Trade Liberalisation and Export Competitiveness of Indian Manufacturing Industries

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CONTENTS

Abstract *1*

Introduction 1
I. Trade Liberalisation: A Synoptic View 2
II. Impact of Tariff Liberalisation on Merchandise Trade 6
III. Changing Composition of India's Exports of Manufactured Goods 10
(i) Explaining Manufacturing Export Trends 11
IV. Competitiveness Assessment: Domestic Factors 14
(i) Competitiveness Analysis 15
(ii) Domestic Factors 18
Conclusion 29

References 30

Figure(s)

Figure 1 India's Trade Performance (2000-01 to 2019-20) 7
Figure 2 India's Trade in Manufactures (2000-01 to 2019-20) 8
Figure 3 Relative Growth of Manufacturing Exports and Imports 8
Figure 4 India's Overall Imports vis-à-vis Growth of Imports from China 9
Figure 5 Composition of India's Exports 10
Figure 6 Changing Composition of India's Manufacturing Exports 11
Figure 7 Export Share among Top 15 Sectors with Declining Competitiveness 17
Figure 8 Comparison of Export Shares of Industries Gained/Lost Competitiveness 18
Figure 9 Average Labour Wage Share of Gaining and Losing Industries for 2008-15 20
Figure 10 Trend in Capital-Output Ratio for Top 15 Exporting Industries 21
Figure 11 Trends in Labour Productivity Growth for Top 15 Exporting Sectors 23
Figure 12 Unit Labour Cost of the Top 15 Industries 27
Figure 13a Ratio of Labour Productivity of Top 15 Exporting Industries 28
Figure 13b Ratio of Average Wage Cost of Top 15 Exporting Industries 28

Table(s)

Table 1	India's Tariff Liberalisation since early 1990s	3
Table 2	Simple Average Tariffs on Agricultural and Manufactured Products	3
Table 3	India's Tariff Reductions in FTA/CEPAs (% of tariff lines)	5
Table 4	India's Trade to GDP Ratios	6
Table 5	Leading Exporters of Textiles and Clothing	12
Table 6	Leading Exporters of Iron and Steel	12
Table 7	Leading Exporters of Pharmaceutical Products	13
Table 8	Growth Rates of Manufacturing Exports: An Intercountry Comparison	13
Table 9	Export Shares of Industries Gained/Lost Competitiveness between 2000 and 2017	16
Table 10	Comparison of Wage and Profit Share in Total GVA in Organised Manufacturing Sector in India	19
Table 11	Growth Rates of GVA, Workers and TFP for Organised Manufacturing Sector	25
Table 12	Trend in Labour, Capital and GVA Industry-Wise	25

Trade Liberalisation and Export Competitiveness of Indian Manufacturing Industries:
Some explanations[†]

Ramaa Arun Kumar & Biswajit Dhar[*]

[***Abstract**: India embraced open trade policy from 1990s onwards, following the Economic Reforms of 1991, by reducing import tariffs and opening up Indian markets to competition. The expectation from this reform was that the Indian industry would be more competitive. By mid 2000s, India was not only an open economy, however, it was on its way to effect across-the-board reductions/elimination of tariffs and other non-tariff barriers by formalising FTAs and CEPAs several prominent trade partners. Although, trade to GDP ratio has increased from 13 percent in 1990 to 27 percent in 2019-20, import dependence of India, especially on China has increased manifold. The paper has delved into the trade policy evolution that led India to open up and increase its presence in the global trade market. However, an industry level Revealed Comparative Advantage (RCA) analysis reveals that the loss in export competitiveness in six industries at NIC 4-digit level, since 2000-01 to 2017-18, retarded the growth potential in exports that India could have claimed with a phased opening up of trade. These industries were mainly in the textiles and apparel sector and gems and jewellery sector. The domestic industry level factors such as lower productivity growth, higher unit labour costs and presence of low levels of technology are prominent factors that explain the export performance of India that we observe.]*

***Keywords:** International Trade, Export Competitiveness, Labour Cost*
***JEL Classification:** F1, F10, J30*

Introduction

In 1991, Government of India decided to reduce tariff protection as a part of its economic reforms programme. The then Finance Minister, Dr. Manmohan Singh, provided the rationale for government's decision arguing, "time has come to expose Indian industry to competition from abroad in a phased manner" (Government of India. 1991. paragraph 11). This policy orientation had strong advocates. In their oft quoted paper, Lipton and Sachs argued that "[F]ree trade instantly brings to bear on domestic firms the competition of the rest of the world" (Lipton and Sachs 1990: 101). The advice was to adopt open-door policies at one stoke, euphemistically called the "big bang" approach[1]. Strong support for such

[†] Views expressed do not necessarily reflect those of the institutions that the authors represent.

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[1] Comments by Janos Kornai in Lipton and Sachs 1990: 139.

policies was also extended by the World Bank, which spoke of the "merits of phasing out quantitative restrictions rapidly, and reducing tariffs to reasonably low and uniform levels, such as a range of 15-25 percent" (World Bank 1991: 101). Further, the Bank favoured "substantial and comprehensive reform within, say, five years, with major and decisive actions in the first year" (World Bank 1991: 102).

Two issues arise in the context of the Indian government's decision to usher in trade liberalisation. The first is the trajectory of openness that has been seen during the three decades following this decision. In other words, did India follow the standard template of a "big bang" approach? The second, and a more important issue, arises from the expectation that India's policy markers had from the process of openness, namely, to make the Indian industry more competitive. Was this expectation realised?

This paper makes an attempt to address these issues over several sections. The first section discusses the trajectory of trade liberalisation that India has followed. The second Impact of tariff liberalisation on merchandise trade. The third Changing Composition of India's Exports of Manufactured Goods. The fourth examines the trade competitiveness of Indian industry.

I. Trade Liberalisation: A synoptic view

The Government of India undertook trade liberalisation through steep reductions in tariffs. Thus, India's simple average import tariffs was reduced from nearly 82 percent in 1990 to 56 percent in 1992, while its trade weighted tariffs came down from nearly 50 percent to 28percent[2]. The Tax Reforms Committee established in 1991 to draw up a roadmap for reducing import tariffs, proposed that the trade weighted tariffs should be reduced to 25 percent by 1995-96 (IMF 1998: 11), from nearly 50 percent existing in 1990, which was consistent with the World Bank target. However, the Government went beyond this target, reducing average trade weighted tariffs to 23.6percent in 1996, with simple average of tariffs at 38.7 percent[3]. It may be mentioned here that tariff reductions were mostly applied on a most favoured nation (MFN) basis, in keeping with India's commitments as a member of the World Trade Organization (WTO)[4].

The process of reduction of import tariffs came to a near standstill in the second half the 1990s.Thus, in the year 2000, the average of trade weighted tariffs remained at the level of 1996, while the simple average tariffs had declined marginally to 33.7 percent. However, the government committed to liberalise the Indian economy further. The then Finance Minister, P Chidambaram announced as a part of his Budget proposals in 1997 that by the

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[2] Calculated from the World Integrated Trade Solutions (WITS).

[3] Calculated from the TRAINS Database. Since the early 1990s, simple average tariffs declined from nearly 82 percent in 1990 to below 39 percent in 1996.

[4] Exceptions were made in respect of two preferential trade agreements that India was a part of, namely, the Bangkok Agreement and the South Asian Preferential Trade Agreement. The latter was replaced by the South Asian Free Trade Agreement from January 1, 2006.

turn of the millennium, India's average tariffs would be brought down to single digits tariffs, comparable to those adopted by the members of the Association of South East Asian Nations (ASEAN)[5].India's average import tariffs did not decline to single digits immediately, as the Minister had intended, it did so nearly after a decade later (Table 1).

Table 1: India's Tariff Liberalisation since early 1990s (in %)

Years	*Weighted Average Tariffs (MFN)*	*Simple Average Applied Tariffs (MFN)*
1990	49.6	81.8
1992	27.9	56.3
1996	23.6	38.7
2000	23.6	33.7
2002	22.7	29.0
2005	13.4	18.5
2006	9.2	16.6
2008	6.0	12.1
2009	10.1	14.0
2010	7.2	12.1
2015	7.5	13.2
2016	7.5	13.3
2017	11.7	13.5
2018	10.3	17.2
2019	N.A.	17.6

Table 2: Simple Average Tariffs on Agricultural and Manufactured Products (in %)

Years	*Agricultural Products**	*Manufactured Products**
1990**	80.6	50.9
1992**	80.5	56.6
1996	39.6	40.2
2000	40.4	33.2
2003	38.0	23.7
2005	38.6	15.3
2008	34.5	9.0
2009	39.8	10.0
2010	34.0	9.0
2015	35.2	9.2
2017	35.0	9.4
2018	39.4	13.9
2019	39.3	14.1

Notes: * Non-oil products; ** figures from TRAINS database.
Source (for Tables 1 & 2): WTO-IDB Database, obtained from WITS.

[5] While presenting the Government Budget in 1997, the Finance Minister stated thus: "On more than one occasion, I have stated that we would achieve the average levels of tariffs prevalent in ASEAN countries by the turn of the century. This will give time to Indian industry to adjust to these changes" (Government of India 1997: paragraph 110).

The tables provide the pattern of global integration of the Indian economy over the past three decades. After a near standstill during the second half of the 1990s, the tariff reduction sequence was put back on track in 2002 and by 2008, India's trade weighted tariff was brought down to 6 percent. During this period, simple average tariff was reduced from nearly 34 percent to 12 percent, while average tariff on manufactured products was brought down rapidly to single digit. Though much of the tariff reduction was an autonomous decision of the government, this process was also influenced by India's accession to the Information Technology Agreement (ITA), which required elimination of tariffs on 218 information technology products by 2005 (Dhar and Rao 2020).

Thus, during the 2000s, India's weighted average tariff remained was single digit for all years barring 2009, the year that experienced the impact of the "Great Recession" of 2008. This trend was reversed in 2018, when it rose to double digits yet again. On the other hand, simple average tariff remained at the 2008-level for much of the following decade, before it was reversed.

Tariffs for the two broad groups of products, agricultural and manufactured[6]show dissimilar trends. Simple average tariff on agricultural products declined only marginally between 2000 and 2019, from 40 percent to nearly 39 percent. Domestic sensitivities in agriculture, food security and livelihoods in particular, influenced the levels of tariff protection on farm products. Another factor that influenced the decision to maintain higher tariffs on agricultural products was volatility in their international prices, which were impacted by the high levels of agricultural subsidies provided by the United States (US) and the European Union (EU) (Dhar 2014: 316-360). In contrast, tariffs on industrial products declined quite sharply, from over 33 percent in the year 2000 to 9 percent in 2008. Tariffs on these products remained within a narrow band until they began to increase from 2015 and ended with a reversal of the trend from 2018 as Indian enterprises mounted pressure on the government to increase tariffs (Dhar 2019: 59-65).

