remained the largest manufacturing sector in the pre- and post-FTA phases, despite a decline in its relative share. The largest increase in share in the post-FTA phases was observed in the case of chemicals (organic chemicals and miscellaneous chemical products) and transport equipment (vehicles and their parts), followed by plastics, copper and its products, professional equipment and parts, etc (Tables 17 and 18). Electrical machinery, which was the second largest among Indian imports from Thailand in the pre-FTA phase itself, continue to remain the second/third largest imports from Thailand, despite showing some fluctuations. At the same time, plastics had become as significant as electrical machinery during the post-FTA phases. On the other hand, the shares of minerals and metals as a group, etc. declined in India's total imports from Thailand (see Tables 17 and 18 and Appendix Table 4). In 2019, however, with a significant increase in the share of gems and jewellery imports (other non-industrial diamonds; see Appendix Table 4) as well as some agricultural products, the relative shares of many of the above manufactured imports showed declines. In fact, the cumulative share of manufactured imports from Thailand declined to 91% in 2019 from an average 96% during 2011-16. Between the pre- and post-FTA phases, India's imports from Thailand of capital goods increased the most, followed by intermediate goods and consumer goods.

Table 17. India's non-agricultural manufactured imports from Thailand based on MTN product categories, 2002-2019
(Ranked in the order of their average share in total imports from Thailand during 2017-18)

<i>MTN broad product category</i>	<i>2002-08</i>	<i>2011-13</i>	<i>2014-16</i>	<i>2017-18</i>	<i>2019</i>
Chemicals	16.4	22.7	24.0	26.0	20.7
Consumer goods	3.1	2.0	1.9	1.4	2.2
Intermediate goods	13.3	20.7	22.1	24.6	18.5
Raw materials	0.0	0.0	0.0	0.0	0.0
Non-electrical machinery	22.5	22.8	23.5	19.3	17.7
Capital goods	22.2	22.4	23.2	19.0	17.5
Consumer goods	0.2	0.4	0.3	0.3	0.2
Intermediate goods	0.0	0.0	0.0	0.0	0.0
Minerals & metals	20.3	19.6	15.2	16.5	24.4
Capital goods	0.3	0.1	0.1	0.2	0.2
Consumer goods	3.9	4.5	4.0	3.8	4.2
Intermediate goods	13.1	10.1	7.2	9.4	18.0
Raw materials	2.9	4.9	3.9	3.1	2.1
Electrical machinery	14.5	10.0	12.9	13.3	9.3
Capital goods	7.8	6.0	8.4	8.4	6.9
Consumer goods	6.5	3.7	4.2	4.8	2.2
Intermediate goods	0.2	0.2	0.3	0.2	0.1
Raw materials	0.0	0.0	0.0	0.0	0.0
Transport equipment	3.9	5.4	7.5	7.1	6.6
Capital goods	3.1	4.7	6.9	6.6	6.1
Consumer goods	0.2	0.1	0.1	0.2	0.1
Intermediate goods	0.6	0.6	0.4	0.3	0.4
Leather, footwear, etc.	6.3	7.8	6.8	5.9	3.9

<i>MTN broad product category</i>	<i>2002-08</i>	<i>2011-13</i>	<i>2014-16</i>	<i>2017-18</i>	<i>2019</i>
Capital goods	0.1	0.1	0.1	0.1	0.0
Consumer goods	1.4	2.1	2.1	2.4	1.8
Intermediate goods	1.7	1.2	1.5	1.6	1.6
Raw materials	3.0	4.4	3.2	1.9	0.5
Textiles	7.8	2.7	2.6	2.3	3.3
Capital goods	0.0	0.0	0.0	0.0	0.0
Consumer goods	0.9	0.4	0.6	0.5	0.6
Intermediate goods	6.8	2.2	1.9	1.6	2.7
Raw materials	0.1	0.1	0.1	0.1	0.0
Wood, paper,etc	2.3	2.2	2.0	1.9	1.7
Capital goods	0.0	0.0	0.0	0.0	
Consumer goods	0.8	0.7	0.5	0.3	0.4
Intermediate goods	1.4	1.4	1.4	1.6	1.2
Raw materials	0.1	0.2	0.0	0.0	0.0
Manufactures, n.e.s.	1.1	1.8	2.0	1.5	1.5
Capital goods	0.6	1.2	1.2	0.9	0.8
Consumer goods	0.4	0.5	0.6	0.4	0.4
Intermediate goods	0.1	0.1	0.2	0.2	0.2
Petroleum	1.2	0.7	0.3	0.3	1.4
Consumer goods	1.2	0.3	0.3	0.3	1.4
Raw materials	0.0	0.3	0.0	0.0	
Clothing	0.2	0.1	0.1	0.1	0.6
Consumer goods	0.2	0.1	0.1	0.1	0.6
Intermediate goods	0.0	0.0	0.0	0.0	0.0
Total manufactured imports from Thailand	96.4	95.7	96.6	94.3	91.2

Source: Author's calculations based on WITS UN Comtrade data

Table 18. India's imports from Thailand at the HS 2 digit level, 2002-2019
(Period average percentage share in total imports from Thailand)

<i>SN</i>	<i>Chapter</i>	<i>Chapter description</i>	<i>2002-08</i>	<i>2011-13</i>	<i>2014-16</i>	<i>2017-18</i>	<i>2019</i>
1	84	Non-electrical machinery & mechanical appliances and their parts	22.4	22.8	23.5	19.3	17.7
2	39	Plastics and their products	9.6	10.6	13.0	13.4	8.0
3	85	Electrical machinery and equipment and their parts	14.5	10.0	12.9	13.3	9.3
4	29	Organic chemicals	3.2	9.3	7.5	9.2	7.0
5	87	Vehicles and their parts and accessories	3.5	5.1	7.5	6.9	6.3
6	40	Rubber and its products	5.8	7.3	5.9	5.0	3.2
7	74	Copper and its products	1.5	0.9	2.2	3.6	2.6
8	71	Gems and jewellery	3.3	6.2	1.8	3.2	10.6
9	15	Animal or vegetable fats and oils, and waxes and their cleavage products; prepared edible fats	1.1	1.8	0.5	2.9	1.1
10	72	Iron and steel	6.9	2.2	2.6	2.2	2.8
11	73	Articles of iron or steel	2.3	2.4	2.9	2.1	1.9
12	38	Miscellaneous chemical products	0.4	0.9	1.5	1.8	2.1

SN	Chapter	Chapter description	2002-08	2011-13	2014-16	2017-18	2019
13	76	Aluminium and its products	2.6	2.1	1.7	1.5	2.0
14	90	Optical, medical and other professional apparatus and their parts	0.8	1.5	1.7	1.2	1.1
15	27	Mineral fuels, mineral oils and their products	1.5	1.0	0.9	0.9	1.9
16	32	Tanning or dyeing extracts; paints and varnishes; putty; etc.	1.0	1.0	1.0	0.9	1.3
17	48	Paper and paperboard, and their products	0.6	0.3	0.6	0.9	0.9
18	23	Residues and waste from the food industries; prepared animal fodder	0.6	0.7	0.9	0.8	1.1
19	26	Ores, slag and ash	0.1	2.3	0.5	0.7	0.6
20	41	Raw hides and skins (other than furskins) and leather	0.1	0.4	0.7	0.7	0.5
21	28	Inorganic chemicals; organic or inorganic compounds of precious metals, etc.	0.5	0.5	0.5	0.6	0.9
22	30	Pharmaceutical products	0.1	0.1	0.0	0.0	1.1
23	3	Fish and crustaceans, molluscs and other aquatic invertebrates	0.0	0.0	0.0	0.0	1.9
24	52	Cotton	0.2	0.1	0.0	0.0	1.0
25	2	Meat and edible meat offal	0.0	0.0	0.0	0.0	0.7
26	9	Coffee, tea, maté and spices	0.0	0.0	0.0	0.0	1.2
27	India's total imports from Thailand (Billion USD)		1.3	5.2	5.5	7.9	11.4

Source: Author's calculations based on WITS UN Comtrade data

In the case of Vietnam, while agricultural products (dominated by coffee, tea and spices), unrefined petroleum, electrical machinery, and intermediate products in the chemicals broad group were India's top imports in the pre-FTA phase (Table 19), they have been totally displaced by a significant increase in intermediate manufactured imports in the post-FTA phases. Electrical machinery became India's single largest imports from Vietnam during 2011-13 itself (see Table 20 and Appendix Table 5) and its share in total went up to 54% in 2019. While non-electrical machinery imports was the second largest import sector at the HS 2 digit level during 2011-13 and 2014-16, copper and its articles registered a huge rise after 2013 and became the second largest imports from Vietnam during 2017-18. This was followed closely by the rise in the share of inorganic chemicals. Other manufactured sectors with increased shares by 2017-18 included iron and steel, articles of iron and steel, professional equipment and parts, man-made filaments, etc. Rubber imports have remained significant despite a fall in their share. By 2019, the cumulative share of manufactured products in India's imports from Vietnam rose to 94% from 62% in the pre-FTA phase.

Table 19. India's non-agricultural manufactured imports from Vietnam based on MTN product categories, 2002-2019
(Ranked in the order of their average share in total imports from Vietnam during 2017-18)

MTN broad product category	2002-08	2011-13	2014-16	2017-18	2019
Electrical machinery	11.49	42.91	35.22	38.42	54.21
Capital goods	7.42	39.74	32.76	32.02	44.71
Consumer goods	3.91	2.90	2.43	6.39	9.34
Intermediate goods	0.16	0.27	0.04	0.01	0.17

<i>MTN broad product category</i>	<i>2002-08</i>	<i>2011-13</i>	<i>2014-16</i>	<i>2017-18</i>	<i>2019</i>
Minerals & metals	25.36	14.21	12.68	19.91	14.01
Capital goods	0.01	0.01	0.03	0.05	0.07
Consumer goods	0.48	0.76	0.86	0.98	1.45
Intermediate goods	1.90	7.95	9.26	16.02	10.93
Raw materials	22.97	5.50	2.53	2.86	1.56
Chemicals	10.61	7.54	10.45	11.01	8.90
Consumer goods	2.80	1.62	2.81	1.78	0.99
Intermediate goods	7.78	5.92	7.64	9.23	7.91
Raw materials	0.03	0.00	0.00	0.00	0.00
Non-electrical machinery	1.44	8.32	10.28	7.52	4.59
Capital goods	1.14	8.26	10.09	7.40	4.19
Consumer goods	0.30	0.06	0.18	0.12	0.40
Intermediate goods	0.00	0.00	0.00	0.00	0.00
Leather, footwear, etc.	6.86	9.76	8.13	5.12	5.61
Capital goods	0.00	0.00	0.00	0.00	0.00
Consumer goods	2.72	1.37	2.41	2.34	2.37
Intermediate goods	0.49	0.50	0.67	0.63	0.46
Raw materials	3.64	7.88	5.04	2.15	2.78
Textiles	3.09	3.26	4.47	3.94	3.61
Capital goods	0.00	0.00	0.00	0.00	0.00
Consumer goods	0.89	0.65	0.74	0.54	0.47
Intermediate goods	2.20	2.61	3.74	3.40	3.11
Raw materials	0.00	0.00	0.00	0.00	0.04
Manufactures, n.e.s.	0.71	0.80	1.51	3.15	1.57
Capital goods	0.43	0.56	1.12	1.96	0.85
Consumer goods	0.12	0.19	0.33	0.14	0.67
Intermediate goods	0.15	0.05	0.05	1.05	0.05
Wood, paper, etc	1.94	2.30	2.36	1.55	0.70
Consumer goods	1.47	0.33	0.14	0.18	0.21
Intermediate goods	0.13	1.79	1.54	1.22	0.48
Raw materials	0.34	0.17	0.68	0.15	0.01
Transport equipment	0.26	1.57	3.49	1.10	0.56
Capital goods	0.22	1.29	3.22	0.90	0.46
Consumer goods	0.03	0.00	0.02	0.01	0.01
Intermediate goods	0.02	0.27	0.25	0.18	0.08
Clothing	0.31	0.17	0.38	0.42	0.55
Consumer goods	0.31	0.16	0.38	0.42	0.55
Intermediate goods	0.00	0.00	0.00	0.00	0.00
Petroleum	0.00	0.01	0.00	0.01	0.01
Consumer goods	0.00	0.01	0.00	0.01	0.01
Total manufactured imports from Vietnam	62.0	90.8	89.0	92.1	94.3

Source: Author's calculations based on WITS UN Comtrade data

Table 20. India's imports from Vietnam at the HS 2 digit level, 2002-2019
(Period average percentage share in total imports from Vietnam)

SN.	HS code	Chapter	2002-08	2011-13	2014-16	2017-18	2019
1	85	Electrical machinery and equipment and their parts	11.5	42.9	35.2	38.5	54.2
2	74	Copper and its products	0.0	0.8	4.0	8.2	6.5
3	84	Non-electrical machinery & mechanical appliances and their parts	1.4	8.3	10.2	7.4	4.6
4	28	Inorganic chemicals; organic or inorganic compounds of precious metals, etc.	1.0	2.8	5.8	7.4	5.7
5	72	Iron and steel	2.6	3.7	1.7	4.0	1.5
6	73	Articles of iron or steel	0.0	0.8	2.7	3.4	3.2
7	90	Optical, medical and other professional apparatus and their parts	0.3	0.6	2.8	3.0	1.5
8	40	Rubber and their products	4.1	8.2	6.0	2.9	3.3
9	9	Coffee, tea, maté and spices	27.0	2.9	4.8	2.4	0.0
10	54	Man-made filaments and other man-made textile materials	0.8	1.6	2.8	2.1	1.3
11	12	Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal plants	6.2	3.3	2.7	1.9	0.0
12	64	Footwear, gaiters and the like; parts of such articles	2.3	0.9	1.5	1.7	2.0
13	33	Essential oils and resinoids; perfumery, cosmetic or toilet preparations	1.3	1.1	2.1	1.4	0.7
14	39	Plastics and their products	2.0	1.8	1.1	1.4	1.7
15	79	Zinc and its products	0.0	0.1	0.8	1.2	0.1
16	24	Tobacco and manufactured tobacco substitutes	0.0	0.6	1.0	1.1	0.0
17	44	Wood and articles of wood; wood charcoal	0.5	1.7	1.7	1.0	0.5
18	27	Mineral fuels, mineral oils and their products	15.3	3.2	1.0	0.9	0.2
19	87	Vehicles and their parts and accessories	0.0	1.5	1.5	0.9	0.6
20	8	Edible fruit and nuts; peel of citrus fruit or melons	0.2	0.6	0.6	0.9	0.0
21	Total imports from Vietnam		0.1	2.0	2.8	6.4	7.4

Source: Author's calculations based on WITS UN Comtrade data

The in-depth analysis of the structure of India's imports from the major ASEAN countries clearly shows that India's worsening trade balance to total trade ratios with respect to them were predominantly driven by an increase in imports of intermediate goods. Once we consider the anomalies in the stage of processing classification scheme, it is clear that this trend was true for product groups in several industries, electrical and non-electrical machinery, organic and inorganic chemicals, metals and metal products, clothing and textiles, transport equipment, etc., all of which underwent the largest degree of liberalisation under AIFTA's different tariff elimination staging categories.

IV.3 Market Access Gains by India in the Major ASEAN Markets

We have seen in Section III that increase in the share of India's exports going to the major ASEAN countries was the most significant in the case of Vietnam, while the shares going to Indonesia, Malaysia and Thailand fluctuated. However, an analysis of India's market share in these countries' global imports (Table 21) reveal that between the pre-FTA phase

and post-FTA phase (2017-18), India lost market share in Vietnam. On the other hand, India's market share increased gradually in Malaysia followed by Thailand and Indonesia, in addition to the LDCs Myanmar, Brunei, Lao PDR and the Philippines. However, even by 2017-18, Myanmar was the only ASEAN country in which India attained a share of even 5% of their global imports. Even this dropped to 3.8% in 2019. In 2019, India's market share increased marginally (over 2017-18) only in Brunei and Thailand. India lost its market share in Indonesia, Malaysia, Singapore and Cambodia and Myanmar, while its market share in Vietnam, the Philippines and Lao PDR remained the same as in 2018.

Table 21. India's overall market share in ASEAN countries, 2002-2019
(Period average percentage share in each country's global imports)

Partner country	Share in				Rank in	
	2002-08	2011-16	2017-18	2019	2017-18	2019
Brunei	0.6	1.1	1.7	2.0	11	14
Cambodia	1.1	1.2	0.8	n.a.	12	n.a.
Indonesia	2.2	2.2	2.6	2.5	9	9
Lao PDR	n.a.	0.4	0.6	0.6	10	10
Malaysia	1.2	2.1	3.1	2.9	9	10
Myanmar	n.a.	4.1	5.1	3.8	4	6
Philippines	0.9	1.4	1.6	1.6	12	12
Singapore	2.0	2.6	2.1	1.8	14	16
Thailand	1.3	1.3	1.9	2.0	15	13
Vietnam	2.1	1.9	1.8	1.8	10	9
ASEAN-5 (Indonesia, Malaysia, Singapore, Thailand & Vietnam)	8.8	10.2	11.5	11.0		
Other ASEAN	2.6	8.1	9.7	9.1		
ASEAN-10	11.4	18.3	21.2	20.1		

Source: Author's calculations based on WITS UN Comtrade data

Against this pattern of India's overall market access scenario, we undertake an analysis of the major five ASEAN FTA partners' imports from India at the level of MTN product groups to understand India's competitive gains in their manufactured imports.

Indonesia's imports from India were dominated by chemicals, minerals and metals, non-electrical machinery and transport equipment (Table 22). These were followed by oil seeds, fats and oils, animal products and petroleum. (These were also Indonesia's largest imports globally). However, if we analyse India's share in Indonesia's global imports, India's market share was the most prominent in agricultural sector products (animal products; cotton; oil seeds, fats & oils; and coffee & tea). In particular, it was in animal products, in which India accounted for 21% of Indonesia's global imports in 2019, that India had gained the largest share between the pre- and post-FTA phases.

