

Export Performance of India: Pre And Post-Recession Analysis

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ABSTRACT

This study is an attempt to measure and analyze the export performance of India for the time period of 2001-16 which was subdivided into two periods, pre and post-recession of 2008-09 by using Constant market share method. The study confirms the results that the growth of Indian exports during 2001-16 has been mainly due to the Market Distribution Effect and World Demand Effect. It was found that during the pre-recession period, the export performance lacked competitiveness as compared to post recession. Similar results were seen in commodity wise growth performance, almost all the commodities were showing negative competitiveness effect. Market wise export growth showed that few economies have shown a good response for Indian exports to their respective markets like USA, few economies of Europe and UAE. There has been negative competitiveness effect which shows that Indian exports are growing to such markets not by their competitive nature but by the other two effects namely world demand effect and market distribution effect.

1. Introduction

India's tryst with the trade liberalization and openness policies started vigorously in 1991. Since then, it has become one of the influential states in world market. A market driven initiative increased the significance of exports in India and subsequently constitute a key factor in the economic development and growth of the nation. Reforms in trade and foreign exchange policies pushed up Indian merchandise trade and increased the efficiency and competitiveness of Indian exports. The gradual liberalization made a favorable environment for Indian exports to get known to the world market with the result exports in India have grown at a good pace accordingly with the world exports since 2001 and had impacted the Indian economy positively. There is an interlinkage between the national income and export performance of the country and is supported by literature like, (Chenery, 1979; Kavoussi, 1984; Jung and Marshall, 1985; Ahmad and Kwan, 1991). Besides this, it is exports that could be formative for mounting up the nation in future as is supported by the literature like, (Nayyar, 1976; Chow, 1987; Salvatore and Hatcher, 1991; Thirlwall, 1979; Melitz, 2003). The high growth rate of Indian economy can partly be attributed to the growth of its exports (Mukherjee and Mukherjee, 2012). However, the sustained decadal growth was cut down by the global financial crises in 2008-09 which made Indian export sector to clung back. The GDP growth rate fell from (9 percent) in 2007-08 to (7.1 percent) in 2008-09 and annual export growth rate fell from (28 percent) to (-15.36 percent) during the same period. In Indian context, studies based on export performance has been considered from a long past, few considered like, (Tiwari, 1986; Aggarwal, 1989; Kainth, 1996; Jha, 2000; Rajagopal, 2000; Hugar, 2002; Goyal and Singh, 2000; Hosamane and Bisaliah, 2006; Nageshwara and Srinivas, 2009; and Singh, 2014) are noted ones. Keeping in view the importance of export performance in the growth of the economy this paper is an attempt to analyse the export performance of India and its composition over time, including the impact of 2008-09

recession. The basic research questions regarding the export growth and performance of India which this study is going to answer are; (I)How far the world growing trade makes Indian export sector to expand in structure and composition (World Demand Effect).(II) Was world better demand for Indian exported commodities responsible for higher growth (Commodity Composition Effect); (III) what about market distribution effect, that India had maintained in exporting to those markets where comparatively the purchasing power was high. (IV) Is the competitiveness of Indian exports responsible for their increasing growth in the world market (Competitiveness Effect). The analysis is done for overall time period from 2001 to 2016 which is further sub divided into two separate time periods of pre-recession 2001-07 and post-recession period of 2008-16 for comparison and contrast. The paper is divided into four sections. Section first introduction is followed by section two research methodology. Section three provides results and discussion and section fourth summary and conclusion.

2. Research Methodology

2.1 Constant Market Share Analysis:

In order to analyze the export performance of India, a secondary data-based method commonly known as Constant Market Share model, pioneered by (Tyszynski, 1951) is used. The approach has been very fashionable for determining the export performance of any country, just considering few researchers like; (Bowen and Pelzman, 1984; Ferreira and Rayment, 1984; Horwitz, 1984; Utne, 1984; Leamer and Stern, 1970 and Singh, 2014). This method is very trendy and is very famous due to its simplicity and applicability for determining the export performance of a nation.