The process of tariff reduction on manufacturing products coincided with the decision to forge free trade agreements (FTA) with partners in the East Asian region (Government of India 2002). Negotiations were initiated in 2004 with the ASEAN members for an FTA in goods. Within the next two years, the government commenced negotiations for comprehensive economic partnership agreements (CEPAs) with Japan, Republic of Korea (RoK), Singapore, Malaysia, and the EU. The aim was drop barriers in trade and goods and services and investment (Dhar 2020), thus effecting deep integration with these countries.

In the three major agreements that have since been concluded, with ASEAN members, RoK and Japan, India had agreed to eliminate tariffs on a significantly large number of tariff lines, covering both agricultural and industrial products (Table 4). The expectation was

[6] Based on the classification used by the WTO. Agricultural products do not include marine products as well forestry products. These two product groups are classified as industrial products.

that India's exports would become buoyant as partner countries provide additional market access.

Table 3: India's Tariff Reductions in FTA/CEPAs (% of tariff lines)

Categories	*ASEAN FTA*	*CEPA with Republic of Korea*	*CEPA with Japan*
Tariff Elimination	74.2	69.7	87.7
Tariff Reduction	15.1	14.1	NIL
Exclusion List	10.7	16.2	12.3
Total	100.0	100.0	100

Sources: Authors' compilation from the Tariff Schedules of the three Agreements

Yet another policy decision that resulted in greater openness of the Indian economy during the 2000s was the removal of quantitative restrictions (QRs) on imports, maintained due to weaknesses in balance of payments[7]. Unlike the tariff liberalisation exercise, which was largely driven autonomously, the QRs had to be removed following the ruling by WTO's Dispute Settlement Body that India must remove these restrictions by April 2001 (WTO 2000)[8].

Thus, by the middle of the 2000s, India was not only a considerably open economy, but it was also well on its way to effect across-the-board reductions/elimination of tariffs and other non-tariff barriers by formalising FTAs and CEPAs several prominent trade partners. The process of reductions/elimination of tariffs was augmented in previous decade, after negotiations on three more FTAs, with Canada (Government of Canada 2020), Australia (Department for Foreign Affairs and Trade 2020) and New Zealand (New Zealand Foreign Affairs and Trade 2020) were initiated.

The most ambitious of India's engagements for forging a CEPA was the Regional Comprehensive Economic Partnership (RCEP), conceived as a trade agreement comprising 16 countries in the East Asian region. RCEP negotiations were initiated in 2013, in which India was one of the more active participants. In November 2019, the RCEP participating countries reached an agreement on a broad framework that their leaders could endorse. However, as economic uncertainties gripped India and with the economy slowing down[9], domestic manufacturers prevailed upon the government to take a step

[7] Article XVIII:B of the General Agreement on Tariffs and Trade (GATT) allowed the Contracting Parties that "can only support low standards of living" and are "in the early stages of development". … "to safeguard its external financial position and to ensure a level of reserves adequate for the implementation of its programme of economic development" by controlling "the general level of its imports by restricting the quantity or value of merchandise permitted to be imported" (GATT 1947). The WTO Understanding on the Balance-of-Payments Provisions of the General Agreement on Tariffs and Trade 1994 required all members to remove these restrictions, "as soon as possible" (GATT 1994: paragraph 1).

[8] India had originally announced removal of these restrictions by March 2006 (WTO 1997)

[9] The country's GDP, which was growing at about 8 percent until 2016-17, decelerated to below 4.2 percent in 2019-20.

back from this mega-regional trade agreement (Dhar 2019: 59-65). Although the RCEP became a reality in November 2020, India has not formally withdrawn from RCEP.

Thus, since the beginning of the millennium, India transformed itself from a hesitant liberaliser to a largely open economy. Testimony to this fact was India's trade to GDP ratios, which increased dramatically since the end of the 1990s, increasing from less than 18 percent to nearly 40 percent in 2008-09. In the post-recession period, this figure increased further to a record level of nearly 44 percent in 2011-12 (Table 4). Subsequently, trade to GDP ratios declined to levels seen in the early-2000s due to a combination of global uncertainties and domestic factors, the latter would be analysed below.

Table 4: India's Trade to GDP Ratios

Years	*Trade to GDP ratios (%)*
1990-91	12.9
1992-93	16.0
1994-95	16.5
1998-99	17.6
1999-2000	18.5
2004-05	27.0
2008-09	39.9
2009-10	34.2
2011-12	43.6
2014-15	37.2
2016-17	28.8
2018-19	31.0
2019-20 (P)	27.3

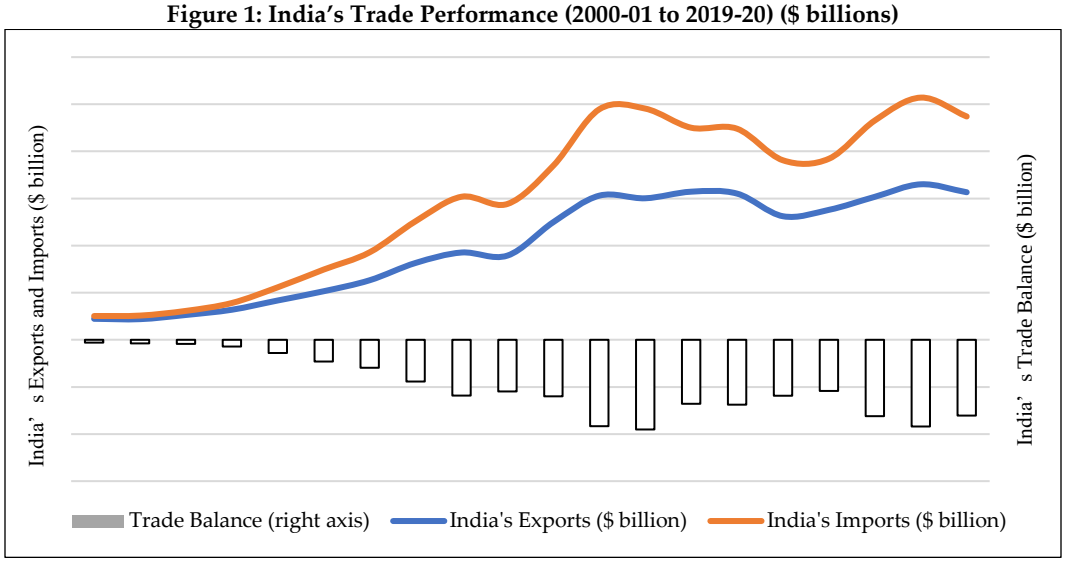
Sources: Directorate General of Commercial Intelligence and Statistics and National Statistical Office, various years

We had mentioned at the outset that the architects of economic reforms expected that the tariff liberalisation exercise to result in significantly higher exports. In the following section, we will examine the trends in India's trade flows, which will help us in assessing whether the anticipated benefits were reaped during the past three decades.

II. Impact of tariff liberalisation on merchandise trade

Figure 1 shows the changes in the patterns of India's merchandise trade from the beginning of the millennium. Two clear phases can be seen in the Figure. In the first phase, up to onset of the "Great Recession", both exports and imports increased rapidly, while in the second, from 2011-12 until the end of the decade, there are clear signs of stagnation.

Figure 1: India's Trade Performance (2000-01 to 2019-20) ($ billions)



Source: Directorate General of Commercial Intelligence and Statistics

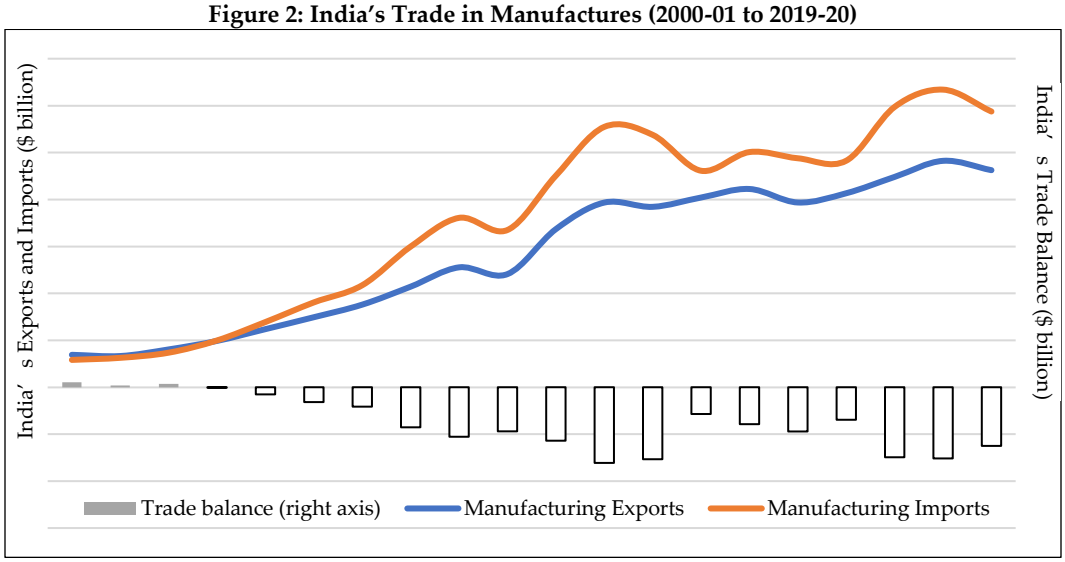
Exports grew from $44.5 billion in 2000-01 to over $185 billion in 2008-09, increasing by a compound annual growth rate (CAGR) of 19.5 percent. Imports grew much faster; from $50.5 billion in 2000-01 to nearly $304 billion in 2008-09, or by a CAGR of over 25 percent, resulting in steady expansion of trade deficit. In the post-Recession phase, since 2010-11, trade growth was perceptibly slower; CAGR of exports and imports was 3 percent and4 percent, respectively. Thus, both exports and imports remained pegged within a narrow range, the former between $306 billion and $330 billion, and the latter between $489 billion and $514 billion. Exports remained sluggish even as successive governments emphasised the need to "double" exports, first, during the three-yearperiod,2011-12 to 2013-14 (Government of India 2011), and then between 2013-14 to 2019-20, the latter target including services exports as well[10].

We had discussed earlier that tariff liberalisation was higher in case of manufactured products as compared to agricultural products. The figure 2 shows as to how India's trade in manufactured products responded to tariff liberalisation.

India's trade in manufactured products showed a different pattern as compared to its overall trade, especially in the early 2000s. During 2000-01 to 2003-04, India had a favourable trade balance in manufactured goods' trade. Thereafter, imports expanded sharply until the onset of the recession, and exports expanded at a much slower pace, resulting in a $53 billion trade deficit by 2008. Trade in manufactured products expanded after the recession, again, imports increased much faster than exports.