Table 22. India's market share in Indonesia based on MTN product categories
(Percentage share in Indonesia's global imports in each product group)

<i>MTN broad product group</i>	<i>2002-08</i>	<i>2011-16</i>	<i>2017-18</i>	<i>2019</i>
Animal products	0.0	2.9	18.0	21.2
Cotton	5.8	5.8	8.5	2.6
Oilseeds, fats & oils	18.4	8.9	6.6	6.4
Coffee, tea	0.6	5.9	5.8	4.8
Transport equipment	1.0	3.0	5.5	4.9
Chemicals	4.9	4.5	4.7	4.6
Other agricultural products	2.4	3.4	4.4	5.8
Leather, footwear, etc.	1.5	2.2	3.0	2.6
Clothing	2.6	3.2	2.7	2.9
Minerals & metals	3.2	1.8	2.7	2.0
Non-electrical machinery	0.7	1.3	2.2	2.4
Beverages & tobacco	2.2	3.4	2.1	2.6
Fruit, vegetables, plants	1.1	2.3	2.1	1.6
Cereals & preparations	3.5	7.1	1.9	0.8
Textiles	1.8	1.7	1.8	1.9
Manufactures, n.e.s.	0.6	0.9	1.1	1.0
Electrical machinery	1.4	1.5	0.8	0.8
Fish & fish products	1.6	3.4	0.8	0.5
Petroleum	0.6	0.6	0.7	1.1
Wood, paper, etc	0.3	0.4	0.5	0.6
Sugars & confectionery	4.2	1.1	0.4	0.4
Dairy products	0.1	0.0	0.1	0.8
India's share in Indonesia's global imports	2.2	2.2	2.6	2.5

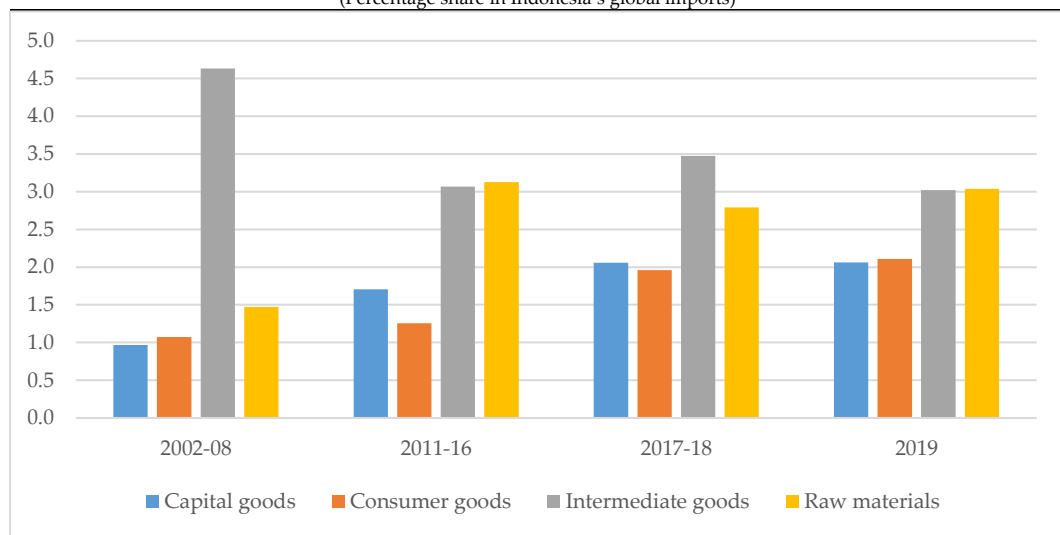
Source: Author's calculations based on WITS UN Comtrade data

In fact, even though intermediate products had dominated Indonesia's imports from India during the pre-FTA phase (Figure 5), there was a sharp drop in the former's share because of the huge growth in raw materials during the post-FTA phases of 2011-16. It is only in 2017-18 that intermediate product imports from India became greater than that of raw material imports again. However, in 2019, the share of raw materials in Indonesia's imports from India increased again and it became the same as that of intermediate goods.

In the case of manufactured products, India's share in Indonesia's global imports increased significantly only for transport equipment, leather & footwear, etc., non-electrical machinery, and manufactures n.e.s. Meanwhile, chemicals have remained very significant too. However, during 2017-18, transport equipment was the only manufactured

product group that garnered a more than 5% share in Indonesia's global imports; this declined to 4.9% in 2019. In the case of India's other prominent exports such as chemicals as well as minerals & metals, clothing and textiles, India's shares in Indonesia's import market were fluctuating.

Figure 5. Indonesia's imports from India based on stage of processing, 2002-2019
(Percentage share in Indonesia's global imports)



Source: Author's calculations based on WITS UN Comtrade data

Malaysia's largest imports from India were minerals and metals as well as petroleum, which together accounted for half of Malaysia's imports from India in the post-FTA phase. These were followed by chemicals, non-electrical machinery and electrical machinery. However, as seen in Table 23, as in the Indonesian case, India's market shares in Malaysia during 2017-18 were the most significant in agricultural products such as animal products, cotton, other agricultural products, and petroleum, followed by fruits and vegetables, etc.

Among manufactures, India's market share in Malaysia increased for clothing, chemicals, minerals & metals and non-electrical equipment, while textiles have remained significant. Except for minerals and metals group (with 5.4%), India's shares remained below 5% of Malaysia's imports in these respective product groups even in 2019; although the share of clothing has also remained steady around 5% since 2017.

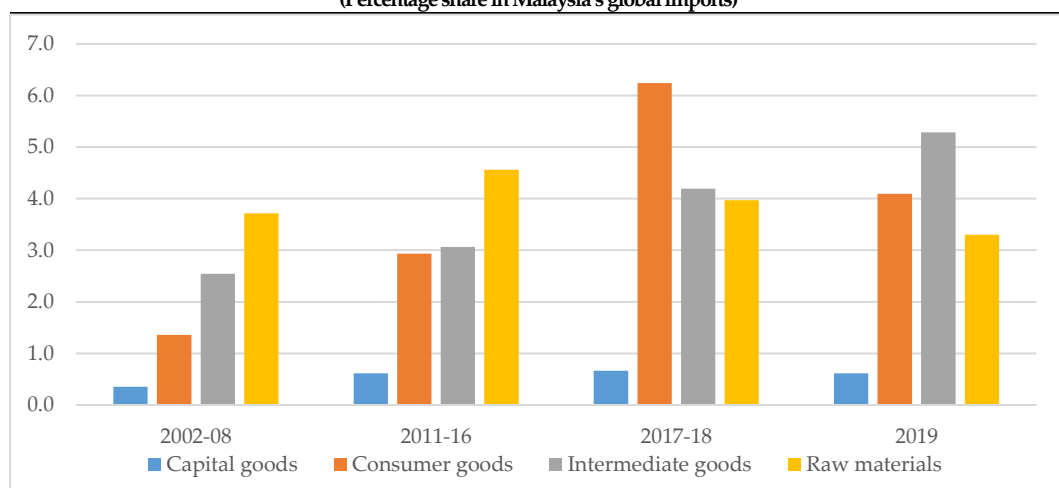
While raw materials dominated Malaysia's imports from India during 2011-16, the share of consumer goods shot up and accounted for a larger share during 2017-18 (mostly because of cotton clothing items), followed by intermediate products (Figure 6). By 2019, intermediate imports from India had come to account for the largest share in Malaysia's global imports.

Table 23. India's market share in Malaysia based on MTN product categories
(Percentage share in Malaysia's global imports in each product group)

<i>MTN broad product group</i>	<i>2002-08</i>	<i>2011-16</i>	<i>2017-18</i>	<i>2019</i>
Animal products	39.3	42.3	38.7	37.7
Cotton	9.5	10.2	22.1	5.0
Other agricultural products	12.4	15.1	10.8	10.1
Petroleum	0.7	3.5	10.1	5.3
Fruit, vegetables, plants	8.9	8.1	7.2	6.1
Fish & fish products	5.4	4.5	6.1	4.5
Clothing	2.8	4.4	4.9	4.9
Minerals & metals	2.2	2.4	4.2	5.4
Textiles	3.9	3.6	3.9	4.5
Chemicals	2.1	3.4	3.3	4.2
Cereals & preparations	5.5	5.6	2.2	2.6
Oilseeds, fats & oils	3.9	1.9	2.1	2.9
Coffee, tea	0.6	1.4	2.0	2.0
Leather, footwear, etc.	2.8	2.0	1.8	1.5
Beverages & tobacco	1.1	2.7	1.8	0.9
Non-electrical machinery	0.6	1.0	1.4	1.2
Wood, paper, etc	0.6	0.6	0.9	0.9
Sugars & confectionery	4.4	3.5	0.8	5.6
Manufactures, n.e.s.	0.5	0.9	0.7	0.8
Transport equipment	0.6	0.6	0.6	0.7
Electrical machinery	0.2	0.4	0.4	0.3
Dairy products	0.1	0.6	0.2	0.8
India's share in Malaysia's global imports	1.3	2.1	3.1	2.9

Source: Author's calculations based on WITS UN Comtrade data

Figure 6. Malaysia's imports from India based on stage of processing 2002-2019
(Percentage share in Malaysia's global imports)



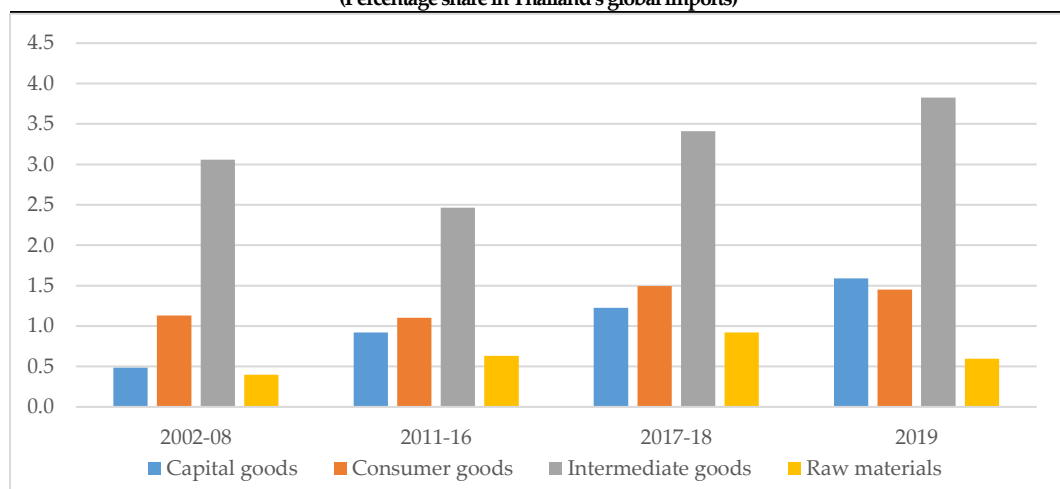
Source: Author's calculations based on WITS UN Comtrade data

In the case of Thailand's imports from India, the share of minerals and metals, which dominated in the pre-FTA phase, declined steadily in the post-FTA phases, while the shares of chemicals, non-electrical machinery, transport equipment, fish & fish products and other agricultural products increased.

Once again, it is evident from Table 24 that none of the manufactured exports by India garnered even a 5% market share in Thailand. The top product groups that dominated Thailand's imports from India even in the post-FTA phases were other agricultural products, cotton, fish and fish products, oil seeds, fats and oils, etc. Textiles were the only manufactured product group in the top five in Table 24. Although chemicals, transport equipment and non-electrical machinery among India's top manufactured exports to Thailand managed to increase their market shares in Thailand, their shares remained significantly below 5% of that country's respective global imports even in 2019.

But in contrast to Indonesia or Malaysia, Thailand's imports from India were dominated by intermediate products both in the pre-FTA and post-FTA phases and was followed by consumer goods (Figure 7). The share of intermediate goods has gone up continuously in the post-FTA phases, followed by the shares of both consumer goods and capital goods.

Figure 7. Thailand's imports from India based on stage of processing, 2002-2019
(Percentage share in Thailand's global imports)



Source: Author's calculations based on WITS UN Comtrade data

Table 24. India's market share in Thailand based on MTN product categories
(Percentage share in Thailand's global imports in each product group)

MTN broad product group	2002-08	2011-16	2017-18	2019
Other agricultural products	1.4	4.3	8.7	9.8
Cotton	4.9	4.9	8.6	3.0
Fish & fish products	2.4	4.4	8.3	6.4

<i>MTN broad product group</i>	<i>2002-08</i>	<i>2011-16</i>	<i>2017-18</i>	<i>2019</i>
Textiles	1.3	3.2	3.9	4.2
Oilseeds, fats & oils	9.5	6.0	3.8	3.9
Chemicals	1.8	2.5	3.0	3.0
Minerals & metals	2.7	1.7	2.8	3.1
Coffee, tea	0.6	0.7	2.6	2.1
Leather, footwear, etc.	1.2	1.6	2.2	2.9
Transport equipment	0.7	1.8	2.0	2.3
Clothing	1.5	2.1	1.8	1.8
Non-electrical machinery	0.5	1.0	1.8	2.6
Fruit, vegetables, plants	1.0	1.8	1.5	2.2
Sugars & confectionery	0.1	1.2	1.1	0.2
Manufactures, n.e.s.	0.4	0.6	0.6	0.5
Beverages & tobacco	0.4	0.3	0.5	0.3
Cereals & preparations	0.8	1.6	0.5	0.5
Electrical machinery	0.4	0.3	0.5	0.5
Wood, paper, etc	0.2	0.7	0.4	0.7
Dairy products	1.2	0.2	0.3	0.4
Petroleum	0.7	0.2	0.3	0.2
Animal products	0.0	17.5	0.1	0.1
India's shares in Thailand's global imports	1.3	1.3	1.9	2.0

Source: Author's calculations based on WITS UN Comtrade data

In the pre-FTA phase, Vietnam's imports from India were dominated by oil seeds, fats and oils as well as by chemicals. In the post-FTA phases, there was drastic drop in the share of the oil seeds and fats, and a less dramatic fall in the share of chemicals. Meanwhile, the shares of minerals and metals increased dramatically, followed by fish and fish products, cotton, non-electrical machinery, textiles, transport equipment, etc. However, in terms of Vietnam's market share (Table 25), while it was fish and fish products that was the single largest product group during the pre-FTA phase (2002-08) among imports from India, its share dropped dramatically in the post-FTA phase. Indian product groups with the largest market shares during 2011-16 and 2017-18 were leather and footwear, etc., followed by petroleum and electrical machinery. However, India's markets shares in the first two product groups declined in 2019, even though leather and footwear continued to be the largest product group. Significantly, even as India's total share in Vietnam's global imports had been on a declining trend, India's share in that country's electrical machinery imports have grown, accounting for more than 12% of Vietnam's global imports in the category. In 2019, India's market shares in Vietnam were similar for leather and footwear and the electrical machinery groups.

Table 255. India's market share in Vietnam based on MTN product categories
(Percentage share in Vietnam's global imports in each product group)

<i>MTN broad product group</i>	<i>2002-08</i>	<i>2011-16</i>	<i>2017-18</i>	<i>2019</i>
Leather, footwear, etc.	7.8	20.8	21.6	12.8
Petroleum	13.0	13.4	13.0	6.6
Electrical machinery	7.0	12.7	10.6	12.4
Manufactures, n.e.s.	4.2	3.2	5.1	5.7
Fish & fish products	31.9	6.8	4.0	5.9
Cotton	1.4	1.7	3.2	4.4
Minerals & metals	6.9	8.3	3.1	2.8
Non-electrical machinery	4.0	3.3	2.9	2.8
Animal products	2.7	2.7	2.7	2.1
Fruit, vegetables, plants	2.8	3.1	2.6	2.3
Sugars & confectionery	0.6	1.8	1.9	2.3
Beverages & tobacco	2.1	1.3	1.8	1.4
Other agricultural products	0.5	1.1	1.4	1.0
Clothing	0.5	1.2	1.2	1.0
Textiles	0.1	0.6	1.0	1.2
Coffee, tea	0.6	0.8	0.9	1.0
Chemicals	4.5	6.1	0.6	0.4
Cereals & preparations	0.9	1.0	0.6	0.9
Oilseeds, fats & oils	0.5	0.5	0.5	0.6
Transport equipment	1.6	0.3	0.4	0.4
Dairy products	0.2	0.5	0.1	0.1
Wood, paper, etc	0.2	0.0	0.0	0.0
India's share in Vietnam's global imports	2.1	1.9	1.8	1.8

Source: Author's calculations based on WITS UN Comtrade data

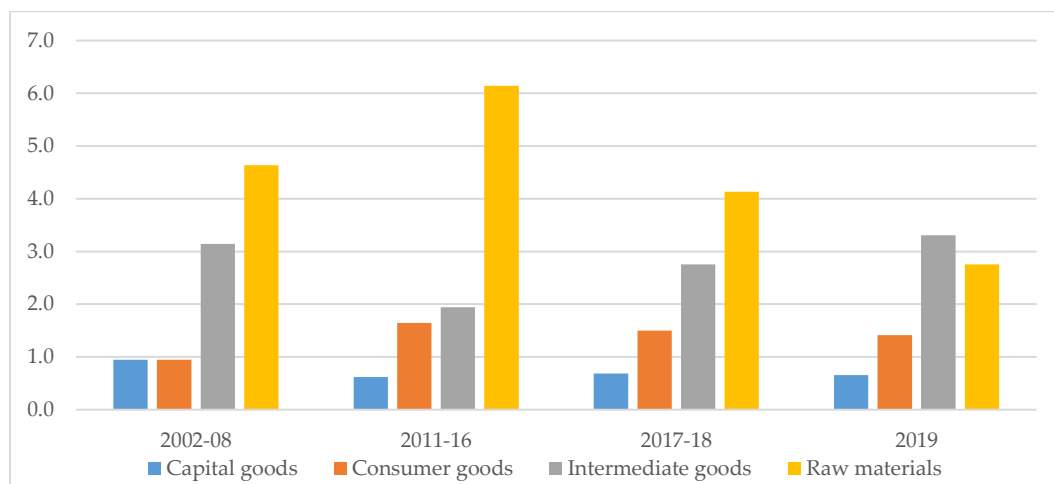
That is, India's exports to Vietnam were dominated by raw materials during the first and second post-FTA phases (Figure 8). However, since 2017-18, the share of intermediate goods in Vietnam's imports from India had picked up. In 2019, intermediate goods became the largest category, followed by raw materials and consumer goods.

Compared to the pre-FTA phase, India's overall market share in Singapore's global imports did register a slight increase during the first post-FTA phase, that is, during 2011-16 (from 2.2% to 2.7% respectively). But this declined to 2.1% during 2017-18 and to 1.8% in 2019. As seen in Table 26, this increase and subsequent decline were on account of a singular product group, cotton, whose market shares fluctuated wildly on an yearly basis.⁸

⁸ The share of cotton imports from India in Singapore's global cotton imports varied from 6% in 2012 to 96% in 2013, 0.1% in 2014, 93% in 2015, 18% in 2016, 1.6% in 2017, 41% in 2018 and 0.5% in 2019.