To analyze the Indian export market, CMS model used by (Singh, 2014) has been applied to bring Indian export performance into picture. CMS is given by formulae as;

$$\Delta X = \sum_{i=1}^n rXi + \sum_{i=1}^n riXi - \sum_{i=1}^n rXi + \sum_{i=1}^n \sum_{j=1}^n rijXij - \sum_{i=1}^n riXi + \Delta X - \sum_{i=1}^n \sum_{j=1}^n rijXij$$

(a)
(b)
(c)
(d)

Where,

ΔX is the change in country's exports

' r ' is the incremental percentage in total world exports (excluding India) from first period to second period.

' ri ' is the incremental percentage in the world exports of i th commodity from first period to period second excluding India.

' rij ' is the percentage increment in world exports of i th commodity to j th region from first period to period second excluding India.

' Xi ' is India's exports of i th commodity to the rest of the world in the first period.

' Xij ' is India's exports of commodity ' i ' to region ' j ' in the first period.

In the model, term of the equation represented by 'a' on the right-hand side refers to overall growth in the world exports and thus termed as the "World Trade Effect (WTE)." This effect shows that the exports growth of a nation can be maintained if world demand is sufficient for overall exports. In other words, this term estimates the changing level of the exports of the concerned country that had merely maintained its share in the world market.

Part of the model represented by 'b' on the right-hand side captures the effect of the differential export growth of the products in the export container of the world in relation to the export of the hub country. This effect is termed as the "Commodity Composition Effect (CCE)". In other words, this effect measures the commodity wise growth, i.e., whether the concerned country has maintained the export growth of those commodities that world is demanding in that particular period. A positive value for this term indicates that focus country's exports during the specific period were concerted in commodities for which the growth rates of world exports were higher than the world average for all commodities. A negative value indicates just the opposite - that is, the focus country's exports were concentrated in the commodities for which world demand was growing relatively slow.

Notation 'c' reflects the "Market Distribution Effect (MDE)", which can be illustrated in the same as the Commodity-Composition Effect. A positive value indicates that concerned country's exports during the specific period were directed to the markets (i.e. regions), which were rising faster than the world average and a negative value indicates the opposite.

Part of the equation designated by 'd' is showing "competitiveness effect", which reflects the difference between the real export growth of focus country (ΔX) and the growth that would have occurred had the country maintained its export

share of each commodity to each market $(\sum_{i=1}^n \sum_{j=1}^n rijXij)_A$ positive value is reflective of a general enhancement in the competitiveness of the exporting country due to the various price and non-price factors. Hence, it is referred as "Competitiveness Effect (CE)"

Further, for commodity wise analysis, export performance is calculated by taking Commodity Composition Effect (CCE) equal to zero because the percentage increase in total world exports of particular commodity ' i ' i.e., (ri) is equal to percentage increase in total world exports (r). The statement simply means that ($r=ri$) for commodity wise analysis of export performance which makes CCE equal to zero. Similarly, for region wise analysis ' rij ' equals to ' ri ', that make Market Distribution Effect (MDE) zero and thus MDE would disappear for the analysis of export performance for market wise analysis.

3. Results and Discussion

3. 1 India's Export Performance

Indian export growth has been quite high since 2001 with respect to the world export growth, except few periods of recession, where Indian export growth shows a small decline than world exports. The whole scenario is appropriately illustrated in Fig. 1.1 that shows annual export growth rate of India to that of world annual growth of exports since 2001 to 2016. The trend of export growth during the period depicts that Indian export growth was quite high as compared to world export growth. However, huge negative decline is visible during 2009 due to the global financial crises.

Fig 1.1



3.2 Indian Export Growth Decomposition

Export growth of India is elaborated in Table 1.2 and gives an illustrative picture of Indian export growth during time period of pre-recession, post-recession and overall period. The calculated values in the Table 1.2 reveals that Indian exports grew by actual value of \$102.02 billion from 2001 to 2007 when world exports were growing at the tune of \$5421.4 billion. This increase in Indian exports can be attributed to higher Market Distribution (62.32 percent) followed by World Demand Effect (53.14 percent). However, the values indicated that there has been wrong selection of commodities, which is reflected by the negative value of minus \$471 billion (-4.62 Percent) during the same period as shown in Table 1.2. Indian exports also show negative Competitiveness Effect (-110.8 percent) during pre-recession period, which means that during pre-recession period, Indian exports shows an improvement of many billion dollars only due to the other two factors rather than Competitiveness and Commodity Composition factor.