[10] The Foreign Trade Policy of 2015 set a target of increasing goods and services exports to $900 billion by 2019-20 (Government of India 2015).

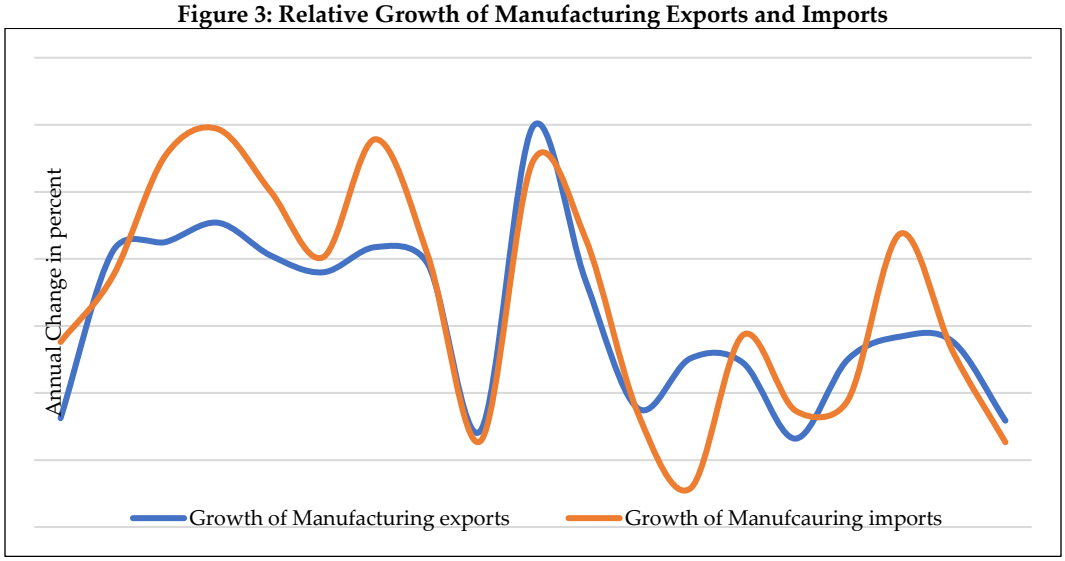
Figure 2: India's Trade in Manufactures (2000-01 to 2019-20)



Source: Directorate General of Commercial Intelligence and Statistics

An interesting feature of India's trade in manufactured products is that trade deficit generally widened when exports grew, while the obverse was true when there was a slowdown. This is one clear indication that India's manufacturing sector exports had become import dependent as the economy had opened up. Further, exporters were unable to take advantage of the opportunities that the global marketplace had offered. Figure 3 explains this phenomenon somewhat better.

Figure 3: Relative Growth of Manufacturing Exports and Imports



Source: Directorate General of Commercial Intelligence and Statistics

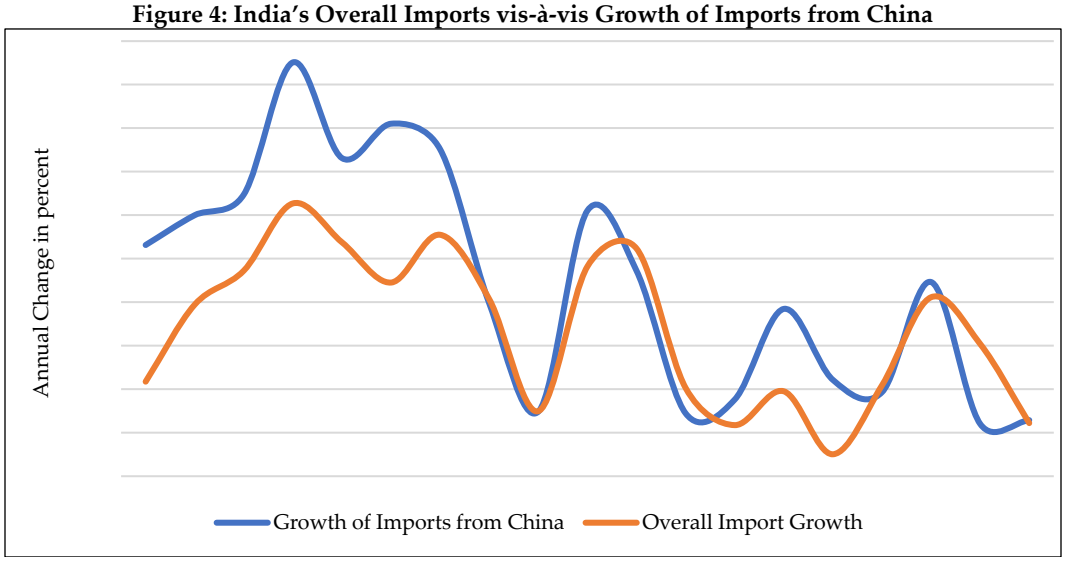
On the other hand, India's imports responded better to trade liberalisation, implying that the country's trading partners were able to take advantage of the market opening. Exports

expanded annually by over 20 percent in the pre-recession years, and by nearly 40 percent in 2010-11, when the economy recovered from the recession, but in the period thereafter there was a relative slump.

The above discussion shows India's trade liberalisation policy, initially undertaken unilaterally, was given fillip since the mid-2000s, was unable to stimulate exports of manufactured products. It may be recalled; policy makers had adopted the trade liberalisation agenda in 1991 arguing that the policy change would make Indian entities competitive leading to their greater presence in the global markets. The evidence provided above showed that the Indian manufacturing sector was unable to take advantage of the market opening in partner countries, including with those with which India had forged bilateral trade agreements (Dhar 2018).

Imports rose essentially because of India's dependence on China, as Figure 4 shows. As India was decreasing its tariffs, its imports from China expanded at a substantially higher pace as compared to its overall imports. This can be explained by the fact that just as India embarked on its fast-tracked import liberalisation, China had secured the membership of the WTO and armed with the Most Favoured Nation (MFN) status, it expanded its presence in an increasingly open Indian economy (Dhar and Rao 2020).

Figure 4: India's Overall Imports vis-à-vis Growth of Imports from China



Source: Directorate General of Commercial Intelligence and Statistics

But while China exploited the market access opportunities, India was unable to take advantage of the favourable conditions in the international market, especially in textiles and clothing, after the phase-out of the Multi-Fibre Arrangement (MFA)in 2005[11]. India

[11] MFA was the last phase of the quota-based trade in textiles and clothing that was first introduced in 1961 (GATT 1973).

was expected to expand its footprint in the global markets for textiles and clothing, after the quota restrictions were removed.

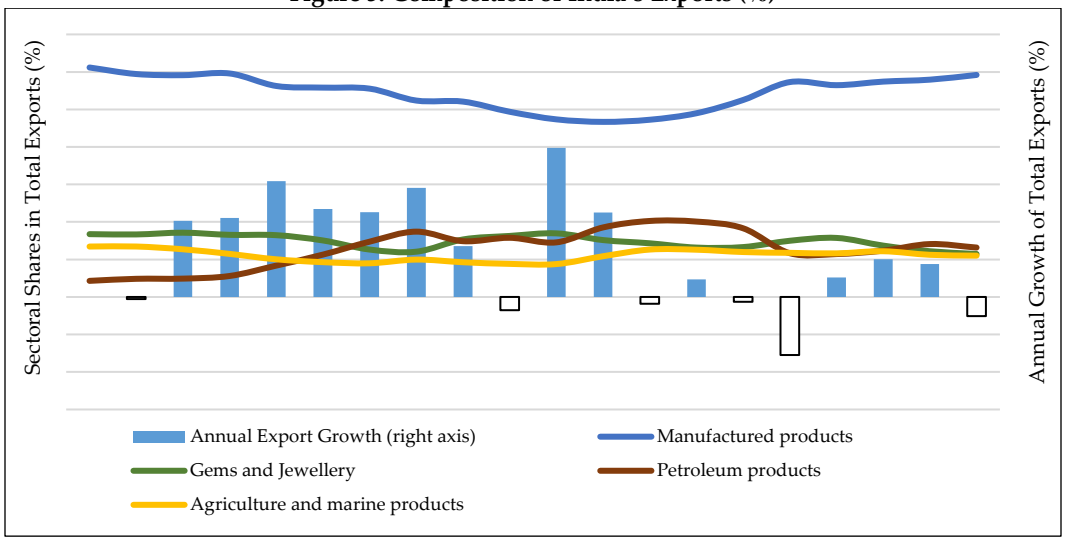
From the aforementioned, the following question begs an answer: what explains India's manufacturing sector's inability to take advantage of the market opening offered by our partners, both in the multilateral and the bilateral agreements, in other words, why did India's manufactured exports never gain the momentum that was expected after trade liberalisation? The remaining part of the paper would be devoted to answering this question.

We will analyse India's export performance in two parts. First, we shall provide evidence of the changing composition of India's exports over the past two decades, and the relative export performance of different industries in the manufacturing sector. Following this, we would analyse the production performance of the manufacturing industries for seeking an answer to the export conundrum.

III. Changing Composition of India's Exports of Manufactured Goods

The composition of India's exports has been changing consistently over the two decades. Figure 5 shows the manner in which five broad categories of exports, and especially the four major categories, namely, agriculture and marine products, non-petroleum manufactured products, petroleum and gems and jewellery have behaved over time.

Figure 5: Composition of India's Exports (%)



Source: Directorate of Commercial Intelligence and Statistics, Department of Commerce

Manufactured products, the dominant product category in the export basket, showed an interesting trend. The share of this category in total exports exceeded 61 percent in 2000-01, but within a decade, its share declined to below 47 percent. This period also includes the years prior to the "Great Recession" when the growth rate of the Indian economy was

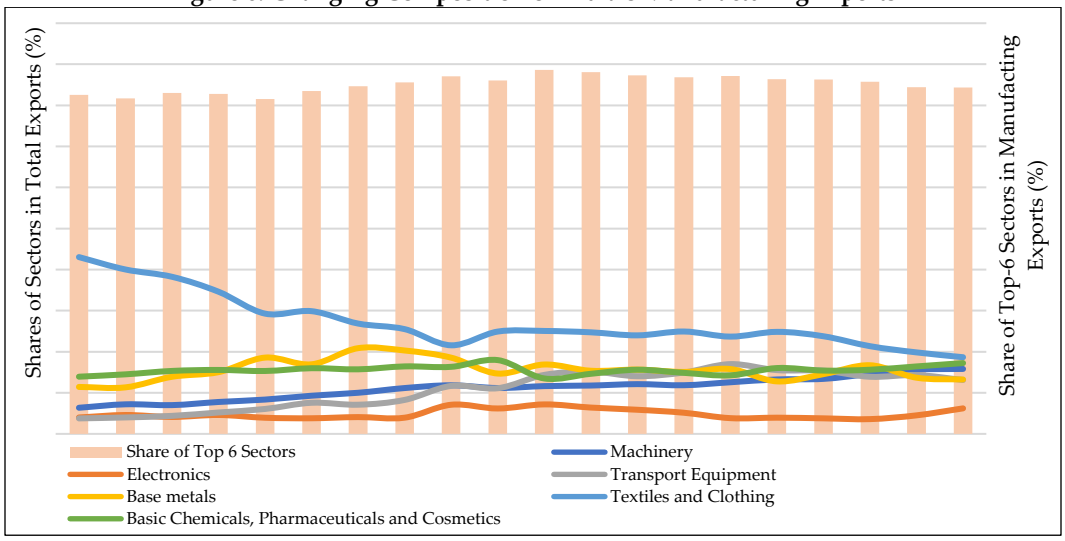
the highest ever. The value of manufactured exports expanded at an annual average of nearly 22 percent in a buoyant economy, but exports of petroleum products grew thrice as fast, backed by their higher prices in global markets. From 2012-13 and until the end of the decade, the share of manufactured exports increased, though their growth in value terms was just 3.5 percent. During these years, sharp fall in value of petroleum exports, contributed by the falling prices of petroleum products in global markets, helped manufactured exports to increase their relative share (Figure 3).