Consequently, Singapore's imports from India were dominated by consumer goods throughout the period under study, and was followed by intermediate products (Figure 9).

Figure 8. Vietnam's imports from India based on stage of processing, 2002-2019
(Percentage share in Vietnam's global imports)



Source: Author's calculations based on WITS UN Comtrade data

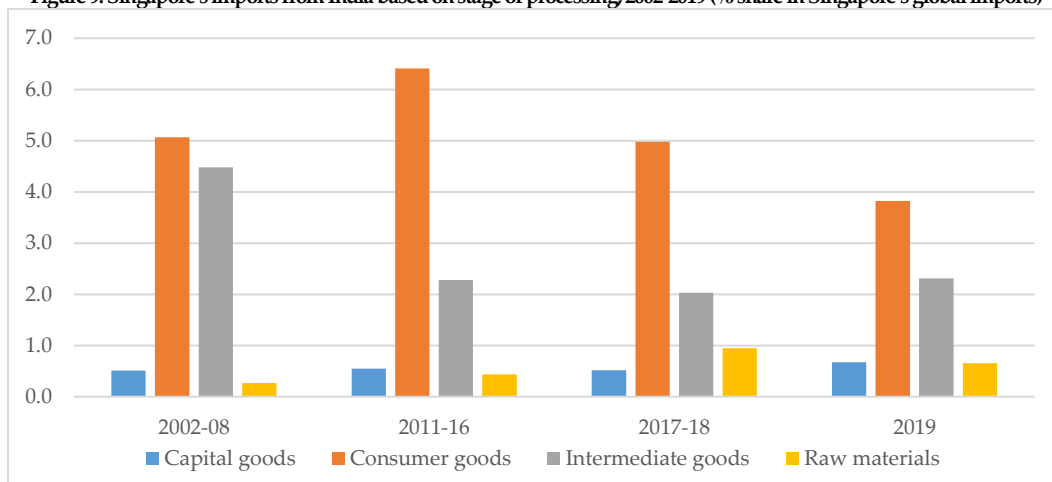
Table 26. India's market share in Singapore based on MTN product categories
(Percentage share in Singapore's global imports in each product group)

MTN broad product group	2002-08	2011-16	2017-18	2019
Cotton	24.4	74.0	28.2	0.5
Other agricultural products	5.4	7.5	6.1	6.8
Petroleum	4.8	6.6	5.3	3.8
Cereals & preparations	2.4	4.9	4.1	3.7
Clothing	3.1	4.3	4.0	3.5
Fish & fish products	4.2	3.6	3.4	3.1
Textiles	4.5	4.0	3.4	2.8
Fruit, vegetables, plants	2.3	3.0	3.2	3.2
Minerals & metals	6.7	2.7	3.1	3.0
Chemicals	2.1	2.3	2.0	2.4
Coffee, tea	1.8	2.3	1.4	1.2
Oilseeds, fats & oils	1.9	1.6	1.4	1.7
Dairy products	0.8	1.1	1.3	1.4
Sugars & confectionery	3.6	2.9	1.3	2.3
Beverages & tobacco	0.7	1.2	1.0	1.0
Manufactures, n.e.s.	1.0	1.2	0.9	0.9
Leather, footwear, etc.	1.4	1.5	0.8	1.1
Non-electrical machinery	0.5	0.7	0.8	1.3
Wood, paper, etc	0.5	0.8	0.8	0.7
Transport equipment	0.3	1.1	0.8	0.9

MTN broad product group	2002-08	2011-16	2017-18	2019
Electrical machinery	0.4	0.3	0.3	0.3
Animal products	0.0	0.2	0.1	0.0
India's share in Singapore's global imports	2.2	2.7	2.1	1.8

Source: Author's calculations based on WITS UN Comtrade data

Figure 9. Singapore's imports from India based on stage of processing, 2002-2019 (% share in Singapore's global imports)



Source: Author's calculations based on WITS UN Comtrade data

Singapore's other major imports from India were other agricultural products, petroleum, cereals and preparations, etc. The only manufactured sectors among the top five ranks were petroleum and clothing. The market shares of these groups declined after 2016. Although textiles, followed by minerals and metals as well as chemicals appeared in the top ten ranks, their market shares were also declining and all were below 5%. When we analysed the composition of Singapore's global imports, it became evident that other than petroleum, none of Singapore's top manufactured imports from India were significant in its global imports. Singapore's top five imports globally were electrical machinery, petroleum, non-electrical machinery, minerals and metals and chemicals.

The detailed analyses of the major ASEAN countries' market share gains in India, India's market share gains in those economies, and the overall trade balance between India and these ASEAN countries discussed in Section III clearly proves that while India's FTA with ASEAN did lead to a very significant increase in intermediate goods imports from these countries, the latter did not lead to a substantial increase in India's manufactured export market share in these countries. Furthermore, India's imports in capital goods and consumer goods have also increased significantly from these countries. The large majority of the increase in market share that India gained in the major ASEAN partners was in agricultural products. Indeed, this proves right the prediction in Francis (2011) that while some Indian firms might be able to make a presence in ASEAN markets, it was unlikely that Indian companies would have been able to gain significantly out of the preferential access granted under the FTA. The manufactured product groups in which India gained

significant market shares (5% and above in the respective country's global imports) in these countries are leather and footwear, textiles and clothing, and transport equipment. Although chemicals as well as minerals and metals, followed by non-electrical machinery have become gradually important, India's market shares remain far below even 5% of their global imports. India's dramatically increased market share in Vietnam for electrical machinery remains a significant exception. This may be due to particular MNCs' vertical integration strategy based on AIFTA that has led to increased intra-industry trade in electronics; this needs further in-depth investigation of firm-level customs data. That is, the evidence after a decade of AIFTA's implementation clearly establishes that this agreement's major underlying objective to increase India's market share for her manufactured exports on the basis of increased trade in intermediates enabled through this PTA has not been met.

V. India-South Korea CEPA

India's PTA with South Korea also began taking shape from the mid-2000s. The Joint study Group to examine the benefits of an India-Korea Comprehensive Economic Partnership Agreement (CEPA) was set up in 2005. Among other objectives such as liberalising and facilitating trade in goods and services and expanding investment between the two countries, one of the key objectives of the CEPA was to "improve the efficiency and competitiveness of their manufacturing and service sectors and expand trade and investment between the parties" (see Dhar 2018: 35). The Agreement came into force in 2010.

As we saw in Section III, while India's trade with South Korea has indeed increased, the overall trade has been growing increasingly unfavourable to India. South Korea's share in India's global imports increased steadily between the pre- and post-CEPA phases (Table 27). Even though there was a drop in 2018 (which brought down the average for 2017-18), this share increased again in 2019, despite the drop in the values in both India's global imports and imports from South Korea.

Among India's imports from South Korea, capital goods were the largest category in terms of value of imports in the pre-CEPA phase (Figure 10). Among India's total imports also (Table 27), South Korea's share was the largest in the capital goods segment. But the share of capital goods in India's imports from that country declined steadily in the post-CEPA phases, dropping from 57% during 2002-08 to 37% during 2017-18 (Figure 10). Although there was a rise in this share in 2019, its share in India's total imports continued to decline.

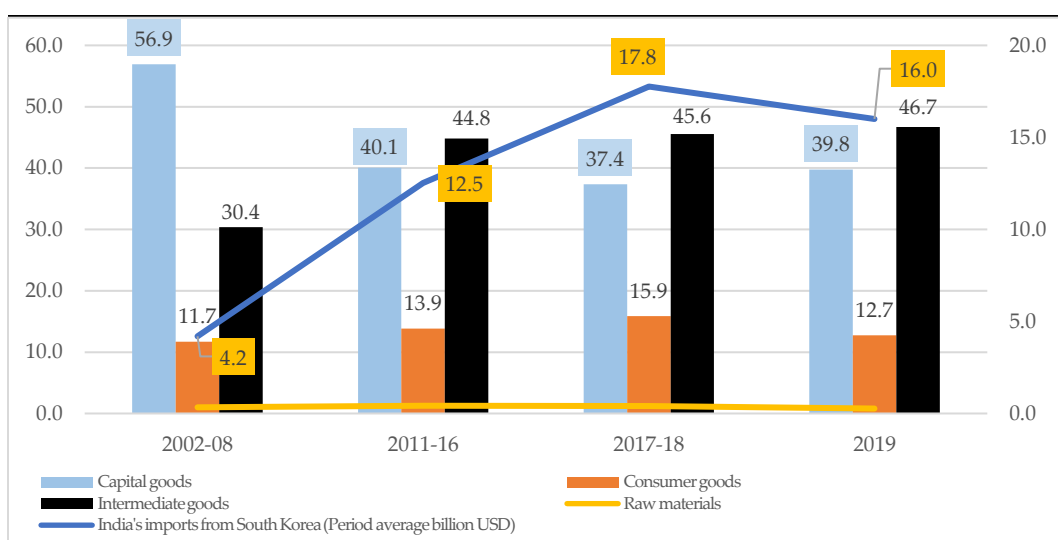
On the other hand, post-CEPA, there was a huge jump in the share of intermediate goods in value of imports, from 30% during 2002-08 to about 45% during 2011-16, which registered a further rise to 46% during 2017-18 and 47% in 2019. The share of consumer goods also increased gradually from about 12% during the pre-CEPA phase to about 16% during 2017-18 before decreasing in 2019.

Table 27. South Korea's share in India's global imports based on stage of processing, 2002-2019
(Percentage share in India's global imports in each category)

Stage of processing	2002-08	2011-16	2017-18	2019
Capital goods	8.0	6.5	6.0	5.9
Consumer goods	3.0	3.9	4.8	3.5
Intermediate goods	2.8	4.1	4.8	5.0
Raw materials	0.1	0.1	0.1	0.1
India's imports from South Korea (Share in India's total imports)	2.8	3.0	3.4	3.4

Source: Author's calculations based on WITS UN Comtrade data

Figure 10. India's imports from South Korea based on stage of processing, 2002-2019
(period average shares in per cent)



Source: Author's calculations based on WITS UN Comtrade data

Given this overall backdrop, we will discuss the nature of India's tariff reductions schedule to South Korea and subsequently analyse India's imports from this PTA partner.

V.1 Nature of Tariff Reduction Commitments

Under the CEPA, India and South Korea agreed to reduce or eliminate their goods tariffs in six stages. The base rate for benchmarking these tariff reductions was the applied MFN duty of 2006.

The tariff reduction staging categories were as follows:

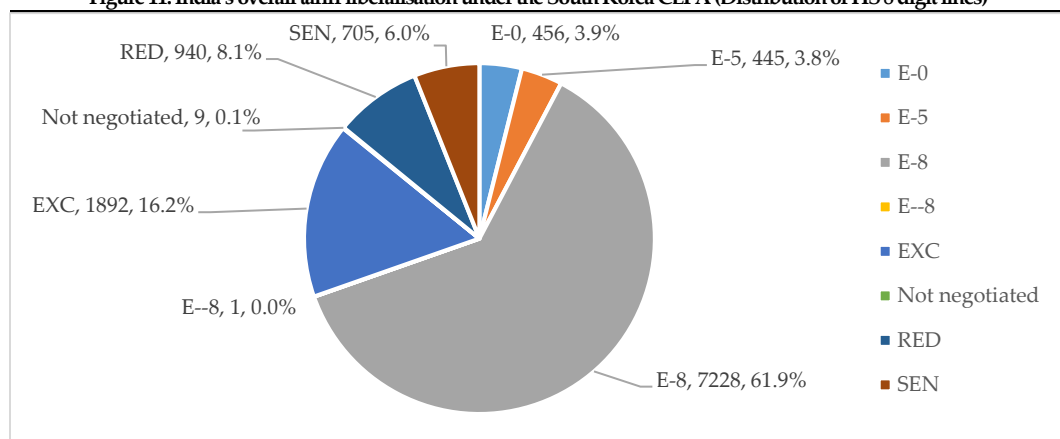
1. Tariffs on products in the category E-0 had zero duty (100% reduction) upon entry into force (January 2010);
2. Tariffs in the category E-5 were reduced in five equal annual stages beginning from 2010; zero duty in January 2014;
3. Tariffs in the category E-8 were reduced in eight equal annual stages beginning from 2010; zero duty in January 2017;

4. Tariffs for products in the RED category was brought down to 1-5% by 1 January 2016;
5. For products in the SEN category, South Korea agreed to bring down tariffs to 50% of the base rate in eight equal instalments, that is, by 2017. On the other hand, India had a longer transition period and agreed to bring down the rates by 50% in ten equal annual instalments; that is, by January 2019.
6. There were no reduction commitments for tariffs on products in the category EXC.

It is clear from Figure 11 that in all about 70% of India's total lines became zero duty in her trade with South Korea by January 2017. Importantly, India did not eliminate tariffs on her agriculture, livestock or fishery sectors under this CEPA; these were almost fully covered under the exclusion, RED and sensitive lists.

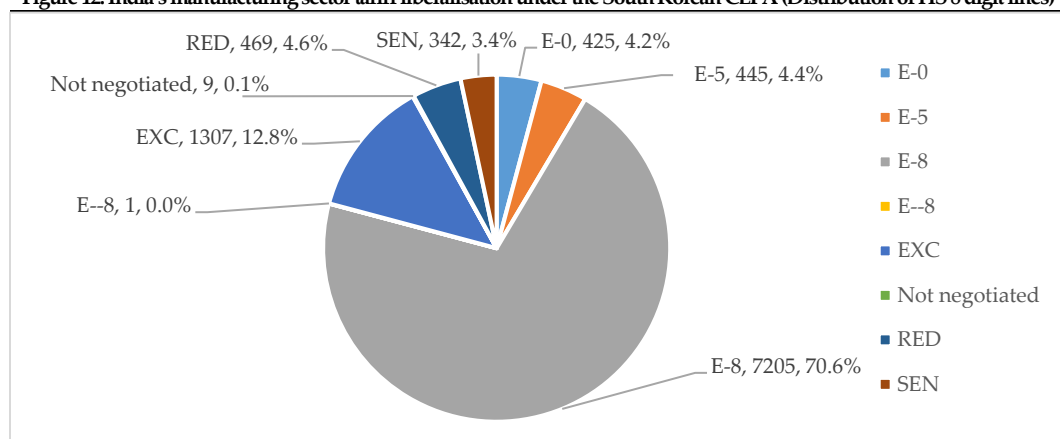
But when it comes to the manufacturing sector, while only 2% of these tariff lines became duty free in 2010 and another 5% in 2014, as much as 81% of the tariff lines became duty free in January 2017 (Figure 12).

Figure 11. India's overall tariff liberalisation under the South Korea CEPA (Distribution of HS 8 digit lines)



Source: Author's calculation based on the India-South Korea CEPA

Figure 12. India's manufacturing sector tariff liberalisation under the South Korean CEPA (Distribution of HS 8 digit lines)



Source: Author's calculation based on the India-South Korea CEPA

Tables 28 and 29 also establish that the large majority of tariff lines across the manufacturing sector became tariff free by 2017. At a disaggregate level, Table 29 reveals that as many as 56 out of the 63 manufacturing sectors faced zero duties from South Korea by 2017. However, it is important to note that 33% of electrical machinery sector and 20% of the professional instruments and their parts (optical, photographic, medical, measuring, etc. instruments) sector faced zero duties in 2010 itself. Another 34% of the latter sector became duty free by 2014 also.

Table 28. India's manufacturing sector tariff liberalisation under the India-South Korea CEPA
(Distribution of each MTN product category across tariff elimination stages)

<i>MTN product category/Tariff staging category</i>	<i>E-0</i>	<i>E-5</i>	<i>E-8</i>	<i>E-8</i>	<i>EXC</i>	<i>Not negotiated</i>	<i>RED</i>	<i>SEN</i>	<i>Total number of 8 digit tariff lines in the product category</i>
Chemicals	0.2	1.2	76.1	0.0	12.4	0.0	0.5	9.5	2512
Clothing	0.0	3.1	81.6	0.0	13.6	0.0	0.0	1.7	419
Electrical machinery	33.0	2.5	37.6	0.0	13.6	0.0	9.9	3.3	667
Leather, footwear, etc.	0.3	6.1	71.1	0.0	21.9	0.0	0.3	0.3	343
Manufactures, n.e.s.	9.1	13.9	70.8	0.0	3.7	1.3	0.0	1.2	674
Minerals & metals	0.4	7.7	84.6	0.0	3.6	0.0	2.9	0.7	1953
Non-electrical machinery	10.3	4.9	60.1	0.1	8.4	0.0	14.7	1.5	1099
Petroleum	0.0	0.0	5.6	0.0	44.4	0.0	0.0	50.0	18
Textiles	0.5	0.6	71.4	0.0	26.5	0.0	0.0	1.0	1561
Transport equipment	0.0	4.5	36.6	0.0	53.7	0.0	1.6	3.7	246
Wood, paper, etc	1.7	8.3	86.8	0.0	3.0	0.0	0.0	0.2	530
Total manufactured product lines	4.2	4.4	71.9	0.0	12.9	0.1	3.0	3.4	10022

Source: Author's calculations based on India-South Korea CEPA

Table 29. Major manufacturing sectors liberalised by India under the South Korean CEPA
(Percentage share in total 6 digit tariff lines in each chapter)

<i>Chapter (HS 2 digit level)</i>	<i>E-0</i>	<i>E-5</i>	<i>E-8</i>	<i>EXC</i>	<i>RED</i>	<i>SEN</i>	<i>Total</i>
Photographic or cinematographic goods	0	0	100	0	0	0	108
Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silkworm gut)	0	0	100	0	0	0	71
Cork and articles of cork	0	0	100	0	0	0	10
Headgear and parts thereof	0	0	100	0	0	0	15
Umbrellas, sun umbrellas, walking sticks, seat-sticks, whips, riding-crops and parts thereof	0	0	100	0	0	0	9
Prepared feathers and down and articles made of feathers or of down; artificial flowers; articles of human hair	0	0	100	0	0	0	15
Ceramic products	0	0	100	0	0	0	68
Nickel and articles thereof	0	0	100	0	0	0	27
Tin and articles thereof	0	0	100	0	0	0	16

<i>Chapter (HS 2 digit level)</i>	<i>E-0</i>	<i>E-5</i>	<i>E-8</i>	<i>EXC</i>	<i>RED</i>	<i>SEN</i>	<i>Total</i>
Other base metals; cermets; articles thereof	0	0	100	0	0	0	79
Musical instruments; parts and accessories of such articles	0	0	100	0	0	0	26
Arms and ammunition; parts and accessories thereof	0	0	100	0	0	0	21
Tools, implements, cutlery, spoons and forks, of base metal; parts thereof of base metal	0	1	99	0	0	0	97
Miscellaneous manufactured articles	0	0	99	1	0	0	93
Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin	0	1	99	0	0	0	91
Pharmaceutical products	1	0	99	0	0	0	214
Clocks and watches and parts thereof	0	1	97	1	0	0	68
Furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings; lamps and lighting fittings, not elsewhere specified or included; illuminated signs, illuminated nameplates and the like; prefabricated buildings	0	0	97	1	0	1	67
Ships, boats and floating structures	0	4	96	0	0	0	25
Inorganic chemicals; organic or inorganic compounds of precious metals, of rare-earth metals, of radioactive elements or of isotopes	0	0	96	2	0	2	354
Salt; sulphur; earths and stone; plastering materials, lime and cement	0	5	95	0	0	0	171
Special woven fabrics; tufted textile fabrics; lace; tapestries; trimmings; embroidery	0	4	95	1	0	0	80
Fertilisers	3	3	94	0	0	0	32
Miscellaneous articles of base metal	0	2	94	5	0	0	62
Other made-up textile articles; sets; worn clothing and worn textile articles; rags	0	0	93	6	0	1	108
Paper and paperboard; articles of paper pulp, of paper or of paperboard	0	1	92	7	0	0	225
Explosives; pyrotechnic products; matches; pyrophoric alloys; certain combustible preparations	0	0	92	8	0	0	25

Source: Author's calculations based on India-South Korea CEPA

Around 13% of India's manufacturing lines were excluded from liberalisation under the CEPA (Table 28). But as clear from Table 30, even in those manufacturing sectors in which some tariff lines were in the RED or EXC categories, a significant proportion of product lines became duty free by 2017. Three significant sectors with the largest share of their product lines in the EXC category were: manufactures of straw, basket-ware and wickerwork (with 100% excluded), vehicles & parts (73%), man-made filaments (55% EXC); and plastics and its articles (51% EXC). In the automobile segment, wherein 73% of its tariff lines were excluded, 20% of the chapter had become duty free by 2017, and in man-made filaments, 45% became tariff free by 2017. Similar was the case with rubber and articles, non-knitted apparel and clothing accessories, aircraft, spacecraft & parts, technical and industrial use textiles, man-made staple fibres, footwear and the like, etc.