The calculated values for the Post-recession period of 2008 to 2016 showed that Indian exports increased only by \$78.47 billion, that showed a decline of (- 23 percent) from that of pre-recession period. The World Demand Effect remains at (- 3.95 percent) after recession. After recession, the growth in Indian exports is purely attributed to the high commodity composition effect (10.82 percent). The values indicated that market distribution effect remains (-14.17 percent) after recession. The possible reasons suggested that Indian exports had been supplied to those markets where demand was not quite high and the absorption power was significantly lower than the world average due to the recession. Besides this, there arise a significant change in commodities selection from

pre-recession to post-recession period. Commodity Composition effect has been calculated at \$849.32 billion in 2008-2016, which shows an improvement over pre-recession period. Also, Competitiveness effect has been positive at \$650.38 that constitutes, (8.29 percent), which indicates that India had succeeded in capturing the competitive edge over its exported products in both price as well as non-price components after recession. The reasons for this competitiveness indicate that due to the decreasing demand in the world market only those commodities fetched the market which were enough competitive.

The overall growth of Indian exports from 2001 to 2016 is mainly attributed to Market Distribution effect (40.63 percent), followed by World Demand effect (30.91 percent) and Commodity Composition Effect (3.52 percent). Competitiveness effect has been negative in overall time period of 2001-16 that indicates, Indian exports are lacking the competitive edge in the world market. The positive competitiveness effect in post-recession arise possibly because most of the European, western and allied nations were badly affected by the recession and it became the gratuity for Indian exports to gain a momentum in world market when others were lagging in the production. However, in overall phase, the lesser volume as well as percentage of Commodity Composition and negative Competitiveness effect indicates that India lacked in terms of competitive structure of its products. The competitiveness factor is very crucial in determining the future of export sector of any nation. So, to get an advantage in the world market, India has to check out its competitiveness of exports.

Table 1.2
Growth decomposition of Indian exports in different phases

Years	Actual increase in exports (ΔX)	World Demand Effect (WDE)	Commodity Composition Effect (CCE)	Market dist. Effect (MDE)	Competitiveness Effect (CE)
2001-07	102.02 (100)	5421.39 (53.14)	-471 (-4.62)	6358.34 (62.32)	-11206.7 (-109.85)
2008-16	78.47 (100)	-309.61 (-3.95)	849.32 (10.82)	-1111.62 (-14.17)	650.38 (8.29)
2001-16	216.45 (100)	6689.45 (30.91)	762.09 (3.52)	8794.3 (40.63)	-16029.4 (-74.06)

Source: Authors Calculation based on UNCTAD data.

Note: ΔX = Actual change in Indian exports; WDE= World Demand Effect; CCE= Commodity Composition Effect; MDE= Market Distribution Effect and CE= Competitiveness Effect.

3.3 Decomposition of Indian Exports (Commodity wise)

The calculations in Table 1.3 clearly shows Commodity lines are showing an increasing growth in the overall time period of 2001-16 except few product lines like SITC 1, SITC 4 and SITC 9 that still doesn't show any incremental change in the actual growth. However, the growth of all these commodity groups is purely attributed to the growing world demand effect and market distribution effect except one commodity group of SITC 9 that has a negative market distribution effect of (-0.61). Food and Live Animals (SITC 0), Beverages and tobacco (SITC 1), Mineral fuels, lubricants and related materials (SITC 3), Chemicals and related products, n.e.s. (SITC 5) and (SITC

6), Machinery and Transport equipment (SITC 7) have shown the growth mostly due to the high market distribution effect.

Other commodities like SITC 2, SITC 4, and SITC 8 are showing an increasing percentage of World demand effect comparatively than that of their Market Distribution effect. Besides this, the competitiveness effect has been negative for all the commodities except SITC 9. The negative Competitiveness effect shows that the selected commodities fail to maintain their competitive edge in terms of their price and non-price components in the world market.