(i) Explaining Manufacturing Export Trends

Figure 6 shows the export trends of the top-6 manufactured product groups. These products accounted for nearly 83 percent of total exports manufactured goods in 2000-01 and after reaching 88 percent in 2010-11, fell to 84 percent in 2019-20.

Figure 4 show three clear trends: one, sharp decline in the share of textiles and clothing; two, increasing share of three sectors, transport equipment, machinery, and chemicals, pharmaceuticals, and cosmetics; and three, moderate increases in the shares of electronics and base metals.

Figure 6: Changing Composition of India's Manufacturing Exports



Source: Directorate of Commercial Intelligence and Statistics, Department of Commerce

The decline in the share of textiles and clothing from about 43 percent of manufacturing exports in 2000-01 to just about 19 percent is not just striking, it has also larger implications for the Indian economy. This sector contributed2percentto the country's India's Gross Domestic Product (GDP) in 2017-18 and provided direct employment to about 45 million people and to another 60million people in related sectors. Those employed include large proportion of women and rural population (Government of India 2019: 1).

In the global market, India's textiles sub-sector performed relatively well, increasing its share from 3.6 percent in the year 2000 to nearly 6 percent in 2018 (Table 5). The trend for

the clothing sub-sector was, however, the opposite. India has been steadily losing ground to its competitors, in particular, to countries like Bangladesh and Viet Nam. Consequently, India is now the fifth largest exporter of clothing, having recorded a nominal increase in its share since the year 2000 (Table 5).

Table 5: Leading Exporters of Textiles and Clothing

share in global exports (%)

Leading Exporters of Textiles					*Leading Exporters of Clothing*				
Countries/Regions	2000	2005	2010	2018	Countries/Regions	2000	2005	2010	2018
China	10.3	16.1	30.4	39.2	China	18.2	16.1	36.6	30.8
European Union (28)	36.4	34.8	26.9	21.7	European Union (28)	28.7	31.0	28.4	27.6
India	3.6	4.1	5.1	5.6	Bangladesh	2.6	2.5	4.2	6.8
United States	7.0	6.1	4.8	4.4	Viet Nam	0.9	1.7	2.9	6.2
Turkey	2.4	3.5	3.5	3.9	India	3.0	3.1	3.2	3.5

Source: WTO. 2020: Statistical Table A.21 and A.22

In overall terms, the share of India's textile and clothing exports increased from over 4 percent in 2005 to 5.6 percent in 2019. This should be considered unsatisfactory since India was expected to benefit from the phasing out of MFA, as mentioned above. A combination of domestic and international factors militated against the interests of domestic producers: lack of preparedness to face competition, especially from the producers in Viet Nam and Bangladesh in the clothing sector (Manoj and Murleedharan 2016; Vaid 2019) and, more recently, the variable GST rates on cotton (5 percent) and man-made fibre (18 percent), were among the factors that adversely affected the Indian exporters.

The growth of exports of base metals, more than two-thirds of which comprises of iron and steel, mirrors in India's emergence in the list of top 10 exporters from 2005. Although it had retained its place in the top-10 exporters in the previous decade, the Indian industry was able to enhance its share in global exports only marginally.

Table 6: Leading Exporters of Iron and Steel

share in global exports (%)

Countries	*2000*	*2005*	*2010*	*2018*
European Union (28)	47.5	16.1	38.8	37.9
China	3.1	6.1	9.4	13.5
Japan	10.5	8.7	9.9	6.7
Republic of Korea	4.7	4.5	5.8	6.0
India	0.9	1.7	2.5	2.6

Source: WTO2019: Statistical Table A.22 and A.23

One sector whose export performance has been quite encouraging is the pharmaceutical sector. Over the past two decades, Indian pharmaceutical industry has emerged as a major exporter to several countries, both in the developed as well as developing countries. Supply of low-priced generic medicines has been the critical factor enabling their penetration in global markets and the industry has thus earned the epithet, the "Pharmacy

of the World" (Dhar and Joseph 2019). Not surprisingly, therefore, the pharmaceutical industry increased its share in exports of manufactured products from about 8.7 percent to nearly 11 percent between 2010-11 to 2019-20.

Table 7: Leading Exporters of Pharmaceutical Products

share in global exports (%)

Countries	*2010*	*2015*
European Union (28)	66.1	63.9
Switzerland	10.6	12.2
United States	9.6	9.8
India	1.5	2.6
China	2.3	2.5

Source: WTO 2016: Statistical Table A.19

One way of summarizing India's performance of manufactured exports is to measure it on comparative scale, with those of other WTO members, many of which embraced rapid trade liberalisation after joining the Organization. We would use the data provided by the WTO beginning with 1997, as data for most current members of the Organization are available.

In 2018, the terminal year for this dataset, India was ranked as the 20th largest exporter of manufactured products and had bettered its ranking from its 29th place in 1997. Moreover, during this period, CAGR of India's manufactured exports was 11%; the table below provides details of countries that experienced double-digit manufactured export growth.

Table 8: Growth Rates of Manufacturing Exports: An Intercountry Comparison

Countries	*Compound Annual Growth Rate (%)*
Viet Nam	21.4
United Arab Emirates	19.6
Iran	14.5
China	14.0
Lithuania	13.7
Saudi Arabia, Kingdom of	13.1
Slovak Republic	12.7
Romania	12.4
Poland	12.4
Czech Republic	11.5
Bulgaria	11.5
India	11.2
Bangladesh	10.8
Turkey	10.4

Source: WTO

IV. Competitiveness Assessment: Domestic Factors

The previous sections provided the backdrop for exploring the reasons why several industries India's manufacturing sectors have underperformed in global markets. An industry level analysis is undertaken to study the domestic factors influencing the export performance of manufacturing sectors. Labour productivity growth, total factor productivity growth and cost competitiveness are the domestic level indicators that have played an important role in determining export competitiveness in Indian manufacturing sectors.

Competitiveness in export sector is a function of productivity as it is a source of profitability as well as comparative advantage over other global players. Classical trade theories were based on export specialisation dependent on the availability of natural resources. However, the world has transited from the absolute advantage to comparative advantage and from endowment based trade to productivity based trade. In the long term, productivity growth is inevitable to sustain competitiveness, economic growth and living standards (Bart van Ark *et al*., 2015, Wysokińska, 2003).

It is, therefore, of paramount importance to study the link between competitiveness and domestic factors. The objective of this part of the study is to assess the export performance of top 15 exporting sector in India. In order to study the domestic factors behind the export performance, an industry level, rather than commodity level analysis is relevant. Our study is the first to compile international trade data for India for the industry level NIC codes and directly compare the industry level factors such as productivity and wage shares.

To ensure comparability, we use two datasets, namely, the Annual Survey of Industries (ASI) for production related data for the period 2000-01 to 2017-18 (the most recent year for which data are available), and two, the United Nations COMTRADE that provides bilateral trade data at HS 6-digit level. In order to ensure comparability between the two data sources, we drew up concordance between India's trade data set based on the Indian Trade Classification (Harmonised System) 2012[12], and the industry-level dataset provided by the ASI, based on National Industrial Classification (NIC) – 2008 at 4-digit level[13]. Given the differences in data capture between the two classifications, a one-to-one concordance between the two classifications can sometimes be difficult to establish. Notwithstanding this limitation, we were able to fully cover India's total trade in manufactured products. We have excluded the petroleum sector, for in our view, this petroleum sector may not appropriate for competitiveness analysis as it has mostly exploited the sellers' market and its dynamics are mostly driven by international demand and supply factors.

Given this, we have calculated the comparative advantage measure based on the Ricardian Theory known as the Revealed Comparative Advantage (RCA) first proposed by Belassa

[12] Based on Harmonised System (HS) of Trade Classification of 2012(HS 2012)

[13] Based on International Standard Industrial Classification (ISIC) Rev. 4.

(1965). Using the HS-NIC concordance, we have calculated the RCA at NIC 4-digit level for the years 2000 till 2017-18 to identify the industries which have gained or lost in terms of comparative advantage in the international trade market. A further analysis on industry level factors has been undertaken to build an explanation on why certain sectors of the top 15 export sectors have lost out in terms of export shares. The sector that stands out in having adversely faired in the assessment is the textile and garment sector. Our analysis reveals that despite having higher labour productivity growth, compared to those industries that gained comparative advantage, did not translate into lower costs and thus, has led to lower competitiveness for them.

(i) Competitiveness Analysis

There have been very few attempts at analysing the competitiveness of Indian exports from a multi-dimensional approach at the industry level. Competitiveness as a concept can be studied at country level, regional level, industry level, firm level, and network/group level (Fetscherin and Pillania, 2012). However, the heterogeneity at the industry level largely influences the overall competitiveness of any country. This is because for any economy, the industrial and trade policy, and domestic factors such as infrastructure and access to cheaper resources play a significant part in shaping overall industrial sector competitiveness that feeds into the overall competitiveness. Therefore, comparing country level measures for competitiveness would mask intra-country dynamics as between industries.

This study tries to take a broader view of competitiveness of Indian exports. We shall elaborate in our analysis below that India's ability to exploit the global markets in a liberalised trading regime was consistently undermined largely due to domestic factors and the policies that have evolved around them.

Therefore, to explore the factors contributing to the sluggish export growth, we have undertaken an industry level analysis on top 15 non-petroleum and non-agricultural based industries that were identified based on National Industry Classification (NIC) at 4-digit level. We assess the key international trade as well as domestic characteristics of industries such as export competitiveness (measured in terms of Revealed Comparative Advantage), labour productivity, wage share and other indicators.