Table 30. Other major manufacturing sectors liberalised by India under the South Korean CEPA
(Percentage share in total 6 digit tariff lines in each chapter)

SN.	Chapter (HS 2 digit level)	E-0	E-5	E-8	EXC	RED	SEN	Total
1	Tanning or dyeing extracts; tannins and their derivatives; dyes, pigments and other colouring matter; paints and varnishes; putty and other mastics; inks	0	3	92	4	0	2	339
2	Articles of stone, plaster, cement, asbestos, mica or similar materials	0	0	91	3	0	6	89
3	Toys, games and sports requisites; parts and accessories thereof	0	0	90	0	0	10	79
4	Aluminium and articles thereof	0	5	88	7	0	0	96
5	Wadding, felt and nonwovens; special yarns; twine, cordage, ropes and cables and articles thereof	11	0	87	2	0	0	55
6	Glass and glassware	7	0	85	7	0	2	106
7	Copper and articles thereof	0	1	85	14	0	0	111
8	Wood and articles of wood; wood charcoal	0	16	84	0	0	0	204
9	Railway or tramway locomotives, rolling stock and parts thereof; railway or tramway track fixtures and fittings and parts thereof; mechanical (including electromechanical) traffic signalling equipment of all kinds	0	17	83	0	0	0	42
10	Knitted or crocheted fabrics	0	9	83	9	0	0	47
11	Articles of apparel and clothing accessories, not knitted or crocheted	0	6	83	11	0	0	210
12	Articles of iron or steel	0	11	83	4	1	2	259
13	Zinc and articles thereof	0	17	83	0	0	0	23
14	Works of art, collectors' pieces and antiques	18	0	82	0	0	0	17
15	Articles of apparel and clothing accessories, knitted or crocheted	0	0	80	16	0	3	209
16	Soap, organic surface-active agents, washing preparations, lubricating preparations, artificial waxes, prepared waxes, polishing or scouring preparations, candles and similar articles, modelling pastes, 'dental waxes' and dental preparation	0	2	80	13	0	5	56
17	Iron and steel	0	9	78	2	11	0	510
18	Carpets and other textile floor coverings	0	0	76	12	0	12	75
19	Lead and articles thereof	0	25	75	0	0	0	24
20	Printed books, newspapers, pictures and other products of the printing industry; manuscripts, typescripts and plans	26	0	74	0	0	0	34
21	Organic chemicals	0	2	72	11	1	14	808
22	Impregnated, coated, covered or laminated textile fabrics; textile articles of a kind suitable for industrial use	0	3	72	22	0	3	68
23	Miscellaneous chemical products	1	0	72	3	4	20	178
24	Man-made staple fibres	1	0	71	27	0	1	206
25	Rubber and articles thereof	0	9	65	25	1	1	175
26	Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	11	5	59	8	15	2	1076

SN.	Chapter (HS 2 digit level)	E-0	E-5	E-8	EXC	RED	SEN	Total
27	Footwear, gaiters and the like; parts of such articles	0	0	57	43	0	0	74
28	Aircraft, spacecraft, and parts thereof	0	15	55	20	10	0	20
29	Pulp of wood or of other fibrous cellulosic material; recovered (waste and scrap) paper or paperboard	0	50	50	0	0	0	20
30	Man-made filaments; strip and the like of man-made textile materials	0	0	45	55	0	0	236
31	Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; parts and accessories thereof	20	34	42	4	0	0	277
32	Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles	33	3	38	14	10	3	664
33	Plastics and articles thereof	0	1	28	51	1	18	413
34	Ores, slag and ash	0	74	26	0	0	0	65
35	Vehicles other than railway or tramway rolling stock, and parts and accessories thereof	1	0	20	73	1	5	178
36	Manufactures of straw, of esparto or of other plaiting materials; basketware and wickerwork	0	0	0	100	0	0	9

Source: Author's calculations based on India-South Korea CEPA

V.2 Impact on India's Manufactured Imports

Analysis of the composition of India's imports from South Korea at the HS 2 digit level presented in Table 31 clearly shows that electrical machinery and non-electrical machinery and their parts were among the top three import sectors in the pre- and post-CEPA phases. However, their shares dropped significantly in the post-CEPA phases. While electrical machinery chapter continued to be the largest import, non-electrical machinery dropped to the third rank. While vehicles and their parts were the fourth largest import sector before the CEPA, its share also dropped in the post-CEPA phases. Meanwhile, the import shares of iron and steel (which was the third largest in the pre-CEPA phase), plastics and products as well as organic chemicals began registering major increase in the immediate post-CEPA phase of 2011-16, which increased further by 2019. The latter two nearly doubled their shares by the last phase. Iron and steel became the second largest import sector during the last phase and increased in share in 2019.

Two other sectors which were not among the top ten import sectors in the pre-CEPA phase and witnessed tremendous increase were gems and jewellery, and zinc and its products. However, the share of especially the former dropped in 2019. Additionally, ships, boats & other floating structures, professional instruments and their parts, aluminium and lead and their products, miscellaneous chemical products, base metal products, etc. also witnessed increase in import shares, while petroleum as well as automobiles and parts have remained very significant imports from South Korea.

Table 31. India's top imports from South Korea at the HS 2 digit level, 2002-19
(Percentage share in India's total imports from South Korea)

SN.	Chapter (HS 2 digit level)	2002-08	2011-16	2017-18	2019
1	Electrical machinery and equipment and parts thereof	29.1	16.8	18.4	18.3
2	Iron and steel	9.2	13.2	14.2	15.7
3	Non-electrical machinery and mechanical appliances; parts thereof	17.7	14.2	12.2	14.4
4	Plastics and articles thereof	5.2	9.3	10.0	10.4
5	Organic chemicals	3.4	7.1	6.5	7.5
6	Mineral fuels, mineral oils and their products	3.8	6.3	5.5	5.2
7	Gems and jewellery	0.6	3.2	4.6	0.6
8	Vehicles and their parts and accessories	6.9	5.7	4.5	5.6
9	Ships, boats and floating structures	3.0	3.5	3.2	0.6
10	Zinc and articles thereof	0.8	1.0	2.5	1.8
11	Optical and other professional instruments and their parts	2.3	2.4	2.4	2.8
12	Rubber and articles	2.2	3.3	2.2	1.8
13	Articles of iron or steel	2.9	2.0	2.0	2.2
14	Paper and paperboard; articles of paper pulp, paper or paperboard	1.5	1.8	1.8	1.3
15	Aluminium and articles thereof	0.6	1.2	1.4	1.4
16	Miscellaneous chemical products	0.5	1.0	1.2	1.4
17	Lead and articles thereof	0.6	0.7	1.1	1.0
18	Products and parts of base metal	0.8	1.0	1.0	1.5
19	Inorganic chemicals	0.8	0.9	0.9	1.3
20	Copper and articles thereof	0.7	0.4	0.5	0.4
21	India's total imports from South Korea (Billion USD)	4.2	12.5	17.8	16.0

Source: Author's calculations based on WITS UN Comtrade data

The detailed 6 digit level analysis of India's imports in Appendix Table 6 incorporating the tariff elimination categories also clearly establishes the dominant role played by electrical machinery and parts (despite the huge drop in share), iron and steel and their products, plastics, organic chemicals, as well as other metals and minerals and their products. Within the electrical machinery sector, although the sharp rise witnessed in the share of telecom parts imports in the immediate post-CEPA phase (2011-16) showed a decline subsequently, there was a sharp rise in imports of semiconductors during 2017-18 and 2019.

The Appendix Table also reveals that despite being a protected sector, transport equipment sector parts such as gear boxes, engines, etc. showed an increase in import share. The share of road roller parts, which became duty free by 2014 also began increasing after that.

Except for electrical machinery products (HS Chapter 85), which were zero either under ITA-1 (by 2005) or under E-0 (in 2010), the large majority of top 20 product-level imports belonged to E-5 and E-8 categories, which became zero duty in 2014 and 2017. These belonged mostly to metals and minerals. Furthermore, the majority of these top

products were intermediate products (followed by capital goods). But it is striking that in the case of plastics, despite as many as 51% of its tariff lines being in the exclusion list, several of them showed an increase in import share – as 49% of their lines were under duty-free categories! Most of these were intermediate goods. In fact, three products excluded from tariff liberalisation (petrol, PVC and polymers) made it into the top twenty 6 digit imports from South Korea. This is an aspect that needs further exploration.

Overall, India's imports from South Korea remain quite diversified. During 2017-18, it took top 100 products to constitute about 70% of total imports from South Korea. While this was an increase from the 66% during 2002-08, the concentration among top 20 major imports actually declined from 43% during 2002-08 to 39% during 2017-18. Combining the results observed from Table 31 and Appendix Table 6, it is evident that this diversification in the post-CEPA phases has been due to the increase in the number of intermediate products particularly in minerals and metals and chemicals. At the same time, when we examined the products within the next two major categories, electrical and non-electrical machinery, it was found that the top imported products were once again intermediate products. This was true of some of the transport parts and accessories too.

The significant rise in intermediate imports from South Korea in the post-CEPA phases is also shown at the product group level in Table 32. This is clearly evident across the manufacturing product groups, including in electrical machinery and non-electrical machinery, once we account for the discrepancy in the COMESA classification. On the other hand, South Korea's increased share in India's consumer goods imports (Table 27) can be linked to their increasing shares especially within minerals and metals as well as manufactures not elsewhere specified (n.e.s.). The impact of the across-the-board tariff liberalisation in India's manufacturing sector under the CEPA with South Korea is clearly observable from the analysis so far.

Table 32. India's imports from South Korea according to MTN product categories, 2002-2019

<i>MTN broad industry category</i>	<i>2002-08</i>	<i>2011-16</i>	<i>2017-18</i>	<i>2019</i>
Minerals & metals	17.5	24.2	29.1	26.4
Capital goods	0.03	0.13	0.04	0.06
Consumer goods	3.03	3.58	7.72	4.08
Intermediate goods	13.96	19.88	20.65	21.68
Raw materials	0.46	0.65	0.68	0.60
Chemicals	10.6	19.3	19.5	21.8
Consumer goods	1.24	1.51	1.45	1.70
Intermediate goods	9.34	17.76	18.01	20.10
Raw materials	0.01	0.00	0.00	0.00
Electrical machinery	29.1	16.8	18.4	18.3
Capital goods	26.48	14.86	16.95	16.87
Consumer goods	2.30	1.76	1.25	1.24
Intermediate goods	0.29	0.22	0.16	0.19

<i>MTN broad industry category</i>	<i>2002-08</i>	<i>2011-16</i>	<i>2017-18</i>	<i>2019</i>
Raw materials	0.00	0.00	0.00	0.00
Non-electrical machinery	17.7	14.2	12.2	14.4
Capital goods	17.70	14.20	12.19	14.38
Consumer goods	0.04	0.03	0.01	0.02
Intermediate goods	0.00	0.00	0.00	0.00
Transport equipment	11.1	9.8	7.8	6.4
Capital goods	10.41	8.56	5.87	5.78
Consumer goods	0.30	0.09	0.01	0.01
Intermediate goods	0.38	1.16	1.96	0.60
Petroleum	3.7	6.0	4.8	4.6
Consumer goods	3.35	5.48	4.38	4.57
Raw materials	0.34	0.48	0.42	0.00
Manufactures, n.e.s.	2.5	2.6	2.6	3.0
Capital goods	2.14	2.27	2.23	2.63
Consumer goods	0.14	0.23	0.19	0.21
Intermediate goods	0.21	0.09	0.14	0.20
Leather, footwear, etc.	2.4	3.4	2.3	1.9
Capital goods	0.08	0.03	0.03	0.02
Consumer goods	0.65	0.63	0.38	0.45
Intermediate goods	1.63	2.75	1.86	1.40
Raw materials	0.01	0.03	0.00	0.00
Wood, paper, etc	1.6	2.1	2.0	1.7
Consumer goods	0.13	0.27	0.24	0.26
Intermediate goods	1.46	1.79	1.78	1.42
Raw materials	0.00	0.01	0.00	0.01
Textiles	3.6	1.3	1.3	1.4
Capital goods	0.08	0.02	0.04	0.04
Consumer goods	0.45	0.20	0.19	0.16
Intermediate goods	3.01	1.09	0.99	1.09
Raw materials	0.08	0.03	0.09	0.14
Clothing	0.0	0.0	0.0	0.0
Consumer goods	0.01	0.01	0.01	0.01
Intermediate goods	0.00	0.00	0.00	0.00
Total manufacturing sector	99.8	99.8	99.9	99.9

Source: Author's calculations based on WITS UN Comtrade data

V. 3 India's Market Access Gains in South Korea

Even as South Korea's global imports nearly doubled from an average of USD 274 billion during the pre-CEPA phase 2002-08 to USD 503 billion in 2019, India's share in these imports has remained just around one per cent (Table 33). However, the industry-wise

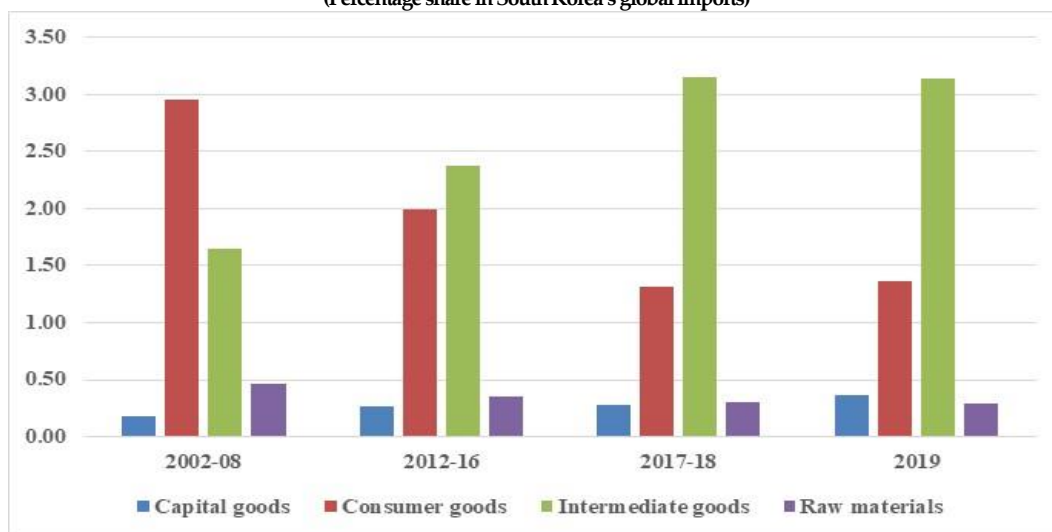
differentials in India's market share in South Korea are significant. During the pre-CEPA phase 2002-08, the product category oil seeds, fats and oils had accounted for the highest market share in South Korea, with a 12 per cent share in South Korea's global imports in that category. However, India lost market share in this category in the post-CEPA phases. Although textiles maintained the largest market share among manufactured products in the pre- and post-CEPA phases, its share declined below 5% after the CEPA came into force, followed by that in petroleum too. However, in three other manufactured product categories, India's market share witnessed an increase in the post-CEPA phases. These were minerals and metals, chemicals, followed by leather and footwear. Despite this increase, each of their market shares remained below 2% in 2019.