The measure of competitiveness used in this study is Revealed Comparative Advantage (RCA) or the Balassa Index. Introduced by Bela Balassa (1965), RCA provides a measure of the ratio of the share of a product in a given country's export basket and the share of that product inworld trade. If this number is more than unity, a country has RCA, or in other words, the product is competitive in global markets. The measure of RCA is consistent with the factor endowments and productivity while it does not assume the presence of trade barriers or the role of preferential trade. Therefore, RCAs may suffer the shortcoming of not revealing the effects of specific restraints in global markets, for instance, if some

countries have disproportionately high numbers of FTAs, which provide its products better market access in partner countries.

In case of India, we identified industries that improved their RCA ranking, i.e., improved competitiveness and also improved their shares in total exports for the top 15 export industries in 2017-18 in terms of their RCAs comparing two time points, namely 2000 and 2017. Similarly, we identified industries that were at the other end of the spectrum, namely, the industries that witnessed a decline in competitiveness and faced lower export shares. Our analysis showed that nine industries gained competitiveness, including pharmaceuticals, precious and non-ferrous metals, and automobile sector, and of these, pharmaceuticals and automobiles and parts improved their competitiveness as well as their respective export shares.

The combined share of automobile sector, namely, motor vehicles (NIC 2910) and its parts (NIC 2930) in India's total exports increased from 1.5 percent in 2000 to 4.5 percent in 2017. Another sector that witnessed a substantial jump in export share, from 0.9 percent to 3.4 percent during the same period, was basic precious metals and other non-ferrous metals (NIC 2420) that predominantly comprised of aluminium oxide and aluminium alloy exports.

Table 9: Export Shares of Industries Gained/Lost Competitiveness between 2000 and 2017

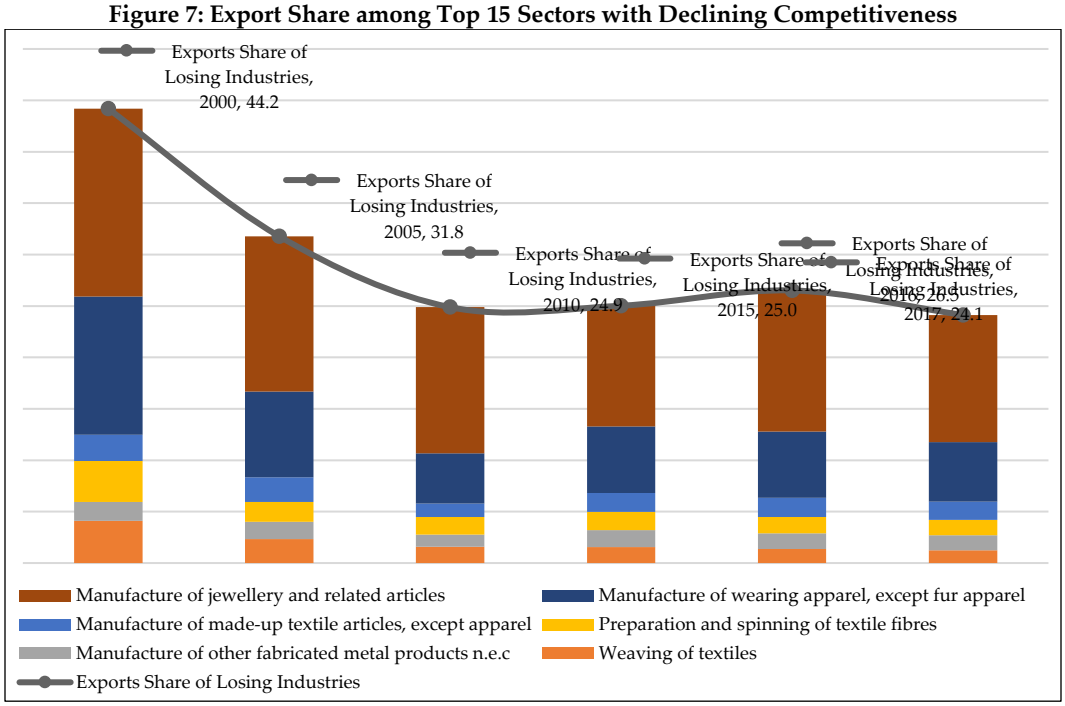
	NIC	*Description*	*2000*	*2005*	*2010*	*2015*	*2016*	*2017*
Gainers	2100	Pharmaceuticals	2.9	2.9	3.5	5.8	6.1	5.4
	2011	Basic chemicals	4.5	5.0	4.3	4.5	4.5	4.9
	2410	Basic iron and steel	2.9	4.9	4.4	2.8	2.9	4.4
	2420	Basic precious and other non-ferrous metals	0.9	2.0	3.9	4.4	3.5	3.4
	2910	**Motor vehicles**	0.7	1.5	2.5	2.6	3.1	2.9
	2930	**Motor vehicles parts**	0.8	1.3	1.1	1.6	1.6	1.6
	3011	Building of ships and floating structures	0.1	0.6	1.9	1.5	1.2	1.6
	3030	Air and spacecraft and related machinery	0.1	0.1	0.7	1.6	1.5	1.5
	2710	Electric motors, generators	0.6	0.9	1.3	1.4	1.5	1.4
		Total Share of Gainers	13.6	19.2	23.7	26.3	26.0	27.0
Losers	1312	Weaving of textiles	4.1	2.3	1.6	1.5	1.4	1.2
	2599	Other fabricated metal products n.e.c	1.8	1.7	1.2	1.7	1.5	1.5
	1311	Preparation and spinning of textile fibres	4.0	1.9	1.7	1.8	1.6	1.5
	1392	Made-up textile articles, except apparel	2.6	2.4	1.3	1.8	1.9	1.8
	1410	Wearing apparel, except fur apparel	13.4	8.3	4.9	6.5	6.5	5.8
	3211	Jewellery and related articles	18.3	15.1	14.2	11.7	13.7	12.4
		Export Share of Top Losing Industries	44.2	31.8	24.9	25.0	26.5	24.1

Source: Authors' calculations using UNCOMTRADE database

Six industries lost competitiveness, implying that their RCAs were lower in 2017 as compared to those in the year 2000. Prominent among these industries were wearing

apparel, spinning, and weaving of textiles, made-up textile articles and jewellery. It may be noted that **some of these industries have the highest RCAs in the 2017. However, a deeper analysis into their competitiveness trend reveals that over the years, these industries have witnessed slow erosion in their competitiveness, which has been shown in Table 9**. The effect of this erosion is evident from the fall in the export share of these industries in India's total exports over time. Figure 7 below substantiates this finding: export share of the declining industries fell steeply from around 44.2 percent in 2000 to less than 24.1 percent in 2017.

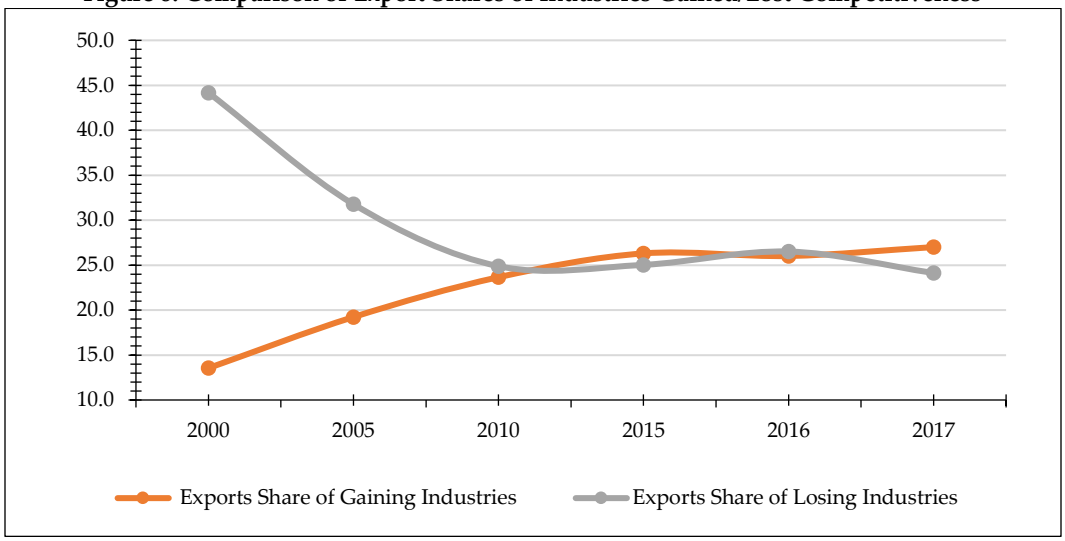
Figure 7: Export Share among Top 15 Sectors with Declining Competitiveness



Source: Authors' calculations using UNCOMTRADE database

Yet another interesting finding is that for the nineindustriesthat gained in terms of competitiveness (Table 9) rise in their export shares was modest, with the exception of pharmaceuticals. A comparison of the trends in export shares of the two sets of industries shown in Figure 8 indicates that the fall in the total export share of the 6 declining industries (from 44.2 percent to 24.1 percent) was steeper than the gains in export shares (from 13.6 to 27 percent) of the nine industries.

Figure 8: Comparison of Export Shares of Industries Gained/Lost Competitiveness



Source: Authors' calculations using UNCOMTRADE database

(ii) Domestic Factors

The above findings lead us to the following question: why did some of the top 15 exporting industries witness erosion of their competitiveness? Have the domestic factors played a part in deepening this erosion?

We would consider a few critical factors like higher labour intensity coupled with the wage share in total value added; and their respective labour productivity. The relationship between productivity and wage costs or wage share in gross value added (GVA) are crucial to any discussion on competitiveness as it directly affects profitability of firms, and thus, competitiveness. Other factors could have impacted on the performance of sectors, including policy changes and sector specific factors, but this demands a sectoral analysis that is beyond the scope of this paper.

a. Wage Share and Capital Formation

Falling wage share in value added has been a global phenomenon especially in the developed countries which have experienced technological development, globalisation, and reduced labour bargaining power (Manyika *et. al.* 2019). In case of India, recent literature (Gupta and Helble 2018; Abraham and Sasikumar 2017 and Goldar and Aggarwal 2012) has alluded to the phenomenon of falling wage share in the value addition of enterprises. For instance, Abraham and Sasikumar found that share of wages in GVA have declined, while the share of profits has risen, at least since the 1980s. The study also noted that during 1980–2012, share of total emoluments to workers in GVA declined from 51.1 percent to 27.9 percent and the share of wages declined from 33 percent to 13 percent.