Table 33. India's share in South Korea's Global Imports according to MTN Product Categories, 2002-2019
(Percentage share in South Korea's global imports in each product group)

<i>MTN broad product group</i>	<i>2002-08</i>	<i>2011-16</i>	<i>2017-18</i>	<i>2019</i>
Oilseeds, fats & oils	11.6	8.8	6.1	6.8
Textiles	5.5	4.1	4.7	4.4
Beverages & tobacco	1.0	2.6	2.1	1.7
Cotton	1.4	2.0	1.9	1.6
Minerals & metals	0.9	1.1	1.8	1.7
Fruit, vegetables, plants	0.9	1.7	1.6	1.7
Chemicals	0.9	1.4	1.6	1.7
Leather, footwear, etc.	1.4	1.4	1.5	1.5
Other agricultural products	0.6	1.0	1.5	1.3
Petroleum	2.6	2.3	1.3	1.4
Coffee, tea	0.3	1.4	1.3	1.1
Clothing	0.4	0.8	0.8	0.8
Fish & fish products	0.9	0.8	0.6	0.7
Non-electrical machinery	0.3	0.4	0.4	0.5
Sugars & confectionery	0.5	0.7	0.3	1.3
Cereals & preparations	0.9	2.0	0.3	0.3
Transport equipment	0.4	0.2	0.3	0.4
Electrical machinery	0.1	0.1	0.2	0.2
Manufactures, n.e.s.	0.1	0.2	0.2	0.2
Wood, paper, etc	0.1	0.1	0.1	0.1
Dairy products	0.3	0.0	0.0	0.0
Animal products	0.0	0.0	0.0	0.0
South Korea's imports from India (Billion USD)	1.1	1.2	1.1	1.1

Source: Author's calculations based on WITS UN Comtrade data

Figure 13. South Korea's imports from India based on stage of processing, 2002-2019
(Percentage share in South Korea's global imports)



Source: Author's calculations based on WITS UN Comtrade data

It can be observed from Figure 13 that post-CEPA, India's share in South Korea's consumer goods imports dropped dramatically, all of which has been gained by intermediate goods category.

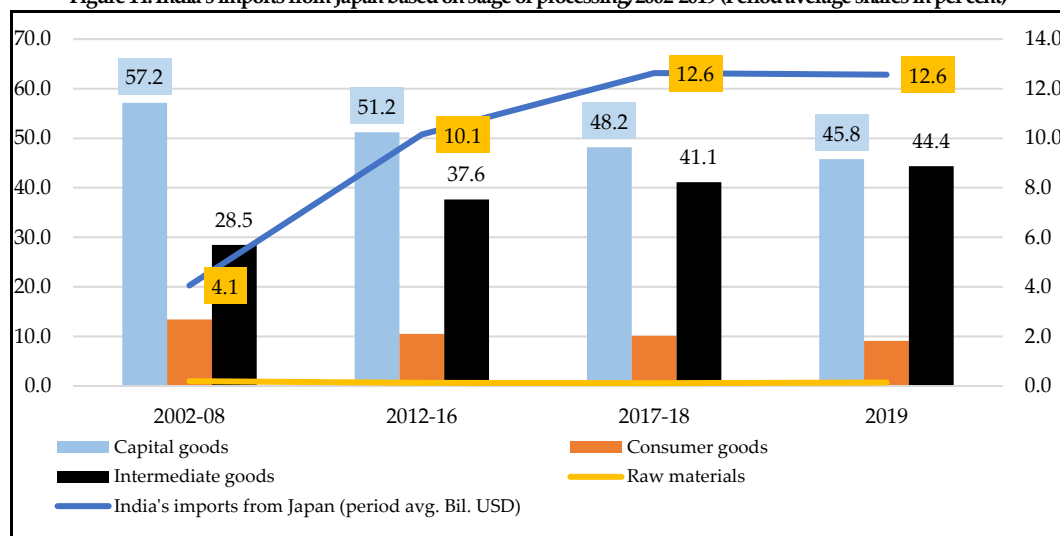
VI. India-Japan CEPA

One of the major objectives of the India-Japan Comprehensive Economic Partnership Agreement (CEPA) that came into force in August 2011 was also to liberalise and facilitate trade in goods and services between the two countries to create a larger market. However, as we saw in Section III, Japan's share in India's imports and exports declined after the CEPA came into force. But Japan's share in Indian imports has seen an increase since 2018, though Japan's significance as a source (2.6%) continued to remain lower than that of South Korea (3.4%) even in 2019. A distinct feature of India's imports from Japan is that they have remained one of the most diversified, even more than imports from South Korea. It took as many as 200 products at the HS 6 digit level to make a cumulative share of about 72% even during 2017-18. In particular, the cumulative share of top 20 imported products have remained very low. This went up from about 23% during 2002-08 to only about 27% during 2017-18.

Intermediate goods, followed by consumer goods, were the largest category in India's imports from Japan, in terms of the number of products at the HS 6 digit level. However, in terms of total import value (Figure 14), capital goods dominated imports from Japan. Despite a decline in share from about 58% during 2002-08 to 48% during 2017-18, this was true. Between the pre- and post-CEPA phases, the shares of consumer goods also dropped. Intermediate goods constituted the second largest in all phases, with a dramatic jump in its share from 28% in the pre-CEPA phase to 38% in the post-CEPA phase 2011-

16, and further to 44% in 2019. In 2019, the share of capital goods declined further (46%) and intermediate products increased further (44%), such that they came to account for somewhat equal shares in India's total imports from Japan. However, as a share of India's global imports, Japan remained the most important in capital goods imports (Table 34).

Figure 14. India's imports from Japan based on stage of processing, 2002-2019 (Period average shares in per cent)



Source: Author's calculations based on WITS UN Comtrade data

Table 34. Japan's share in India's global imports based on stage of processing, 2002-2019
(Percentage share in India's global imports in each category)

Stage of processing	2002-08	2012-16	2017-18	2019
Capital goods	7.9	6.8	5.4	5.3
Consumer goods	3.7	2.4	2.1	2.0
Intermediate goods	2.7	2.9	3.1	3.7
Raw materials	0.1	0.0	0.0	0.1
India's imports from Japan (Share in India's total imports)	2.9	2.4	2.4	2.6

Source: Author's calculations based on WITS UN Comtrade data

VI.1 Nature of Tariff Liberalisation

The India-Japan CEPA has five staging categories of products as given below:

- (1) Tariffs on products identified as "A" were eliminated upon the CEPA's entry into force (2011);
- (2) Tariffs on products identified as "B5" were to be eliminated in six equal instalments from the 2007 base rate; (2016)
- (3) Tariffs on products identified as "B7" were to be eliminated in eight equal instalments from the 2007 base rate; (2018)

- (4) Tariffs on products identified as “B10” were to be eliminated in 11 equal instalments from the 2007 base rate; (2021)
- (5) Tariffs on products identified as “B15” were to be eliminated in 16 equal instalments from the 2007 base rate (2026).

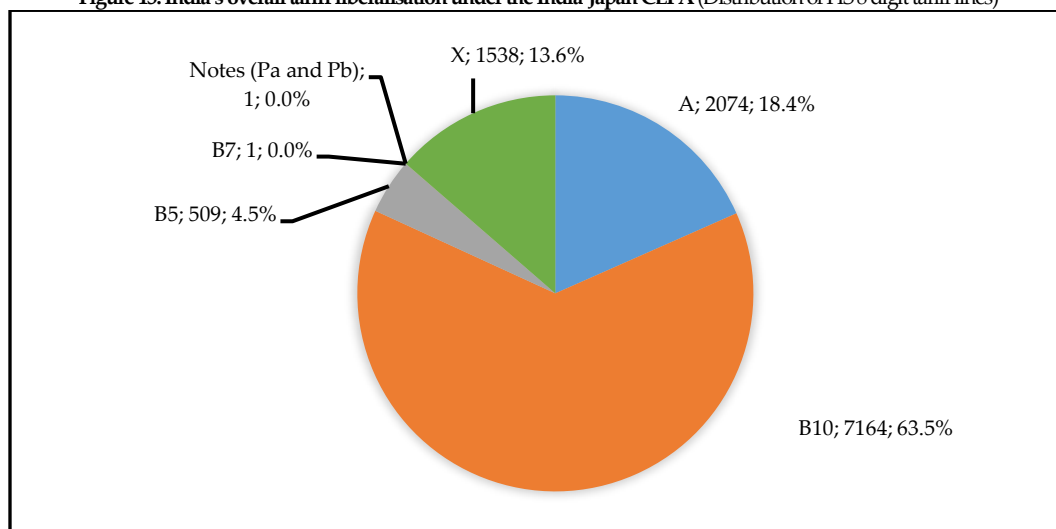
As usual, both India and Japan have maintained an “exclusion list”, which comprised of products for which the 2007 base year tariffs would not be eliminated or reduced. However, there were two additional categories in India’s tariff schedule – “Pa” and “Pb”.

- 1) Tariffs in the “Pa” category had to be reduced to under 10.62% in August 2011 and to 5% on 1 January 2017; and
- 2) Tariffs in the “Pb” category were to be reduced to 11.25% in August 2011 and further to 6.25% in 2019.

Pa and Pb categories have only one product each.

The base year for tariff reductions was 2007. India agreed to eliminate tariffs on 86.3% of the total 11289 tariff lines. This was the highest among all the PTAs considered above. However, India agreed to eliminate tariffs only on about 18% of this total immediately upon entry into force (that is, category A), in August 2011. But for the manufacturing sector, the share of products that became duty free immediately was nearly 21% (Figure 15). Another 5% manufacturing sector tariff lines became duty free by 2016. In fact, nearly all of India’s tariff lines that became duty free in 2016 (99% of total B5) were manufactured products.

Figure 15: India’s overall tariff liberalisation under the India-Japan CEPA (Distribution of HS 8 digit tariff lines)

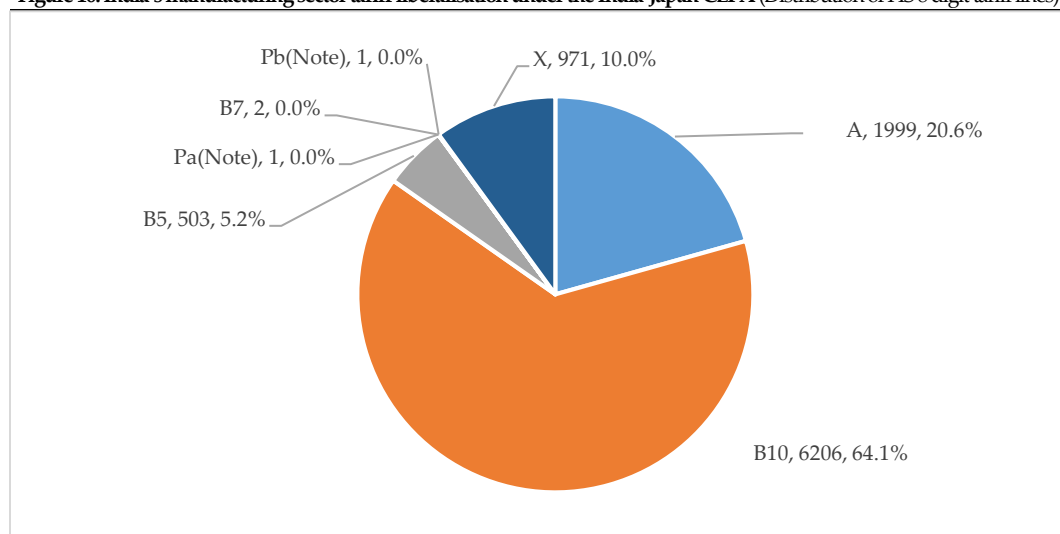


Source: Author’s calculations based on the India-Japan CEPA

On the whole, the country opted for a longer phase out schedule for the majority of tariff lines and agreed to eliminate tariffs on 63.5% of the total (that is, B 10; 7162 tariff lines) only in the 11th year of implementation, that is, by August 2021. For manufacturing

products too, more than 64% of the total tariff lines would become duty free only in 2021 (Figure 16). However, the share of excluded tariff lines within the manufacturing sector stood at about 10%, which was lower than the nearly 14% exclusion list overall. Combined with the greater proportion of manufacturing sector lines in Category A, it is clear that the manufacturing sector underwent greater liberalisation than at the aggregate level (see Figures 15 and 16).

Figure 16. India's manufacturing sector tariff liberalisation under the India-Japan CEPA (Distribution of HS 8 digit tariff lines)



Source: Author's calculations based on the India-Japan CEPA

Further, as pointed out in Dhar (2018: 54), about 54% of the total tariff lines in the B category had base year tariffs of 10% or more (see Dhar 2018: 54). That is, a significant proportion of the tariffs with moderate to high tariffs have been reduced since 2011 and are to become duty free in August 2021.

On the contrary, base year tariffs for nearly 29% of these in the exclusion category were less than 10% (Dhar 2018: 54). The relatively lower protection enjoyed by the excluded products at the MFN level reflects the relatively lower significance for those products. This clearly points to some disconnect between the nature of unilateral tariff liberalization that India adopted at the MFN level and the pattern of tariff protection retained by India under the CEPA with Japan (Dhar 2018).

While India had excluded about 13.6% of tariff lines from the tariff cuts, Japan had excluded 12.3% of its tariff lines from liberalisation. However, Japan eliminated nearly 80% of its tariff lines upon the entry into force of the CEPA (Table 35). This included almost all its manufacturing products. It is only on a small set of agricultural products that Japan offered a longer phaseout of tariffs over 15/6 years (Dhar 2018: 55). Furthermore, over 90% of the tariff lines in Japan's exclusion list belonged to the agricultural sector.

Table 35: Japan's overall tariff liberalisation under the India-Japan CEPA

<i>Tariff category</i>	<i>Number of tariff lines</i>	<i>Share of total (%)</i>
A: Elimination upon accession (2011)	7477	79.7
B7: Elimination from the base rate in 8 equal instalments (2018)	47	0.5
B10: Elimination in 11 equal instalments (2021)	656	7.0
B15: Elimination in 16 equal instalments (2026)	46	0.5
X: Excluded from tariff cuts	1156	12.3
Total tariff lines	9382	100.0

Source: Based on Dhar (2018; p. 55)

When India's tariff liberalisation scheme under this CEPA was analysed across the different staging categories, the following pattern emerges. It becomes clear that although India agreed to eliminate tariffs only on about 21% of its manufacturing sector tariff lines immediately upon entry into force in August 2011 (category A; see Figure 16), there was huge difference in its impact on different manufacturing sectors. As many as 8 chapters (HS 2 digit level) related to textiles and clothing had undergone 100% tariff elimination in 2011. Man-made staple fibres and man-made filaments had also become duty free since 2011 to the extent of 93% and 83% respectively. About 18% of electrical machinery (and 6% of non-electrical machinery) also became duty free in 2011 itself. This becomes clear from Table 36 also, which presents the pattern of India's tariff elimination across different product categories according to the MTN classification.

Similarly, although only about 5% manufacturing sector tariff lines had become duty free by 2016 (B5), this covered more than a quarter of the minerals and metals product group (Table 36). The differential impact was substantial for specific sectors. Analysis of the B5 category reveals that close to 90% of iron and steel tariff lines had become duty free by 2016, followed by about 22% of aluminium and its products and 20% of copper and its products. It must be noted that the remaining tariff lines in the iron and steel sector have also been undergoing reduction under B10 category, and this sector will become totally duty free in August 2021. Similar is the case with the remaining aluminium and copper sectors (with just 1% of copper related tariff lines having been excluded from the PTA). The B7 category, which became duty free by 2016, comprised mainly of petroleum products, followed by the non-electrical and electrical machinery groups, as well as the wood & pulp group.

The pattern of India's tariff liberalisation commitments are analysed at a more disaggregated, HS 2 digit chapter level in Table 37. It is observed that between 90-100% tariff lines in 16 manufacturing industries had been reduced since 2011 under Category B10 and are set to become duty free by 2021. 70-90% of the tariff lines in another 11 manufacturing industries are also facing similar pattern of tariff reduction and elimination by 2021. Apart from copper and aluminium industries (mentioned above), the latter group includes non-electrical machinery, professional instruments and their parts, rubber and its

products, organic chemicals and books & other printed articles. These products have also faced similar tariff reduction since 2011 and are set to become duty free in 2021. Close to 65% of the electrical machinery industry also belonged to this category, while the others in this sector had become duty free in 2010 itself.

Table 36. India's manufacturing sector tariff liberalisation under the India-Japan CEPA
(Distribution of each MTN product category across tariff elimination stages)

<i>MTN product category/Tariff elimination category</i>	<i>A</i>	<i>B10</i>	<i>B5</i>	<i>B7</i>	<i>Pa(Note)</i>	<i>Pb(Note)</i>	<i>X</i>	<i>Total number of 8 digit tariff lines in the product category</i>
Chemicals	0.4	81.1	0.0	0.0	0.0	0.0	18.5	2471
Clothing	100.0	0.0	0.0	0.0	0.0	0.0	0.0	395
Electrical machinery	17.5	65.0	0.3	0.0	0.0	0.0	17.2	594
Leather, footwear, etc.	0.3	79.0	0.0	0.0	0.0	0.0	20.7	328
Manufactures, n.e.s.	4.8	93.9	0.0	0.0	0.0	0.0	1.3	628
Minerals & metals	0.4	72.0	25.9	0.0	0.0	0.0	1.7	1908
Non-electrical machinery	6.1	80.2	0.4	0.0	0.1	0.0	13.3	1094
Petroleum	0.0	66.7	0.0	11.1	0.0	0.0	22.2	18
Textiles	90.9	7.3	0.0	0.0	0.0	0.0	1.8	1513
Transport equipment	0.0	54.5	0.0	0.0	0.0	0.4	45.1	244
Wood, paper, etc	1.8	94.1	0.6	0.0	0.0	0.0	3.5	490
Total manufactured products	20.6	64.1	5.2	0.0	0.0	0.0	10.0	9683

Source: Author's calculations based on the India-Japan CEPA

Table 37. India's tariff liberalisation of selected manufacturing sectors under the India-Japan CEPA

SN.	Chapter (HS 2 digit level)	Share of total tariff lines in the respective sector (%)			
		<i>A</i>	<i>B10</i>	<i>B5</i>	<i>X</i>
1	Ores, slag and ash	0.0	100.0	0.0	0.0
2	Headgear and parts thereof	0.0	100.0	0.0	0.0
3	Nickel and articles thereof	0.0	100.0	0.0	0.0
4	Ships, boats and floating structures	0.0	100.0	0.0	0.0
5	Clocks and watches and parts thereof	0.0	100.0	0.0	0.0
6	Arms and ammunition; parts and accessories thereof	0.0	100.0	0.0	0.0
7	Toys, games and sports requisites and their parts	0.0	100.0	0.0	0.0
8	Pharmaceutical products	1.4	98.6	0.0	0.0
9	Furniture; bedding, cushions and similar stuffed furnishings; lamps and lighting fittings nes; illuminated signs, prefabricated buildings	0.0	98.5	0.0	1.5
10	Inorganic chemicals	0.0	98.5	0.0	1.5
11	Tanning or dyeing extracts; dyes, pigments and other colouring matter; paints and varnishes; etc.	0.0	96.7	0.0	3.3
12	Fertilisers	3.4	96.6	0.0	0.0
13	Articles of stone, plaster, cement, asbestos, mica or similar materials	0.0	95.6	0.0	4.4
14	Salt; sulphur; earths and stone; plastering materials, lime and cement	2.9	95.4	0.0	1.7
15	Paper and paperboard; articles of paper pulp, of paper or of paperboard	0.0	93.1	0.0	6.9

SN.	Chapter (HS 2 digit level)	Share of total tariff lines in the respective sector (%)			
		A	B10	B5	X
16	Explosives; pyrotechnic products; matches; pyrophoric alloys; certain combustible preparations	0.0	92.0	0.0	8.0
17	Optical, photographic, medical and other professional and measuring instruments and their parts	9.3	88.4	0.0	2.2
18	Ceramic products	0.0	88.2	0.0	11.8
19	Soap, organic surface-active agents, washing preparations, lubricating preparations, 'dental waxes' and dental preparation	0.0	86.4	0.0	13.6
20	Pulp of wood or of other fibrous cellulosic material; recovered (waste and scrap) paper or paperboard	0.0	85.7	14.3	0.0
21	Works of art, collectors' pieces and antiques	17.6	82.4	0.0	0.0
22	Non-electrical machinery and mechanical appliances and their parts	6.0	80.1	0.4	13.5
23	Copper and articles thereof	0.0	78.9	20.0	1.1
24	Aluminium and articles thereof	0.0	78.1	21.9	0.0
25	Rubber and articles thereof	0.6	75.9	0.0	23.6
26	Organic chemicals	0.0	75.7	0.0	24.3
27	Printed books, and other products of the printing industry; manuscripts, typescripts and plans	26.5	73.5	0.0	0.0
28	Electrical machinery and parts thereof	18.0	64.5	0.3	17.1
29	Footwear, gaiters and the like; parts of such articles	0.0	59.4	0.0	40.6

Source: Author's calculations based on the India-Japan CEPA

Vehicles and parts (with 63.3% in the exclusion category), followed by plastics (54.5%), footwear (41%), organic chemicals (24.3%) and rubber and its products (23.6%) have been the most protected industries under the CEPA with Japan. It is evident that electrical machinery, miscellaneous chemical products and non-electrical machinery have enjoyed significantly lower degrees of protection.

VI.2 Impact on India's Manufactured Imports

Strikingly, despite such liberal commitments in the manufacturing sector by both India and Japan, bilateral trade did not register greater momentum at the aggregate level. As observed in Tables 2 and 4 in Section III, Japan's share in both India's manufactured exports and imports declined between the pre- and post-CEPA phases. The average share of India's non-oil manufactured imports originating from Japan also declined from 4.4% to 3.7% during 2017-18 and in 2019. This must be seen in light of the fact that several Japanese MNCs have established their production bases in the ASEAN countries since at least the mid-1980s' yen appreciation. Therefore, apart from technologically advanced capital goods imports, most of India's trade in manufactured goods with Japanese companies (especially intermediate goods) would have been happening through the ASEAN route. However, there were significant industry-wide differences that could be

linked to the impact of India's tariff liberalisation under this CEPA, as observed in the case of South Korea.

The predominance of capital goods is confirmed by the fact that during the pre-CEPA phase 2002-08, India's imports from Japan were dominated by non-electrical machinery (almost 28%) followed by minerals and metals, chemicals, electrical machinery (13%) and transport equipment (13%). Capital goods dominated both the first and the last broad categories, while intermediate goods were more prominent in the case of the other two. In the post-CEPA phase, by 2017-18, even though the ranks of these five product groups remained the same (Table 38), their relative shares registered significant changes. While the share of non-electrical machinery declined by two percentage points, it remained India's top imports from Japan and were totally dominated by capital goods. However, we can observe a very sharp increase in the share of minerals and metals from 18% to 24%, followed by chemicals whose share went up from 15% to 18%. In both these product groups, it is the share of intermediate goods that registered significant increase in the post-CEPA phase. We can see from Table 39 that the biggest contribution within minerals and metals was made by iron and steel as well as copper and its products. Similarly, the largest increases in the chemicals group was contributed by plastics and their products, followed by inorganic chemicals and organic chemicals. In fact, at the HS 6 digit product level, plastics product was India's largest import item from Japan (Appendix Table 7).

On the other hand, electrical machinery remained the fourth largest import from Japan, even though there was a one percentage point drop in its share. This group continued to be dominated by capital goods, while there was a drop in consumer goods imports.

Table 38. India's manufactured imports from Japan according to MTN product categories, 2002-2019
(MTN categories ranked in the order of their average share in total imports from Japan during 2017-18)

<i>MTN product category and stage of processing</i>	<i>2002-08</i>	<i>2012-16</i>	<i>2017-18</i>	<i>2019</i>
Non-electrical machinery	27.8	24.7	25.9	26.3
Capital goods	27.7	24.6	25.8	26.2
Consumer goods	0.1	0.1	0.1	0.1
Intermediate goods	0.0	0.0	0.0	0.0
Minerals & metals	18.0	24.5	23.5	26.9
Capital goods	0.1	0.3	0.4	0.7
Consumer goods	3.8	4.8	4.9	4.4
Intermediate goods	13.4	19.0	17.8	21.2
Raw materials	0.8	0.4	0.5	0.6
Chemicals	14.9	14.7	18.4	18.5
Consumer goods	3.6	1.8	2.0	1.7
Intermediate goods	11.3	12.8	16.5	16.7
Raw materials	0.0	0.0	0.0	0.0
Electrical machinery	12.9	11.0	11.9	11.2

<i>MTN product category and stage of processing</i>	<i>2002-08</i>	<i>2012-16</i>	<i>2017-18</i>	<i>2019</i>
Capital goods	10.8	9.7	10.5	10.0
Consumer goods	1.9	0.9	0.9	0.9
Intermediate goods	0.2	0.4	0.5	0.4
Raw materials	0.0	0.0	0.0	0.0
Transport equipment	12.6	12.8	8.2	5.8
Capital goods	10.4	9.5	5.7	3.7
Consumer goods	1.1	0.1	0.2	0.0
Intermediate goods	1.1	3.1	2.3	2.1
Manufactures, n.e.s.	7.0	5.5	6.9	6.2
Capital goods	5.9	4.7	5.7	5.2
Consumer goods	0.4	0.2	0.3	0.3
Intermediate goods	0.8	0.5	0.8	0.7
Leather, footwear, etc.	2.4	2.9	2.5	2.2
Capital goods	0.2	0.1	0.1	0.1
Consumer goods	1.1	1.3	1.2	1.0
Intermediate goods	1.1	1.5	1.2	1.1
Raw materials	0.0	0.0	0.0	0.0
Textiles	1.7	1.5	1.3	1.4
Capital goods	0.03	0.01	0.00	0.01
Consumer goods	0.18	0.20	0.22	0.22
Intermediate goods	1.45	1.25	1.07	1.15
Raw materials	0.03	0.02	0.0	0.0
Wood, paper, etc	0.8	0.8	1.1	1.2
Consumer goods	0.2	0.2	0.2	0.2
Intermediate goods	0.6	0.6	0.9	1.1
Raw materials	0.0	0.0	0.0	0.0
Petroleum	1.6	1.7	0.2	0.2
Consumer goods	1.5	1.3	0.2	0.2
Raw materials	0.12	0.34	0.0	0.0
Clothing	0.01	0.01	0.01	0.0
Consumer goods	0.0	0.0	0.01	0.0
Intermediate goods	0.003	0.001	0.0	0.0
Cumulative share of the manufacturing sector	99.8	99.9	99.9	99.8

Source: Author's calculations based on WITS UN Comtrade data

It must be noted that professional equipment and parts were an important constituent of the electrical machinery group. What is striking is the sharp drop in the share of transport equipment from 13% to 8%. Within this group, the share of capital goods dropped, while that of intermediates increased.

Among other manufactured goods, interestingly, the share of intermediates from the wood and paper group increased in India's imports from Japan. While the share of textiles registered a slight decline, that of clothing increased. It is important to note that the share of consumer goods increased within both textiles and clothing, while the share of intermediates dropped. This points to heightened displacement of final products in the domestic market. Indeed, as seen in Table 36, India had made all clothing imports from Japan duty free in 2011 itself. While the majority of textiles (91%) had also been made duty free in 2011 itself, the trend in imports establishes that when there is total free trade in final goods, it is likely to reduce the incentives for imports of intermediates for final goods production within the partner country.

Table 39. India's manufactured imports from Japan at the HS 2 digit level, 2002-2019
(Period average percent share in total imports from Japan)

SN.	Chapter	2002-08	2012-16	2017-18	2019
1	Non-electrical machinery & mechanical appliances; parts thereof	27.8	24.7	25.9	26.2
2	Electrical machinery and equipment and parts thereof	12.9	11.0	11.9	11.2
3	Iron and steel	8.2	13.7	10.7	9.2
4	Plastics and articles thereof	3.5	5.8	7.4	7.5
5	Optical, medical and other professional apparatus and their parts	6.5	5.1	6.4	5.8
6	Organic chemicals	5.4	4.7	5.7	5.9
7	Vehicles and their parts and accessories	5.2	5.6	5.3	3.6
8	Articles of iron or steel	3.9	3.7	3.1	3.0
9	Ships, boats and floating structures	7.0	6.9	2.8	2.2
10	Copper and articles thereof	0.4	0.8	2.6	6.2
11	Rubber and articles thereof	2.4	2.8	2.5	2.1
12	Inorganic chemicals; organic or inorganic compounds of precious metals, etc.	0.8	1.1	2.1	2.0
13	Mineral fuels, mineral oils and their products	3.2	2.8	2.1	2.3
14	Miscellaneous chemical products	1.6	1.7	1.7	1.6
15	Tools, cutlery, etc. of base metal and their parts	0.9	1.3	1.3	1.2
16	Soap, lubricating preparations, artificial waxes, 'dental waxes', etc.	0.5	0.6	0.8	0.8
17	Gems and jewellery	0.5	1.3	0.8	1.5
18	Paper and paperboard, and their products	0.7	0.6	0.8	1.0
19	Tanning or dyeing extracts; paints and varnishes; putty; etc.	0.9	0.6	0.7	0.6
20	Man-made filaments and other man-made textile materials	0.6	0.7	0.6	0.7
21	India's total imports from Japan (1000 USD)	4.1	10.4	12.6	12.6

Source: Author's calculations based on WITS UN Comtrade data

Analysis at the HS 2 digit level (Table 39) enables us to further relate these changes to the pattern of tariff liberalisation discussed above. It is evident that several of the top imports from Japan belonged to the B10 liberalisation category wherein tariffs had been continuously reduced since 2011. Notably, organic chemicals as well as vehicles and their

parts have maintained or increased their shares slightly despite the fact that significant proportion of their tariff lines were protected. Given that these products under B10 category are set to become duty free by 2021, in the absence of major domestic industrial policy changes that attract Japanese companies to set up production facilities in India, we can expect Japan's share in these industries to increase further.

Overall, we saw that the slight increase in relative concentration in India's imports from Japan between the pre- and post-CEPA phases was due to the increase in imports of intermediate products from Japan (see Table 38 and Figure 14). This is established in Appendix Table 7, wherein it is clearly seen that except for five capital goods items, the large majority of the top 23 products (HS 6 digit lines) were all intermediate goods. It is also evident from the product-level data that as discussed earlier, several other HS 6 digit level products that are classified as capital goods in the non-electrical machinery, electrical machinery and transport equipment are also actually intermediate goods from an Indian perspective (reflecting the problems in the classification scheme).

VI.3 India's Market Access Gains in Japan

In Section III, we had seen that the share of India's exports going to Japan had declined after the CEPA came into force. The average share of India's non-oil manufactured exports going to Japan declined from 2.1% during the pre-CEPA phase (2002-08) to 1.4% during 2017-18 and 2019. In fact, India was not at all a significant source of imports for Japan, either in the pre- or post-CEPA phases. As a share of Japan's global imports, imports from India remained below one per cent throughout the post-CEPA phases despite a very marginal improvement from 0.7% to 0.8% (Table 40). At the broad product group level, it was mostly agricultural products from India that were significant among Japan's global imports.

Textiles was the only manufacturing sector product group among imports from India that had a more than one per cent share among Japan's global imports; this market share declined marginally in the post-CEPA phase. India lost market share for her agricultural products too (especially cotton, and oil seeds, fats and oils) during 2012-16 and 2017-18. There was an increase in market share in 2019, in the case of cotton and fish and fish products. At the same time, India's market share increased gradually for chemicals, leather and footwear, and clothing, while remaining below 2% of Japan's global imports, even in 2019. India's market share in the case of petroleum has fluctuated significantly, while it lost market share in the case of minerals and metals. Despite marginal increase in their market shares, they remained below one per cent for transport equipment and non-electrical machinery equipment, even in 2019.

Overall, in Japan's imports from India, the share of consumer goods has dropped significantly, while that of intermediate goods has gone up dramatically (Figure 17). This also appears to suggest that despite the increased market access provided by Japan through its manufacturing sector tariff liberalisation, India was unable to increase its market share in final/consumer goods. No significant gains from the increase in intermediate trade appear to be accruing to the Indian economy.

Table 40. India's share in Japan's global imports according to MTN product categories, 2002-2019
(Percentage share in Japan's global imports in each product group)

<i>MTN broad product group</i>	<i>2002-08</i>	<i>2012-16</i>	<i>2017-18</i>	<i>2019</i>
Cotton	4.3	3.8	3.8	5.0
Fish & fish products	2.2	2.8	2.9	3.0
Oilseeds, fats & oils	4.4	3.8	2.8	2.3
Textiles	1.7	1.5	1.6	1.6
Fruit, vegetables, plants	1.1	1.5	1.6	1.3
Other agricultural products	1.4	1.6	1.5	1.4
Chemicals	0.6	1.2	1.3	1.5
Coffee, tea	1.7	1.3	1.2	1.4
Petroleum	0.6	1.6	1.2	0.6
Leather, footwear, etc.	0.3	0.8	1.0	1.0
Clothing	0.6	0.9	0.9	1.0
Minerals & metals	1.2	0.7	0.8	0.9
Transport equipment	0.1	0.5	0.6	0.7
Non-electrical machinery	0.2	0.3	0.4	0.5
Manufactures, n.e.s.	0.2	0.2	0.2	0.3
Cereals & preparations	0.1	0.1	0.2	0.2
Beverages & tobacco	0.0	0.2	0.1	0.1
Electrical machinery	0.1	0.1	0.1	0.1
Wood, paper, etc	0.0	0.1	0.1	0.1
Dairy products	0.2	0.2	0.0	0.0
Sugars & confectionery	0.0	0.0	0.0	0.0
Animal products	0.0	0.0	0.0	0.0
India's share in Japan's global imports	0.7	0.8	0.8	0.8

Source: Author's calculations based on WITS UN Comtrade data

Figure 17. Japan's imports from India based on stage of processing, 2002-2019 (Percentage share in Japan's global imports)



Source: Author's calculations based on WITS UN Comtrade data

VII. Conclusion

With a decade having passed since the entry into force of both the India-ASEAN FTA and the South Korean CEPA in 2010 (followed by the CEPA with Japan in 2011), this study sought to analyse the links between the extent and pattern of India's tariff liberalisation under these PTAs and the outcomes in India's manufacturing sector trade performance. It was in return for a potential increase in market access for her exports from MFN-plus tariff liberalisation by PTA partners that India committed to across-the-board tariff liberalisation in her own manufacturing sector.

The main findings and policy recommendations are summarised below:

- 1) India's tariff liberalisation in most consumer goods, capital goods and intermediate goods in her FTAs with ASEAN, South Korea and Japan went far beyond the country's MFN commitments under the WTO, including those under the Information Technology Agreement (ITA-1) for electronics products and parts.
- 2) In the manufacturing sector, India undertook greater tariff liberalisation than her PTA partners and granted significantly higher margins of preference to them across the majority of industries.
- 3) Consequently, even as there has been a substantial increase in India's trade with ASEAN and South Korea, the ratio of India's trade balance to total trade has deteriorated drastically - except for the least developed countries (Cambodia, Laos, Myanmar) and the Philippines. This was true for every major ASEAN partner, for ASEAN as a group, as well as for South Korea and Japan, and clearly establishes the increased import penetration by the PTA partners and the absence of net overall market access gains for India.
- 4) Among ASEAN partners, both Indonesia and Vietnam registered the largest increase in shares as a source of India's global imports, followed by Thailand. Indonesia emerged as the topmost ASEAN supplier of intermediate goods, consumer goods and raw materials. While Singapore continued to be the lead supplier of capital goods imports despite a sharp drop in its share in India's global imports, Thailand and Vietnam increased their shares.
- 5) Apart from all the major ASEAN partners, India's imports of intermediate products went up substantially between the pre- and post-FTA phases for South Korea and Japan. The discrepancy observed particularly in the electrical and non-electrical machinery and the transport equipment sectors (in terms of the larger shares of capital goods imports within them) has to do with the fact that a number of parts and component product lines in these sectors had been classified as capital goods under the MTN classification, rather than as intermediate products.
- 6) In general, India was unable to make significant manufacturing sector market access gains in the major ASEAN partners or in South Korea and Japan. In addition to the LDCs Myanmar, Brunei, Lao PDR and the Philippines, India's market share did increase gradually in Malaysia followed by Thailand and Indonesia. But

during 2017-18, Myanmar was the only ASEAN country in which India attained a share of even 5% of their global imports. Even this dropped to 3.8% in 2019. In 2019, India's market share increased marginally (over 2017-18) only in Brunei and Thailand. India's market shares in South Korea has stagnated around one per cent of that country's global imports since the CEPA came into force. India's market share in Japan has remained stuck below one per cent.