Literature notes the factors for declining wage share were technological progress leading to higher capital intensity, greater depreciation owing to a shift to capital and intangible assets[14] like patents, copyrights (Chiavari and Goraya, 2020; Manyika et al., 2019), contractualisation of labour, concentration of profits in a smaller proportion of industries leading to decline in bargaining power and lower labour productivity lowering wage growth.

According to the available data on organised manufacturing sector in India, share of wages in gross value added declined from 16 percent in 2000-01 to 13 percent in 2017-18 while the share of profits had increased manifold from 21.6 percent in 2000-01 to almost 40 percent in 2017-18 (Table 10). Importantly, the share of wages fell consistently during India's rapid growth in the 2000s, registering the lowest share of below 10 percent in 2008. Correspondingly, the share of profit in gross value added reached its peak, nearly 49 per during the same year.

Table 10: Comparison of Wage and Profit Share in Total GVA in Organised Manufacturing Sector in India

Year	*Wage share*	*Profit share*	*Depreciation*
2000-01	15.5	21.6	19.4
2004-05	10.9	46.7	16.1
2008-09	9.8	48.6	13.6
2009-10	9.9	47.8	15.1
2010-11	10.4	47.3	14.6
2011-12	11.0	41.9	15.5
2012-13	11.0	44.1	15.4
2013-14	11.9	41.3	15.9
2014-15	12.1	39.5	16.2
2015-16	12.3	40.3	15.7
2016-17	12.7	39.4	16.2
2017-18	13.1	39.2	16.2

Source: Authors' calculations from various rounds of Annual Survey of Industries

The share of depreciation in gross value added has risen since 2008-09, after it fell to 13.1 percent from a high of 19 percent in 2000-01. The share of depreciation has risen since then to stabilise at 16.2 percent in 2017-18. However, the Annual Survey of Industries reports depreciation on only fixed assets, while it excludes intangible capital such as patents, copyrights, software etc., which have contributed to a greater level of depreciation.[15] Thus,

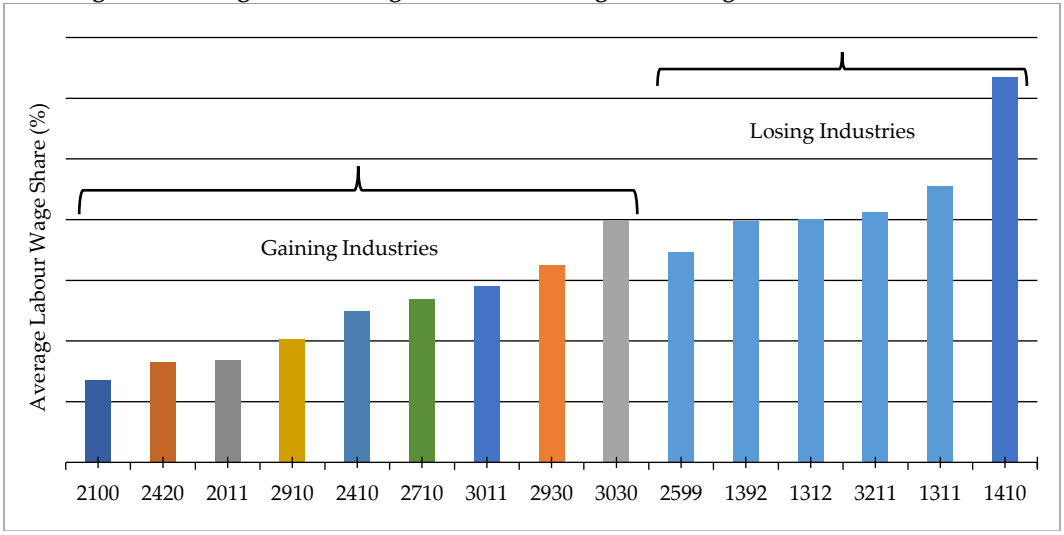
[14] https://economictimes.indiatimes.com/news/economy/indicators/india-inc-ranked-third-globally-in-intangible-assets/articleshow/2609300.cms?from=mdrs

[15] The growing role of intangible capital, especially R&D and branding /advertising has been discussed in literature and how it has influenced productivity growth in firms (Goldar and Parida, 2017, Chiavari and Goraya, 2020; Manyika et al., 2019).

the figures on depreciation reported above may be underestimating the contribution of intangible assets on raising the share of depreciation in value added.

There are, however, inter-industry differentials in the wage shares that have been brought out in Figure 9 below. Industries that have lost competitiveness in the global export market have a higher average labour wage share than that in the gaining industries. The average labour wage share for the organised manufacturing sector was 18 percent over the period of 9 years from 2008-09 to 2016-17. On an average, those industries that lost competitiveness in terms of RCAs in the top 15 export sectors were found to have higher than the average wage share for the same period compared to those industries that have gained in the export sector.

Figure 9: Average Labour Wage Share of Gaining and Losing Industries[16] for 2008-15



Source: Authors' calculations from various rounds of Annual Survey of Industries

Wage share in total income on its own does not indicate reducing growth, however a rising share of returns to capital in terms of profit share is suggestive of the shifted dynamics towards technological advancements that have taken place in the developed and

[16] NIC 4-digit wise codes and description of top 15 sectors

	Gaining Industries	Losing Industries	
2011	Basic chemicals	1312	Weaving of textiles
2100	Pharmaceuticals	1311	Preparation and spinning of textile fibres
2410	Basic iron and steel	1392	Made-up textile articles, except apparel
2420	Basic precious and other non-ferrous metals	1410	Wearing apparel, except fur apparel
2710	Electric motors, generators	2599	Other fabricated metal products n.e.c
2910	Motor vehicles	3211	Jewellery and related articles
2930	Motor vehicles parts		
3011	Building of ships and floating structures		
3030	Air and spacecraft and related machinery		

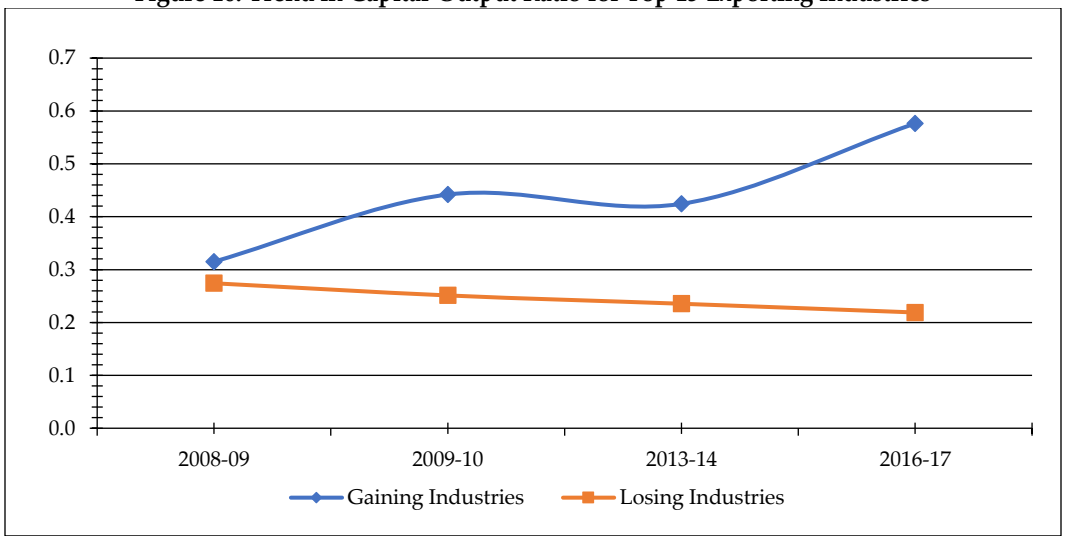
developing countries. This has led to labour-displacing technologies, which in turn, have reduced share of wages in industries that deploy such technologies.

Our findings, therefore, suggest that those industries that made greater investments in capital intensive technologies of production have gained in the export sector. It is a well discussed phenomenon that India's export basket has shifted towards greater skill-intensive and capital-intensive manufactured commodities (Goldar, 2002; Ghose, 2000). According to the Directorate General of Trade[17], the labour intensive sectors of the economy exported around 43.5 percent of India's total merchandise exports in 2017-18, down from nearly 45 percent in 2015-16.

This trend is distinctly visible in our study wherein, the industries that have gained in terms of comparative advantage in exports like pharmaceuticals, chemicals, automobile sector, ships and aircraft building, electrical motors etc. are reliant on higher levels of fixed capital with a higher capital-output ratio or capital per unit of output than those industries which lost export competitiveness most of which are labour intensive in nature. The disparities in the capital-output ratios of the two sets of industries based on their levels of competitiveness are depicted in Figure 10.

Capital-output ratio increased from 0.315 in 2008-09 to 0.58 in 2016-17 for the nine industries that gained comparative advantage. While it declined for those industries that have witnessed declining export competitiveness from 0.27 to 0.22 during the same period (Figure 10 below).

Figure 10: Trend in Capital-Output Ratio for Top 15 Exporting Industries



Source: Authors' calculations based on ASI data of various years

[17] https://pib.gov.in/Pressreleaseshare.aspx?PRID=1558948

This trend reinforces our finding that higher investment in capital leading to capital formation has taken place in the industries concentrated in the gaining set.

Decline in the capital-output ratios of industries like textile spinning, textile fibres, jewellery and wearing apparel points to the lack of capital investment in these industries apart from other factors. Higher wage share in these industries associated with lack of capital formation has not helped them to retain their competitiveness.

b. Role of Productivity

Productivity is one of the fundamental force behind competitiveness as enterprises with higher productivity of labour and other factors of production help to reduce unit cost of production and increase efficiency (Wysokińska, 2003; Atkinson, 2013; Klaus, Martin, Brende, 2014[18]). However, to use the terms competitiveness and productivity inter-chageably would be incorrect although competitiveness is closely influenced by the productivity levels. The World Economic Forum's Global Competitiveness Report (GCR) assesses competitiveness as "the factors and institutions identified by empirical and theoretical research as determining improvements in productivity" (GCR, 2017). Porter[19] (1990) states that the only meaningful concept of competitiveness is productivity.

Before leading an analysis based on productivity measures, it is essential to understand the meaning and relationship of these measures with the concept of competitiveness. Productivity is the relation between output and input, or in other words, what is produced and how much is required for the same. In this context, the concept of productivity, therefore, is measured as a ratio of total output and individual (partial productivity) or combination of inputs (total factor productivity). In this study, we have looked at both partial productivity measure using labour productivity growth and the total factor productivity growth.