- 7) Wherever India's market share in the PTA partners increased in some manufacturing sector broad product groups (such as textiles or clothing, petroleum, leather and footwear, followed by chemicals, non-electrical machinery, transport equipment, minerals and metals, etc.), India's average shares remained below 5% of their respective global imports during 2017-18 and 2019.
- 8) An exception was transport equipment exports to Indonesia, which became the only manufactured product group that garnered a more than 5% share in a PTA member's global imports during 2017-18. Another important exception was electrical machinery exports to Vietnam, for which India's market share increased to 12% in 2019.
- 9) The evidence that came out of the in-depth analysis invalidates the widespread argument in the academic and policy literature that preferential trade agreements (FTAs, RTAs, CEPAs, etc.) would enable India to improve her export competitiveness. The significantly increased imports of intermediate goods over a decade has not lead to a major or sustained increase in India's manufactured exports in the PTA partner markets, or globally. Even in 2019, after a decade of preferential trade, India's market share in these partners' imports remained significantly below even 5% of their global sourcing. India lost market shares in even in consumer goods in the developed markets of Japan and South Korea.
- 10) Given the relatively marginal market access gains made by India in these partner countries in a limited number of manufactured sectors, it is evident that beyond a limited degree and beyond the short term, sustained export competitiveness do not depend on increasing tariff-free access to imported intermediate products.
- 11) Clearly, it is not possible to delineate the impact of MFN and MFN-plus trade liberalisation separately. However, given the unique fact that all the preferential trade liberalisation which India undertook since the mid-2000s has been with East and South East Asian economies deeply integrated with regional/global value chains in several industries, it is possible to conclude that the MFN-plus trade liberalisation under these agreements altered incentives for domestic production in India through their impact on import penetration and export market access.
- 12) The significant increase in the availability of imported intermediate and other products from ASEAN, South Korea and Japan enabled through the PTAs therefore seem to have played a definite role in India's manufacturing sector the slowdown. To the extent that these heightened imports displaced domestic production, due to the lack of domestic market access in conjunction with the absence of other industrial policy support for indigenous companies, these PTAs

have led to the breaking down of the domestic backward linkages in the Indian economy with adverse outcomes. This observation is supported by the trends available from the literature in India's domestic manufacturing output, value added and employment.

- 13) The shift in India's trade policy towards preferential trade agreements to obtain faster export growth did not automatically deliver the build-up in domestic capabilities and capacities required to make our production base more competitive. The latter require coordinated and strategic industrial policy support to re-build the domestic forward and backward linkages across Indian industries.
- 14) The government has to both invest and incentivise larger domestic (in particular, indigenous) investments in product and process R&D, innovations and standardisation in different products for improving and sustaining the dynamic competitiveness of the domestic manufacturing sector. This is particularly important for indigenous firms in upstream segments in the electrical machinery industry, metals and minerals, chemicals and pharmaceuticals, non-electrical machinery and transport equipment, as well as in the more labour-intensive textiles and garments, and others, all of which have been hit by dramatic increase in intermediate goods imports. There has to be a coherent policy framework to enable them to upgrade technologically towards more energy efficient processes and products, as well as to increase their domestic market access that will help them achieve economies of scale to compete with imports.
- 15) Simultaneously, in order to improve Indian firms' market access in the partner countries, India must negotiate and obtain increased transparency of the non-tariff barriers in these countries.
- 16) The Department of Commerce must make firm-level customs data publicly available in order that researchers can directly analyse whether India's increased market share in certain countries in certain manufacturing industries are related to the value chain strategies of multinational corporations or indigenous firms, and to assess to what extent indigenous firms have been able to gain from the preferential market access under these PTAs. The increase in India's market share in Vietnam for electrical machinery is a particular case in point. (The finding that it was the share of intermediate products that increased in Japan and South Korea's imports from India also lends some credence to this observation). This is a critical research input into drawing conclusions about the impact of PTAs on increased participation of India's manufacturing firms in regional/global value chains, the net value addition from increased intermediate imports and market access through the preferential route, and therefore, into trade and related industrial policymaking.
- 17) The Department of Commerce should monitor the trends in the volume and pricing of product level imports from all the PTA partners in India's top manufactured sectors, namely, electrical machinery, non-electrical machinery, iron and steel and products of iron and steel, chemicals, transport equipment,

leather and footwear, clothing and textiles, etc. This must be done on a regular basis and the safeguard measures available under these agreements for protecting domestic industry against unwarranted import surges must be utilised effectively and the PTAs may be reviewed periodically.

- 18) The Department of Commerce must come out with norms to ensure compliance with rules of origin in these FTAs. To facilitate this and to ensure level playing field for domestic firms in accessing India's domestic market, given the significant level of state-subsidised Chinese investments in some of the ASEAN economies, the Department of Commerce should analyse the port-level customs data available with them to monitor the extent to which non-ASEAN firms have used the PTA route. The latter must be denied market access through the preferential route.
- 19) The evidence of significant adverse impact of these existing PTAs do not give any basis to the renewed calls for India to join RCEP before policy support leads to an increase in manufacturing value addition in the country, including by indigenous firms.
- 20) In the context of the significant weakness in the domestic economy due to the adverse impact of the COVID-19 pandemic and also the accelerated digital transformations happening across several sectors, any new bilateral/regional trade negotiations must be put off until the government sorts out domestic policies related to FDI, government procurement, data protection, public digital infrastructure, etc. (Francis 2019c and Francis 2020), which are required to support indigenous companies, as well as those specifically related to government support for SMEs in the context of finance, R&D, etc. Further, as pointed out in Francis (2019a), any negotiations by India to formulate new PTAs must not commit to further MFN-plus liberalisation whether in trade policy or in other industrial policy tools, which will weaken Indian indigenous companies' incentives for undertaking domestic R&D and production-related investments or undermine their scale economies. These include pre-entry or post-entry investment guarantees/protection, government procurement, free cross-border data flows, etc. as well as MFN-plus tariff-free market access especially in sectors of livelihood significance and those with potential for indigenous technology development critical for emerging technological fields.

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Appendix

Appendix Table 1. India's imports from Indonesia at the HS 6 digit level, 2002-2019
(Period average percentage share in total imports from Indonesia)

SN.	SOP	Chapter	Product description	Tariff category under AIFTA	Base Rate (2007 MFN)	2002-08	2011-13	2014-16	2017-18	2019
1	Raw materials	27	Crude petroleum oils and oils obtained from bituminous minerals	ST	5	0.37	7.76	19.17	20.73	0.60
2	Intermediate goods	15	Crude palm oil and its fractions	Special Product	80	29.03	24.76	20.19	12.35	15.12
3	Intermediate goods	74	Other wire of refined copper	NT-2	5	0.00	0.25	1.48	3.71	0.64
4	Consumer goods	15	Refined palm oil and its fractions	Special Product	90	9.50	6.12	3.41	3.11	1.78
5	Consumer goods	85	Reception apparatus for TV etc., colour	#N/A	#N/A	0.03	1.73	3.49	3.00	0.07
6	Intermediate goods	76	Aluminium alloys	NT-1	5	0.00	0.24	1.42	2.51	0.00
7	Consumer goods	27	Petroleum oils & oils obtained from bituminous minerals other than crude preparation n.e.s.; containing 70% or more by weight of these oils	#N/A	#N/A	0.73	1.01	1.84	1.90	0.30
8	Capital goods	84	Parts and accessories of machines of heading no.8471	NT-1	0	0.08	1.26	2.43	1.84	0.00
9	Capital goods	85	Photosensitive semiconductor devices, incl. photovoltaic cells whether/not assembled in modules/ panels; LEDs	NT-1	0	0.00	0.10	1.94	1.81	0.00
10	Capital goods	85	Transmission apparatus incorporating reception apparatus	ITA-1	0	0.01	0.05	0.17	1.58	0.10
11	Raw materials	44	Other wood in rough	NT-1	5	0.18	1.70	4.13	1.41	0.00
12	Intermediate goods	29	Acetic acid	ST	7.5	0.00	0.26	0.90	1.41	0.00
13	Raw materials	44	Dark red/light red meranti and meranti bakau	NT-1	5	0.00	0.30	0.92	1.13	0.00
14	Intermediate goods	76	Aluminium wire-not alloyed-of which the maximum cross-sctnl dimension > 7 mm	NT-1	5	0.00	0.01	0.28	1.10	0.00
15	Capital goods	84	Digital processing units excl. subheadings 847141 and 847149,whether/not containing one/two types of storage/input/output units	NT-1	0	0.00	0.10	0.77	1.06	0.00

SN.	SOP	Chapter	Product description	Tariff category under AIFTA	Base Rate (2007 MFN)	2002-08	2011-13	2014-16	2017-18	2019
16	Consumer goods	85	Other telephone sets & videophone	ITA-1	#N/A	0.00	0.01	0.01	1.06	0.00
17	Consumer goods	27	Liquified natural gas	NT-1	5	0.00	0.06	0.38	1.05	0.00
18	Raw materials	72	Waste and scrap of stainless steel	NT-1	10	0.04	0.33	0.88	1.00	0.20
19	Intermediate goods	74	Tubes and pipes of refined copper	NT-1	7.5	0.00	0.19	0.77	0.96	0.00
20	Capital goods	85	Metal oxide semiconductors (MOS technology)	ITA-1	0	0.00	0.00	0.00	0.96	0.02
21	Raw materials	27	Other coal	NT-1	5	20.49	25.21	0.00	0.00	40.63
22	Intermediate goods	38	Other industrial monocarboxylic fatty acid	ST	15	1.63	0.59	0.58	0.83	1.32
23	Intermediate goods	80	Tin not alloyed	NT-1	5	0.14	0.87	0.95	0.69	0.98
24	Capital goods	89	Other vessels, fire floats, etc,	NT-1	10	0.07	0.14	0.49	0.48	6.06
25	Raw materials	40	Technically specified natural rubber (TSNR)	EL	20	0.42	0.83	0.14	0.24	1.59
26	Raw materials	27	Bituminous coal w/n pulverised but not agglomerated	NT-1	5	0.00	0.00	0.01	0.03	4.03
27	Intermediate goods	48	Other paper & paperboard not containing frbs obtained by mechanical process/of which<=10% by wt. of total fbr cntnt,wghng>=40g/m2 bt not>150g/m2	#N/A	#N/A	0.02	0.04	0.01	0.01	1.03
28	Intermediate goods	72	Hot-rolled products in coils of thickness >= 3 mm bt < 4.75 mm	NT-1	10	0.00	0.00	0.00	0.00	1.36
29	Intermediate goods	28	Aluminium oxide other than artificial corundum	NT-1	5	0.00	0.02	0.00	0.00	1.11
30	Intermediate goods	72	Hot-rolled products in coils of thickness	NT-1	10	0.00	0.00	0.00	0.00	1.05
31	Intermediate goods	72	Ferro-nickel	NT-1	10	0.08	0.00	0.00	0.00	1.21
32	Intermediate goods	31	Urea whether or not in aqueous solution	ST	5	0.30	0.21	0.00	0.00	1.08

Note: Top 20 2017-18 products and products with at least a one per cent share in 2019

Source: Author's calculations based on the India-ASEAN FTA and WITS UN Comtrade data

Appendix Table 2. India's imports from Malaysia at the HS 6 digit level, 2002-2019
(Period average percentage share in total imports from Malaysia)

SN.	SOP	Chapter	Product description	Tariff category under AFTA	Staging category under Malaysian CECA	Base Rate (2008 MFN)	2002-08	2011-13	2014-16	2017-18	2019
1	Raw materials	27	Crude petroleum oils and other oils obtained from bituminous minerals	ST	Special Track	5	18.4	22.4	19.8	21.4	16.8
2	Intermediate goods	74	Other wire of refined copper	NT-2	NT-2	5	0.1	0.4	1.5	3.8	3.8
3	Consumer goods	85	Reception apparatus for TV etc., colour	NT-2	#N/A	#N/A	0.4	3.4	3.6	3.1	0.2
4	Intermediate goods	76	Aluminium alloys	NT-1	NT-1	5	0.1	0.4	1.5	2.6	1.6
5	Consumer goods	27	Petroleum oils & oils obtained from bituminous minerals other than crude preparations n.e.s.; containing 70% or more by weight of these oils	#N/A	#N/A	#N/A	1.1	2.6	1.9	2.0	4.3
6	Capital goods	84	Parts and accessories of machines of computers and other data processing machines (8471)	NT-1	NT-1	0	3.3	2.4	2.0	1.9	1.7
7	Capital goods	85	Photosensitive semiconductor devices, incl. photovoltaic cells whether/not assembled in modules/panels; LEDs	NT-1	NT-1	0	0.0	0.4	2.0	1.7	0.1
8	Raw materials	44	Other wood in rough	NT-1	NT-1	5	7.1	5.3	4.3	1.5	1.1
9	Intermediate goods	29	Acetic acid	ST	Special Track	7.5	0.1	0.8	0.9	1.4	1.0
10	Raw materials	44	Dark red/light red meranti and meranti bakau	NT-1	NT-1	5	0.3	0.7	1.0	1.2	0.5
11	Intermediate goods	76	Aluminium wire-not alloyed-of which the maximum cross-sectional dimension exceeds 7 mm	NT-1	NT-1	5	0.0	0.0	0.3	1.1	1.3
12	Consumer goods	85	Other telephone sets & videophone	#N/A	#N/A	#N/A	0.1	0.0	0.0	1.1	0.5
13	Capital goods	89	Floating/submersible drilling/production platforms	NT-1	NT-1	10	0.0	0.0	0.0	1.1	0.0
14	Consumer goods	27	Liquified natural gas	NT-1	NT-1	5	0.2	0.3	0.4	1.1	1.0
15	Raw materials	72	Waste and scrap of stainless steel	NT-1	NT-1	10	0.5	0.8	0.9	1.0	0.9
16	Intermediate goods	74	Tubes and pipes of refined copper	NT-1	NT-1	7.5	0.1	0.4	0.8	1.0	1.1

<i>SN.</i>	<i>SOP</i>	<i>Chapter</i>	<i>Product description</i>	<i>Tariff category under AIFTA</i>	<i>Staging category under Malaysian CECA</i>	<i>Base Rate (2008 MFN)</i>	<i>2002-08</i>	<i>2011-13</i>	<i>2014-16</i>	<i>2017-18</i>	<i>2019</i>
17	Consumer goods	85	Other prepared unrecorded media	#N/A	#N/A	#N/A	0.1	0.1	0.4	0.9	0.9
18	Intermediate goods	38	Other industrial monocarboxylic fatty acid	ST	Special Track	15	1.7	1.0	0.6	0.9	1.0
19	Capital goods	85	Transmission apparatus incorporating reception apparatus	#N/A	#N/A	#N/A	1.7	0.4	0.2	0.8	1.5
20	Capital goods	84	Digital processing units excluding of subheadings 847141 and 847149, whether/not containing one/two types of storage/input/output units	NT-1	NT-1	0	0.9	0.0	0.1	0.8	1.0
21	Intermediate goods	38	Industrial fatty alcohol	NT-1	NT-1	15	0.1	0.4	0.5	0.8	0.4
22	Capital goods	89	Other vessels, fire floats, etc.	NT-1	NT-1	10	0.56	0.01	0.27	0.13	1.97
23	Capital goods	84	Turbo-jets of a thrust>25 kn	NT-1	NT-1	7.5	0.00	0.01	0.06	0.25	1.11
24	Capital goods	85	Other parts of heading 8525 to 8528	NT-1	NT-1	0	0.09	0.14	0.45	0.42	0.78

Note: Top 20 2017-18 products and products with at least a one per cent share in 2019

Source: Author's calculations based on the India-ASEAN FTA and WITS UN Comtrade data

Appendix Table 3. India's imports from Singapore at the 6 digit level, 2002-2019
(Period average percentage share in total imports from Singapore)

SN.	SOP	Chapter	Product description	Staging category under ASEAN FTA	Base Rate (2007 MFN)	2002-08	2011-13	2014-16	2017-18	2019
1	Capital goods	29	Styrene	NT-1	2	4.20	3.71	6.81	6.64	0.96
2	Capital goods	85	Transmission apparatus incorporating reception apparatus	ITA-1	#N/A	1.18	0.56	0.08	5.97	3.45
3	Capital goods	84	Digital processing units excl. of subheadings 847141 and 847149, whether/not containing one/two types of storage/input/output units	NT-1	0	1.41	1.98	8.66	5.59	2.92
4	Capital goods	71	Non-industrial diamonds unworked simply sawn cleaved or bruted	NT-1	0	0.01	0.42	2.33	4.28	1.20
5	Capital goods	85	Metal oxide semiconductors (MOS technology)	ITA-1	#N/A	0.16	0.00	0.00	3.80	5.94
6	Capital goods	84	Portable automatic data-processing machines, weight <=10 kg, consisting of at least a CPU, a keyboard and a display	NT-1	0	1.21	1.22	0.88	2.69	2.48
7	Capital goods	89	Tugs and pusher craft	NT-1	10	1.30	1.02	0.27	2.44	0.12
8	Capital goods	27	Other coal	NT-1	5	0.09	0.06	0.00	2.29	4.17
9	Capital goods	85	Other telephone sets & videophone	ITA-1	#N/A	0.13	0.13	0.08	1.78	1.02
10	Capital goods	29	p-Xylene	NT-1	2	1.30	4.47	1.19	1.64	2.10
11	Capital goods	72	Other waste and scrap	NT-1	10	0.42	0.52	0.51	1.40	0.91
12	Capital goods	85	Parts of telephonic/telegraphic apparatus	ITA-1	#N/A	0.70	0.43	1.13	1.31	0.24
13	Capital goods	29	Esters of methacrylic acid	EL	7.5	0.10	0.83	1.21	1.24	0.49
14	Capital goods	89	Other vessels, fire floats, etc.	NT-1	10	2.67	1.63	0.25	1.18	2.21
15	Capital goods	85	Photosensitive semiconductor devices, incl. photovoltaic cells whether or not assembled in modules or made up into panels; LEDs	NT-1	0	0.12	0.56	0.51	1.15	0.69
16	Capital goods	29	Ethylene glycol ethanediol	ST	7.5	0.00	0.22	0.71	1.10	0.14
17	Capital goods	29	Vinyl acetate	NT-1	7.5	0.61	0.63	1.74	1.10	0.56
18	Capital goods	29	Acetic acid	ST	7.5	0.86	0.95	1.03	0.99	0.55
19	Capital goods	39	Other polyethers	NT-1	7.5	0.21	1.47	0.70	0.97	0.53
20	Capital goods	38	Additives for lubricating oils containing petroleum oils or oils obtained from bituminous minerals	NT-1	10	0.17	0.44	0.50	0.94	0.47