Growth of output is the result of the changes in the inputs that is taking place on a continuous basis in the production process. In order to account for the output growth, the residual growth generated after accounting for the growth in basic inputs of labour and capital, as well as other intermediate inputs is termed as total factor productivity (TFP). On the other hand, labour productivity is the commonly used partial productivity indicator as a measure to assess the performance of enterprises or industries. It indicates how productively labour input is used to generate gross output. Changes in this measure jointly reflect the influence of changes in capital and technical, organisational and efficiency changes (OECD, 2001). Both concepts of productivity explained above are firm based measures which may seem irrelevant for an industry level analysis. However, productivity affects the ability of a firm to undertake investments and limits innovative

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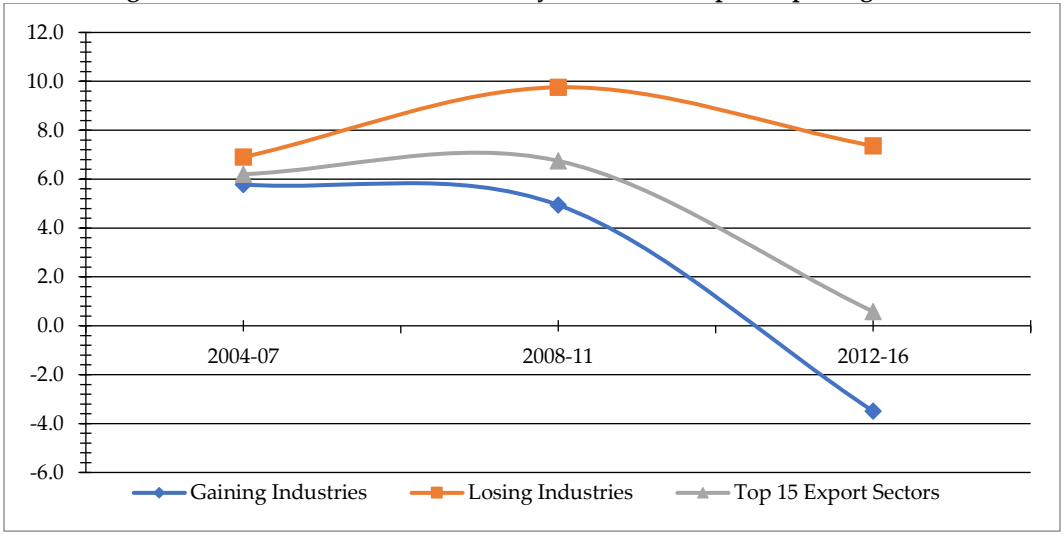
[18] Klaus S, Sala-i-Martin X, Brende B. The Global Competitiveness Report 2013 - 2014. Geneva: World Economic Forum Reports; 2014.

[19] Michael E. Porter, "The Competitive Advantage of Nations," Harvard Business Review, March 1990, http:// hbr.org/1990/03/the-competitive-advantage-of-nations/ar/1.

potential that leads to efficiency, thereby, raising the cost of production. This, in turn affects the ability of a firm, and collectively, the industry to which it belongs to, to remain competitive in the market. In our study, we use this measure based on value added per unit of labour employed from Annual Survey of Industries data pertaining to the organised manufacturing sector.

For the top 15 industries considered in this study, average labour productivity growth has declined in the recent years since 2004-05. In the post 2008 years till 2011, overall labour productivity increased mildly in the post-US financial crisis years for the 15 industries from 6.2 percent during the pre-crisis years that is 2004-07 to 6.7 percent during the period 2008-11. However, there was a steep fall in labour productivity in recent years for the period 2012-16 with a near stagnation in the growth rate (Figure 11 below).

Figure 11: Trends in Labour Productivity Growth for Top 15 Exporting Sectors



Average labour productivity growth rate for losing industries (8 percent) was higher than that for the gaining industries in terms of competitiveness (2.4 percent) between 2004-05 and 2016-17 period. However, it is concerning that higher growth in labour productivity has not enabled these industries to catch up to global competitiveness levels due to the presence of other factors as discussed above. Therefore, as already mentioned competitiveness cannot be construed by productivity growth alone. There are other factors that need to be considered in order to explain why some industries.

Of the share in total GVA generated in the organised manufacturing sector, about one-third (30 percent) was contributed by the six industries that have experienced declining competitiveness. Given that a substantial weight of economic activity is concentrated in the industries for which competitiveness declined, a higher labour productivity growth in these industries can be construed as an indicator of value-added growing at a higher than the employment rate. The growth rate of GVA for the losing industries was around 15.4 percent for the period 2009-16 (refer to Table 11) whereas employment grew at a rate of 4.6 percent.

Industries such as other fabricated metal products (NIC 2599), made-up textile articles (NIC 1392) and textile spinning (NIC 1311) witnessed more than average growth rate (of the six industries together) of value added, however, failed to generate employment at a commensurate growth rate. The corresponding growth rate of employment for the three industries was 7.1 percent, 9.4 percent and 1.1 percent, respectively.

In contrast, growth rate of GVA was lower in six industries that gained competitiveness, while the employment grew at about 7 percent, thereby, pulling the overall growth rate of labour productivity down.

The relatively weaker employment growth in the losing industries indicates that despite higher growth rate of GVA, these industries especially textiles and apparel as well as gems and jewellery sectors failed to generate substantial employment over the last 7 years. This is particularly true for the textile sector, with a large number of firm closures that have taken place over the years (Kumar 2019) rendering the sector in turmoil.

Role of Total Factor Productivity

The other aspect of productivity is related to total factor productivity growth (TFPG) which is a measure of growth rate of output accounted for by other factors over and above labour, capital, and intermediate factors. The residual growth rate is used inter changeably with technical growth, therefore, reflects the level of technological growth and R&D growth in the firms within the industry. A number of studies on TFP growth for India (Das *et al.* 2017; Saibal Ghosh 2013; Deb and Ray 2013; Virmani and Hashim 2011; Kathuria et al. 2010; Surender 2010) have pointed out that the organized manufacturing was performing better beforeeconomic reforms were initiated in 1991 than after the reforms. Fall in productivity in post-reform era was the result of technological obsolescence, gradual adoption of new technology and slow effect of learning-by-doing (Virmani and Hashim 2011). However, 1990s was a period of factor accumulation and a gradual diffusion of technology may have fed the higher TFPG in the 2000s (Das et al 2017).

The fundamental question to ask is whether exporting firms become more productive over time, or is it that the productive firms self-select themselves to export? The literature has not given any clear answers to either questions. Some studies have observed that there is some evidence of self-selection of productive enterprises in export sector (Bernard and Jensen, 1995, 1997; Bernard and Jensen, 2004). On the other hand, many studies including those pertaining to India, have indicated the positive impact of trade on productivity (Das, 2016; Casas et al., 2015; Bernerd *et al.,* 1995; Rijesh, 2017). However, there are no studies on Indian industries that compare the total factor productivity growth with the non-performing industries in the export sector. In other words, whether the lack of technology diffusion in specific sectors resulted in reduction of export market share remains unexplained.

In this context, we observe that total factor productivity growth for industries that lost export competitiveness was found to be less than half of that in the nine industries that have gained competitiveness (Table 11). Even though studies may have observed that

Indian industries have gained in terms of productivity owing to trade openness, this is not true in case of the top 15 sectors. Some sectors have lost a substantial export share over the period despite having a liberalised access to cheaper imported inputs.

Thus, a lower TFPG found in the losing industries points to the gaps in technological growth and lack of capacities and scale to cater to the global market. These factors need a detailed analysis at the sectoral level which is beyond the scope of this paper.

Table 11: Growth Rates of GVA, Workers and TFP for Organised Manufacturing Sector

Rate of Growth during 2009-16				
	GVA	*Workers*	*Capital*	*TFPG*
Gaining Industries	7.1	7.0	16.9	11.3
Losing Industries	15.4	4.6	9.4	4.8

Source: Authors' calculations based on ASI data of various years

However, if we compare the growth rates of labour and capital at the industry level, we can observe from Table 12, that the factor content in the two sets of industries clearly points to the industries in the gaining set to comprise of more capital-intensive technology of production.

Table 12: Trend in Labour, Capital and GVA Industry-Wise,

NIC	*Status*	*Growth Rate of Worker*	*Growth Rate of Capital*	*Growth Rate of GVA*	*Fixed capital per employee (Rs. '000)**	*Workers employed per factory**
2011	**Gaining Industries**	4.7	24.0	9.4	5609	46
2100		7.9	10.7	12.3	1759	94
2410		1.3	13.2	6.7	6567	108
2420		4.7	22.0	12.1	8247	59
2710		3.4	9.5	3.0	836	57
2910		7.8	11.2	19.5	4173	900
2930		9.9	13.6	18.4	977	125
3011		-1.6	25.1	-60.6	7423	159
3030		25.1	23.1	43.2	1294	127
Average of 9 Industries		**7.0**	**16.9**	**7.1**	**4099**	**186**
1311	**Losing Industries**	1.7	10.8	11.0	818	136
1312		1.1	7.3	8.0	967	85
1392		9.7	12.4	22.8	616	100
1410		3.1	4.2	9.0	154	153
2599		7.4	15.9	21.9	616	33
3211		4.4	5.9	19.5	305	156
Average of 6 Industries		**4.6**	**9.4**	**15.4**	**579**	**110**

* Average values for years 2014-15, 2015-16 and 2016-17

Source: ASI Unit Value Data and Annual reports of relevant years

The average capital growth rate in the top 15 export sectors was higher for those industries that remained globally competitive the six than industries that witnessed a declining export share as well as competitiveness. The average growth rate of capital of all nine

gaining industries was almost double, at 16.9 percent, than that of the latter set of six industries at 9.4 percent. Fixed capital per employee expressed in value terms was also higher by almost 8 times in the gaining industries than that of the losing industries. Interestingly, the average factory size in terms of number of workers employed per factory was not very disparate on an average. Among the nine industries that gained in terms of higher RCAs, majority of industries such as the automobiles and parts thereof, ship building, aircraft and parts thereof and basic iron and steel sectors have more than 100 workers employed per factory during 2008-16.

On a similar ground, most industries in the set of six industries that lost export competitiveness had average factory size of more than 100 such as the textile spinning, wearing apparel and gems and jewellery industries.

Despite having comparable average factory sizes of more than 100 workers per factory, industries in the losing spectrum in export sector could not translate the higher productivity of labour (discussed in the earlier section) into higher total factor productivity growth, due to lack of technological progress required to step up output growth.

c. Rising Wage Costs and Role of Productivity

Another important determinant of competitiveness is the cost component in the production process. The inter-industry differentials in the wage shares brought out in the above discussion have led us to study the wages in comparison to the labour productivity in industries.

Wage share is the ratio of total wage compensation in total output (or value added). In other words, it is the wages paid per unit of output/value added or unit labour (or wage) cost which is an important indicator of cost competitiveness. A lower per unit wage cost, per se, might indicate lower costs, however, it would be a misleading indicator. This is because lower unit labour cost can also be interpreted as labour exploitation. Therefore, there is a need to compare wage costs with productivity of labour input to justify the argument that for each labour employed, the wages are in tandem with the productivity of that input in generating per unit of output. Firms employ labour till the marginal product equals the wage rate (or the marginal cost). Therefore, the wage share can be expressed as a ratio of wages and labour productivity[20].