SN.	SOP	Chapter	Product description	Staging category under ASEAN FTA	Base Rate (2007 MFN)	2002-08	2011-13	2014-16	2017-18	2019
21	Capital goods	90	Other automatic regulating/controlling instruments and apparatus	NT-2	7.5	0.30	0.70	0.36	0.92	0.53
22	Capital goods	39	Polypropylene	ST	5	0.66	0.99	1.64	0.89	0.98
23	Capital goods	39	Propylene copolymers	ST	5	0.23	0.52	1.27	0.85	0.91
24	Capital goods	27	Petroleum oils and oils obtained from bituminous minerals other than crude; preparations n.e.s./included, containing by weight ≥ 70 % petroleum oils	#N/A	#N/A	9.77	3.10	12.79	0.81	4.23
25	Capital goods	84	Parts of printing machinery and ancillary machineries	#N/A	#N/A	0.46	0.50	0.23	0.73	1.21
26	Capital goods	84	Turbo-jets of a thrust > 25 kn	NT-1	7.5	0.03	0.08	0.01	0.56	1.73
27	Capital goods	39	Other polymers of ethylene in primary forms	ST	5	0.04	0.83	2.53	0.39	1.68
28	Capital goods	89	Other vessels for transport of the goods and other vessels for the transport of both persons and goods	NT-1	10	1.61	1.95	0.32	0.37	1.07
29	Capital goods	84	Storage units	NT-1	0	4.27	1.73	1.11	0.19	1.68
30	Capital goods	15	Crude oil	Special Product	80	0.03	0.05	0.00	0.08	1.20

Note: Top 20 2017-18 products and products with at least a one per cent share in 2019

Source: Author's calculations based on the India-ASEAN FTA and WITS UN Comtrade data

Appendix Table 4. India's imports from Thailand at the HS 6 digit level, 2002-2019
(Period average percentage share in total imports from Thailand)

SN.	SOP	Chapter	Product description	Tariff category under AIFTA	Base MFN tariff (2007)	2002-08	2011-13	2014-16	2017-18	2019
1	Capital goods	84	Storage units	NT-1	0	2.5	3.4	3.8	3.1	1.7
2	Intermediate goods	39	Polycarbonates	NT-2	5	1.6	1.9	2.2	2.9	1.6
3	Capital goods	84	Window/wall types self-contained air conditioning machines	ST	10	1.6	3.5	3.9	2.9	1.9
4	Intermediate goods	15	Crude palm oil and its fractions	Special Product	80	1.0	1.4	0.5	2.8	0.8
5	Capital goods	87	Other parts and accessories of vehicles of heading 8701-8705	ST	10	2.4	2.6	3.8	2.7	1.6
6	Intermediate goods	29	Terephthalic acid and its salts	ST	7.5	0.6	5.7	2.4	2.4	1.1
7	Intermediate goods	74	Other wire of refined copper	NT-2	5	0.0	0.0	0.5	2.3	1.7
8	Consumer goods	85	Reception apparatus for TV, etc., colour	#N/A	#N/A	3.4	1.2	2.1	2.1	1.4
9	Capital goods	85	Still image video camera & other video camera recorders	ITA-1	#N/A	0.0	1.0	1.4	1.6	0.7
10	Intermediate goods	29	Phenol (hydroxybenzene) and its salts	ST	7.5	0.0	0.5	0.8	1.4	0.6
11	Intermediate goods	29	Toluene	NT-1	5	0.0	0.8	1.3	1.3	0.8
12	Capital goods	84	Parts suitable for use solely/principally with spark-ignition internal combustion piston engines other than parts for aircraft engine	NT-1	7.5	0.3	0.6	1.1	1.3	0.8
13	Raw materials	72	Waste and scrap of stainless steel	NT-1	10	1.4	1.0	1.8	1.3	0.7
14	Intermediate goods	39	Poly (vinyl chloride), not mixed with other	ST	5	0.2	0.0	0.1	1.2	0.6
15	Raw materials	40	Technically specified natural rubber (TSNR)	EL	20	0.6	1.3	1.7	1.2	0.4
16	Capital goods	84	Combined refrigerator freezers ,fitted with separate external doors	ST	7.5	0.0	0.6	0.9	1.1	0.8
17	Capital goods	84	Parts of the air conditioning machines etc.	NT-1	10	0.8	1.1	1.4	1.1	0.7
18	Intermediate goods	39	Other polymers of ethylene in primary forms	ST	5	0.2	0.8	1.7	1.0	0.2
19	Consumer goods	85	Other telephone sets & videophone	ITA-1	#N/A	0.2	0.1	0.0	1.0	0.1
20	Capital goods	84	Other pumps, compressors etc	EL	7.5	0.6	1.2	1.1	1.0	0.8
21	Intermediate goods	71	Other non-industrial diamonds	NT-1	10	0.6	1.4	0.3	0.9	7.1
22	Intermediate goods	39	Other polymers of vinyl chloride or of other halogenated olefins in primary forms	NT-2	7.5	0.0	0.0	0.2	0.9	0.8
23	Capital goods	85	Transmission apparatus incorporating reception apparatus	ITA-1	#N/A	0.1	0.3	0.0	0.9	1.0
24	Intermediate goods	71	Other unwrought forms	NT-1	10	0.0	1.3	0.0	0.7	1.0
25	Capital goods	87	Gear boxes	NT-1	10	0.0	0.1	0.5	0.5	0.8
26	Capital goods	87	Other tractors	NT-1	10	0.0	0.1	0.3	0.5	1.0
27	Consumer goods	73	Other articles of heading 7326	ST	10	1.3	0.5	0.7	0.3	0.7

SN	SOP	Chapter	Product description	Tariff category under AIFTA	Base MFN tariff (2007)	2002-08	2011-13	2014-16	2017-18	2019
28	Consumer goods	27	Petroleum oils & oils obtained from bituminous minerals other than crude preparations; containing 70% or more by weight of these oils	#N/A	#N/A	1.2	0.3	0.3	0.3	1.4
29	Capital goods	85	Photosensitive semiconductor devices, incl. photovoltaic cells whether/not assembled in modules/ panels; LEDs	NT-1	0	0.1	0.0	0.0	0.3	1.2
30	Intermediate goods	71	Unwrought silver	NT-1	10	0.1	0.1	0.0	0.2	0.9
31	Capital goods	84	Diesel/semi-diesel engines used for propulsion of vehicles of chapter 87	ST	7.5	4.8	4.2	3.0	0.1	2.0
32	Capital goods	84	Other engines	NT-1	7.5	0.0	0.0	0.0	0.0	1.9

Note: Top 20 2017-18 products and products with at least a one per cent share in 2019

Source: Author's calculations based on the India-ASEAN FTA and WITS UN Comtrade data

Appendix Table 5. India's imports from Vietnam at the HS 6 digit level, 2002-2019

(Period average percentage share in total imports from Vietnam)

SN.	SOP	HS code	Product description	Tariff category under AIFTA	Base MFN tariff (2007)	2002-08	2011-13	2014-16	2017-18	2019
1	Capital goods	851790	Parts of telephonic/telegraphic apparatus	ITA-1	#N/A	0.0	4.2	9.9	11.7	20.2
2	Capital goods	852520	Transmission apparatus incorporating reception apparatus	ITA-1	#N/A	0.0	25.8	14.2	11.0	6.4
3	Intermediate goods	740819	Other wire of refined copper	NT-2	5	0.0	0.0	0.8	4.4	2.9
4	Intermediate goods	281820	Aluminium oxide other than artificial corundum	NT-1	5	0.0	0.0	0.5	4.0	3.5
5	Intermediate goods	741110	Tubes and pipes of refined copper	NT-1	7.5	0.0	0.6	2.8	3.5	3.6
6	Consumer goods	852812	Reception apparatus for TV, etc., colour	#N/A	#N/A	0.0	2.1	1.6	3.3	7.3
7	Capital goods	847330	Parts and accessories of machines of heading no. 8471	NT-1	0	0.1	0.4	4.0	3.3	1.7
8	Capital goods	852540	Still image video camera & other video camera recorders	ITA-1	#N/A	0.0	0.1	0.9	2.6	7.7
9	Intermediate goods	540241	Other yarn of nylon/other polymds, cun twisted or with a twist <=50 turns per metre single	#N/A	#N/A	0.0	0.4	1.0	2.0	1.2
10	Raw materials	90111	Coffee neither roasted nor decaffeinated	Special Product	100	5.9	3.0	2.5	1.8	0.8
11	Consumer goods	851719	Other telephone sets & videophone	ITA-1	#N/A	0.0	0.0	0.1	1.5	0.0
12	Consumer goods	330741	Agarbatti and other odoriferous preparations which operate by burning	ST	10	1.0	1.0	2.1	1.4	0.7
13	Intermediate goods	280470	Phosphorus	NT-1	5	0.9	2.1	2.5	1.4	0.8
14	Raw materials	400122	Technically specified natural rubber (TSNR)	EL	20	2.5	4.5	3.0	1.3	1.9
15	Capital goods	901380	Other devices, appliances and instruments	NT-1	0	0.0	0.0	0.4	1.3	0.1
16	Raw materials	720421	Waste and scrap of stainless steel	NT-1	10	2.2	0.7	1.1	1.3	0.6
17	Intermediate goods	730890	Other structures and parts of structures, etc.	NT-1	10	0.0	0.1	1.7	1.2	0.1
18	Capital goods	851829	Other loud speakers, whether/not mounted in their enclosures	NT-2	10	0.2	0.5	1.2	1.2	1.8
19	Intermediate goods	780199	Other unrefined lead and lead alloys	NT-1	5	0.0	0.1	0.7	1.2	0.6
20	Intermediate goods	721070	Products painted, varnished/coated with plastics	NT-1	10	0.0	0.0	0.0	1.2	0.1
21	Intermediate goods	280920	Phosphoric acid and polyphosphoric acids	NT-1	7.5	0.0	0.0	1.7	1.1	0.6
22	Intermediate goods	721061	Flat-rolled products of iron/non alloy steel plated/coated with aluminium/zinc alloys	NT-1	10	0.0	0.0	0.0	1.1	0.2

SN.	SOP	HS code	Product description	Tariff category under AIFTA	Base MFN tariff (2007)	2002-08	2011-13	2014-16	2017-18	2019
23	Capital goods	852990	Other parts of heading numbers 8525 to 8528	NT-1	0	0.6	0.3	0.8	1.1	0.9
24	Consumer goods	230990	Other preparations of a kind used in animal feeding	EL	30	0.0	0.6	0.9	1.0	0.8
25	Capital goods	847160	Input/output units, whether/not containing storage units in the same housing	NT-1	0	0.3	0.6	1.5	1.0	0.7
26	Intermediate goods	900219	Other objective lenses	NT-1	10	0.0	0.0	0.0	1.0	0.0
27	Consumer goods	90411	Pepper neither crushed nor ground	Special Product	70	10.4	1.6	2.8	0.9	0.4
28	Consumer goods	90610	Cinnamon & tree flowers not crushed/grinded	#N/A	#N/A	3.0	0.8	1.3	0.9	1.0
29	Capital goods	842619	Other (transporter carriers, gantry carriers, boarding carriers)	NT-1	7.5	0.0	0.6	0.0	0.8	0.3
30	Capital goods	850780	Other accumulators	NT-2	10	0.1	2.1	1.4	0.8	2.1
31	Intermediate goods	730610	Line pipe used for oil or gas pipelines	#N/A	#N/A	0.0	0.0	0.5	0.8	0.4
32	Capital goods	854140	Photosensitive semiconductor devices, incl. photovoltaic cells whether/not assembled in modules/ panels; LEDs	NT-1	0	0.0	0.0	0.0	0.7	2.3
33	Raw materials	500200	Raw silk (not thrown)	NT-1	30	0.2	0.0	0.3	0.7	0.8
34	Intermediate goods	730660	Other welded non-circular cross-section tubes or pipes of iron or steel	#N/A	#N/A	0.0	0.0	0.1	0.6	1.2

Note: Top 20 2017-18 products and products with at least a one per cent share in 2019

Source: Author's calculations based on the India-ASEAN FTA and WITS UN Comtrade data

Appendix Table 6. India's imports from South Korea at the HS 6 digit level, 2002-2019
(Period average percentage share in India's total imports from South Korea)

SN.	Product description	SOP	Tariff category under the CECA	Base MFN tariff (2007)	2002-08	2011-16	2017-18	2019
1	Transmission apparatus incorporating reception apparatus		E-0	0	17.5	1.2	4.6	0.4
2	Metal oxide semiconductors (MOS technology)	Capital goods	ITA-1	0	0.1	0.0	4.4	9.2
3	Petroleum oils and oils obtained from bituminous minerals	Consumer goods	X	10	3.4	5.5	4.4	4.6
4	Of other precious metal, whether or not plated or clad with precious metal		E-8	7.5	0.0	0.0	4.2	
5	Parts of telephonic/telegraphic apparatus	Capital goods	E-0	0	0.3	4.1	2.4	1.1
6	Other parts and accessories of vehicles	Capital goods	RED	12.5	4.6	3.1	2.1	2.2
7	Vessels and other floating structures for breaking up		E-8	5	0.0	0.9	1.8	0.6
8	Containing by weight 99.99 % or more of zinc	Intermediate goods	E-5	7.5	0.4	0.6	1.7	0.9
9	Polyvinyl chloride, not mixed with any other substances	Intermediate goods	EXC	5	0.4	0.4	1.6	1.9
10	Flat rolled products of iron and steel in coils of thickness- of a thickness of 3 mm or more but less than 4.75 mm	Intermediate goods	E-8	5	0.1	0.8	1.6	1.8
11	Gear boxes and parts thereof	Capital goods	SEN	12.5	0.5	0.9	1.3	1.9
12	Other products of iron/non-alloy steel otherwise plated/coated with Zinc	Intermediate goods	E-5	5	0.4	0.9	1.3	1.1
13	Parts of road rollers, mechanically propelled	Capital goods	E-5	12.5	0.2	1.0	1.2	1.0
14	Of a thickness exceeding 10 mm		E-8	5	0.2	0.6	1.2	0.8
15	Acrylonitrile-butadiene-styrene ABS copolymers	Intermediate goods	EXC	5	0.3	0.9	1.0	1.0
16	Of a thickness of less than 3 mm		E-8	5	0.1	0.6	0.9	0.8
17	Painted, varnished or coated with plastics	Intermediate goods	E-5	5	0.3	0.8	0.9	0.9
18	Other		E-8	7.5	0.2	0.4	0.8	0.8
19	Flat rolled products of iron and steel in coils of thickness>= 4.75mm but<=10mm	Intermediate goods	E-8	5	0.1	0.5	0.8	1.3
20	Refined lead		E-5	5	0.4	0.4	0.8	0.6
22	Terephthalic acid and its salts	Intermediate goods	SEN	12.5	0.1	2.6	0.7	1.6
23	Of a thickness of 0.5 mm or more but not exceeding 1 mm	Intermediate goods	E-5	5	1.7	1.8	0.6	0.9
24	Injection or compression types	Capital goods	E-0	12.5	0.3	0.6	0.5	1.1
25	Tools for pressing, stamping or punching	Consumer goods	E-5	12.5	0.4	0.5	0.6	1.0
26	Injection or compression types	Capital goods	E-0	12.5	0.3	0.6	0.5	1.1
27	Dividing heads and other special attachments for machines	Capital goods	E-5	12.5	0.5	0.4	0.4	0.9
28	Of a cylinder capacity exceeding 1000 cm ³	Capital goods	EXC	12.5	0.4	0.5	0.4	1.0
29	Styrene	Intermediate goods	E-8	2	0.1	0.0	0.3	1.1

Note: Top 20 2017-18 products and products with at least a one per cent share in 2019

Source: Author's calculations based on India-South Korea CEPA and the WITS UN Comtrade data

Appendix Table 7. India's top imports from Japan at the HS 6 digit level, 2002-19
(Period average percentage share in India's total imports from Japan)

SN.	Product description	SOP	Tariff category under Japan CEPA	Base MFN tariff (2007)	2002-08	2012-16	2017-18	2019
1	Polyvinyl chloride, not mixed with any other substances	Intermediate goods	B10	7.5	0.1	0.2	2.3	3.4
2	Gear boxes and parts thereof	Capital goods	Pb(Note)	0	0.3	1.5	2.2	1.6
3	Vessels and other floating structures for breaking up	Intermediate goods	B10	5	0.4	2.7	2.0	1.9
4	Other parts and accessories of vehicles	Capital goods	X	#N/A	2.6	2.6	1.9	1.1
5	Cathodes and sections of cathodes	Intermediate goods	B10	5	0.0	0.2	1.9	5.3
6	Flat rolled products in coils of a thickness less than 3 mm	Intermediate goods	B5	5	0.1	2.3	1.8	1.2
7	Coke and semi-coke of coal, of lignite or of peat, whether or not agglomerated; retort carbon	Intermediate goods	B10	10	1.4	0.7	1.3	0.8
8	Coke oven plants	Capital goods	B10	7.5	0.9	1.1	1.3	2.1
9	Machining centres	Capital goods	B10	7.5	1.0	0.8	1.3	1.5
10	Automatic (power-loom) cotton weaving machines for weaving fabrics of a width exceeding 30 cm, shuttle-less type	Capital goods	B10	7.5	0.7	1.1	1.3	0.6
11	Flat-rolled products of silicon, electrical STL, grain-oriented	Intermediate goods	B5	5	0.6	1.1	1.3	0.9
12	p-Xylene	Intermediate goods	B10	7.5	0.2	0.0	1.2	2.3
13	NaOH in aqueous solution (soda lye or liquid soda)	Intermediate goods	B10	7.5	0.0	0.2	1.1	0.3
14	Metal oxide semiconductors (MOS technology)	Capital goods	ITA-1	0	0.1	0.0	1.0	0.8
15	Parts of printing machinery	Capital goods	B10	#N/A	0.1	1.0	1.0	0.4
16	Vinyl chloride chloroethylene	Intermediate goods	B10	7.5	0.1	0.5	0.8	0.3
17	Other measuring & checking instruments, appliances and machines	Capital goods	B10	7.5	0.4	0.6	0.8	1.2
18	Still image video cameras and other video camera recorders; digital cameras	Capital goods	ITA-1	0	0.5	0.6	0.8	0.8
19	Parts suitable for use solely or principally with spark-ignition internal combustion piston engines	Capital goods	X	7.5	0.5	0.8	0.8	0.7
20	Electrical boards for a voltage not exceeding 1000 V	Capital goods	B10	7.5	0.4	0.5	0.8	0.6
21	Motor starters for AC motors, junction boxes and other electrical apparatus for a voltage not exceeding 1000V	Capital goods	X	#N/A	0.2	0.5	0.6	0.4
22	Engines of cylinder capacity <=50 CC	Capital goods	X	#N/A	0.3	1.3	0.6	0.3
23	Acrylic resins	Intermediate goods	B10	7.5	0.1	0.3	0.6	0.6

Note: Top 20 2017-18 products and products with at least a one per cent share in 2019

Source: Author's calculations based on India-Japan CEPA and the WITS UN Comtrade data

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