A higher growth rate of wage cost per unit than that of labour productivity would imply that the real wages are rising at an even higher rate according to the ratio. This means that

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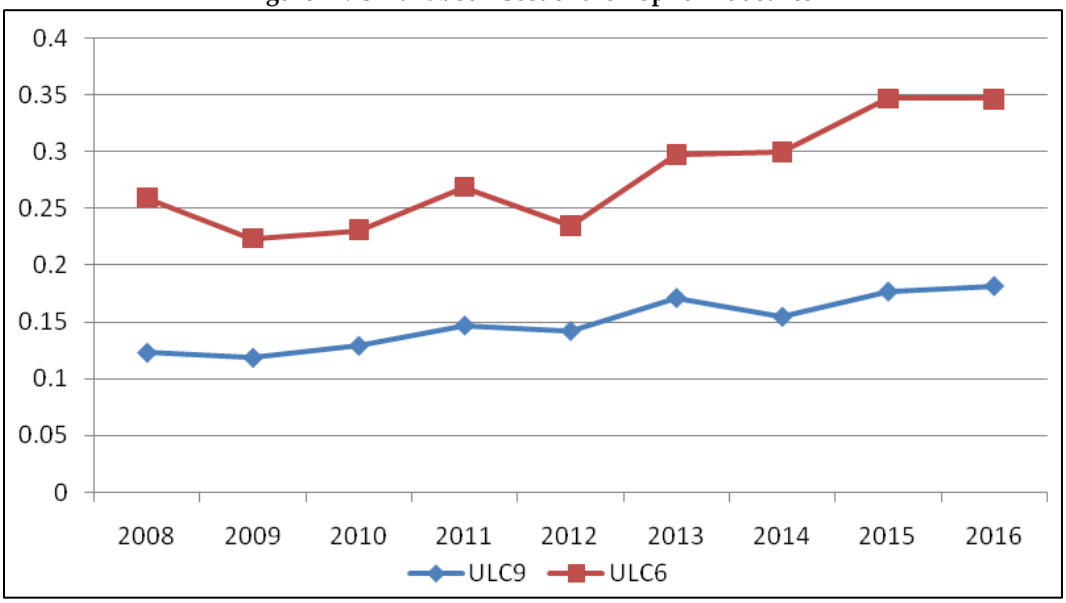
[20] According to the Cobb Douglas Production Function, output Y is a function of labour and capital given by, $Y=AK^{\alpha}L^{1-\alpha}$. Assuming the function to be homogenous and a convex function, we can express the real wage as $dY/dL=w/p$. Solving the equation, we get $w/p=(1-\alpha)Y/L$ or $[w/p * L]/Y=1-\alpha$, which is the wage share equation. The wage share can also be expressed as WS= [w/p]/[Y/L], that is, the ratio of real wages and labour productivity.
According to the definition of OECD 2007 the unit labour cost is expressed as a ratio of total labour cost to real output. Therefore, in equilibrium, labour wage share is equal to the unit labour costs.

the firm is operating at high costs making it less cost competitive. On the other hand, if wage costs are rising at a slower rate than labour productivity, then there is cost competitiveness in the firm or sector (OECD 2021; Mertsina and Janes, 2012; Ark *et al*, 2008).

Using the unit labour cost (ULC) method of OECD, which is the ratio of total labour cost to real output, we have calculated the ULC for the top 15 industries (Figure 12) separately for the two sets of industries. As the Figure 12 suggests clearly, the unit labour costs of the six industries that lost competitiveness in the global markets displayed higher ULC as compared to the other nine industries.

Figure 12: Unit Labour Cost of the Top 15 Industries



The components of ULC, that is, labour productivity (real gross value added divided by total workers employed) and average labour cost (given by nominal wages divided by number of workers employed), are compared to see if the higher ULC in the six industries was enabled by lower labour productivity or higher average wage costs. For this, we take the ratio of average labour productivity of nine industries that gained to that of the six industries that lost and compare across time. Similarly, the ratio of average wage costs of the two sets of industries is taken (refer to figures 13a and 13b, respectively). The higher ULC in the six losing industries was due to the rising average wage costs in these industries, compared to the nine industries that experienced falling average wage costs (Figure 13b). On the other hand, labour productivity on an average was slow to rise in the nine industries compared to the six losing industries.

As pointed out in the earlier section, even though employment growth in the nine industries was higher than the set of six industries, the average wage costs were falling for the former industries with rising labour productivity. Although, noted earlier, growth rate of labour productivity was much higher in the latter industries which did not translate into

competitiveness, which is explained by the higher ULCs in these industries. Industries with high costs of production stand to lose competitiveness in the long run and unable to reap the economies of scale and thus, fail to expand their export share.

Figure 13a: Ratio of Labour Productivity of Top 15 Exporting Industries

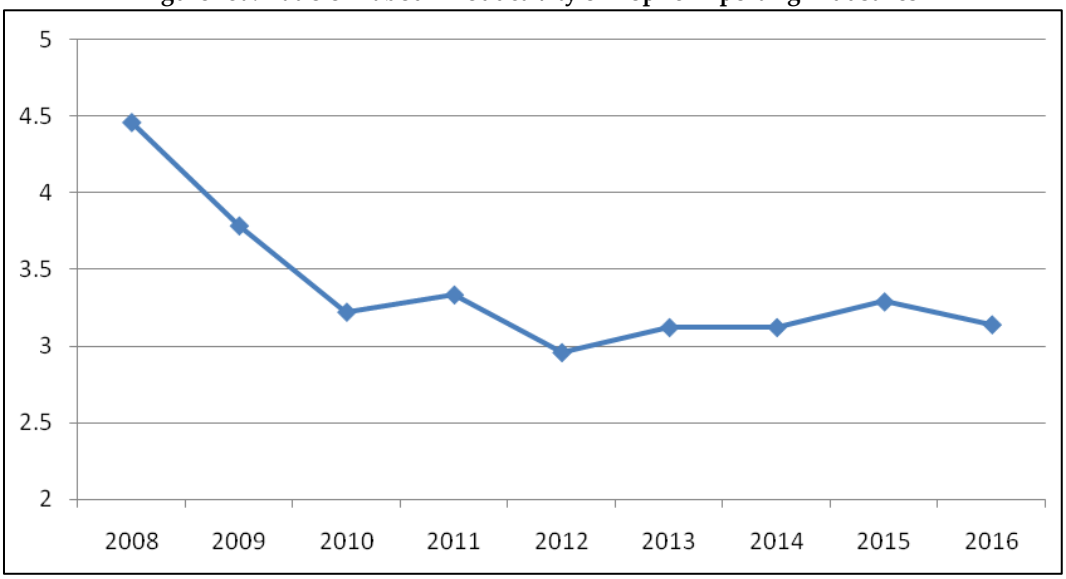
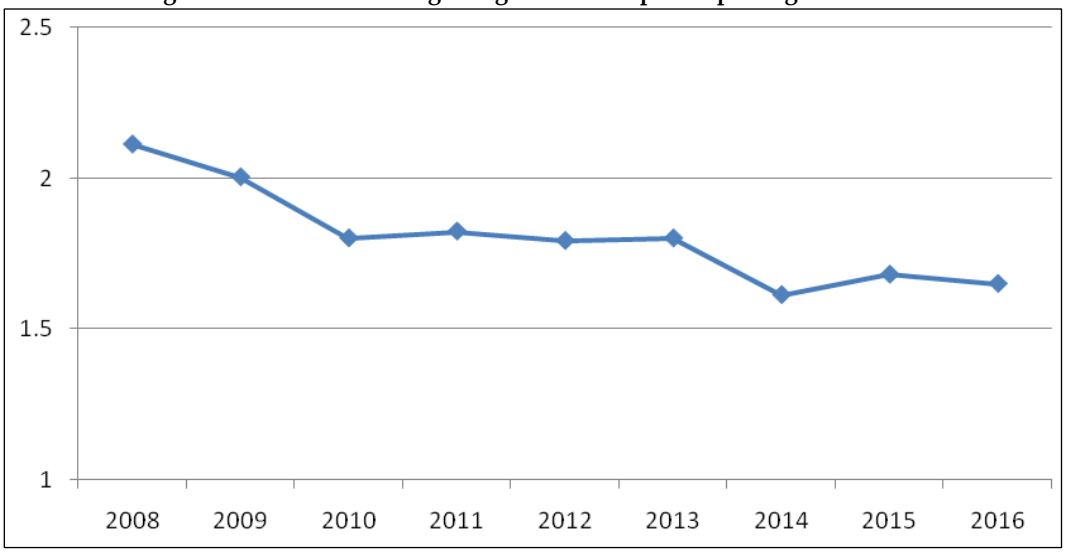


Figure 13b: Ratio of Average Wage Cost of Top 15 Exporting Industries



This is a crucial observation and one of the important factors why Indian industries have suffered to keep pace with the competition opened up in the global market post-liberalisation.

Conclusion

This paper was an attempt to explain India's export performance of manufacturing industries during the past two decades, the period in which the country's trade liberalisation had deepened considerably. Although the process of economic liberalisation in India was formally initiated in 1991, tariffs on manufactured products were significantly reduced more than a decade later. Policy makers lowered tariffs with the expectation that the exposing Indian industries to import competition would enable them to become competitive, which would, in turn, result in export surge.

The paper analysed the export performance of manufactured products given the expectation of rising exports through higher levels of competitiveness. In the period until the onset of the "Great Depression", when weighted average tariffs on manufactured products were reduced rapidly from more than 30 percent in the year 2000 to a single digit in 2008, India's exports had expanded rapidly. However, from the early years of the previous decade, manufactured exports became nearly stagnant, before there was a brief spurt in 2017-18. The following two years witnessed a slump in manufactured exports yet again.

Many industries that have displayed high growth rates in exports have faced slow erosion in their export competitiveness over the period of last 18 years. According to the measure of export competitiveness, six industries have been identified to have lost competitiveness while nine have gained. However, the fall in export share in India's total exports for the former has been much steeper than the gain in the export share (excluding petroleum exports). The domestic industry level factors such as lower productivity growth, higher unit labour costs and presence of low levels of technology are prominent factors that explain the export performance of India that we observe.

India should take cognisance of the fact that the full potential of neither the multilateral trade liberalisation nor the bilateral or regional trade agreements that India had entered into have been fully utilised. The lack of industries to catch up to global competitiveness has much to do with the domestic policy inconsistencies that have played a greater part and failed to provide a conducive environment for industries to explore global market access opportunities.

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