Table 1.3
Commodity wise growth performance: 2001-16

SITC	ΔX	WDE	MDE	CE
0	20.32 (100)	1029.0 (50.63)	2259.4 (111.17)	-3268.2 (-160.80)
1	1.03 (100)	28.7 (27.84)	32.4 (31.42)	-60.1 (-58.26)
2	7.43 (100)	333.1 (44.84)	271.0 (36.47)	-596.6 (-80.31)
3	25.56 (100)	314.5 (12.31)	802.8 (31.41)	-1091.8 (-42.72)
4	0.75 (100)	73.1 (97.80)	45.9 (61.44)	-118.3 (-158.24)
5	31.94 (100)	958.6 (30.01)	2125.2 (66.53)	-3051.9 (-95.54)
6	52.16 (100)	2130.6 (40.85)	2330.7 (44.68)	-4409.1 (-84.53)
7	39.59 (100)	515.8 (13.03)	2509.8 (63.40)	-2986.0 (-75.42)
8	33.78 (100)	1449.3 (42.90)	861.7 (25.51)	-2277.2 (-67.41)
9	4.34 (100)	0.2 (0.05)	-2.6 (-0.61)	6.8 (1.56)

Source: Authors Calculation based on UNCTAD data

Note: ΔX = Actual change in Indian exports; WDE= World Demand Effect; MDE= Market Distribution Effect and CE= Competitiveness Effect.

3.4 Region-wise Decomposition of Indian Exports

Regional orientation does play a very crucial role in any country's export profile and thus Indian export sector is not an exception. In order to capture the Indian export performance during 2001 to 2016 to different regions, Table 1.4 elaborates the effects that attribute to the export growth of Indian products during the study period to the selected markets.

Table 1.4 clearly illustrates that the actual increase of Indian exports to mentioned markets was mainly attributed to World Demand Effect except few countries like Netherland, China, Iran, Sri Lanka, Bangladesh, Pakistan and Oman to which most attributable for export growth is the Commodity Composition Effect. Table 1.4 also shows that there has been a wrong selection of commodities for many of the nations

including United States as Commodity Composition Effect is negative in such countries.

However, there has been increase in Indian exports more in the regions of Western Asia especially UAE which is attributed to both World Demand effect and Commodity composition Effect except for Saudi Arabia for which Commodity composition Effect remains negative for the study period. Eastern Asian nations shows an increasing percentage of world demand effect except China that has huge market

distribution effect for the Indian exports. Southern Asian countries shows positive world demand effect as well as commodity composition effect indicating that exports to such markets could grow in future as well. The analysis reveals that to increase exports, India should focus on those markets where both world demand as well as commodity composition is positive, and should try to export those commodities which are highly demanded by these markets and should avoid the exporting of wrong selection of commodities.

Table 1.4
Market Wise Distribution: 2001-16

(\$bn)					
Economy	Region	ΔX	WDE	CCE	CE
United States	Developed America	33.6 (100)	1731.9 (51.6)	-976.8 (-29.1)	-721.5 (-21.5)
Canada	Developed America	1.4 (100)	72.0 (51.7)	-25.6 (-18.4)	-45.0 (-32.3)
Japan	Developed Asia	2.3 (100)	115.0 (50.5)	-48.0 (-21.1)	-64.7 (-28.4)
Israel	Developed Asia	2.5 (100)	45.0 (17.8)	0.8 (0.3)	-43.2 (-17.2)
Australia	Developed Economies Oceania	2.6 (100)	77.3 (30.3)	-77.2 (-30.3)	2.5 (1.0)
United Kingdom	Developed Europe	6.4 (100)	195.0 (30.6)	42.5 (6.7)	-231.1 (-36.3)
Netherland	Developed Europe	4.0 (100)	11.3 (2.8)	114.2 (28.5)	-121.5 (-30.3)
Germany	Developed Europe	5.4 (100)	208.0 (38.6)	4.2 (0.8)	-206.8 (-38.3)
Belgium	Developed Europe	4.0 (100)	157.8 (39.9)	14.9 (3.8)	-168.7 (-42.7)
Italy	Developed Europe	3.2 (100)	105.4 (33.0)	27.4 (8.6)	-129.6 (-40.6)
France	Developed Europe	3.9 (100)	78.5 (20.2)	23.6 (6.1)	-98.2 (-25.3)
Spain	Developed Europe	2.7 (100)	66.1 (24.8)	22.5 (8.5)	-86.0 (-32.3)
China	Eastern Asia	8.0 (100)	488.3 (61.1)	527.9 (66)	-1008.2 (-126.1)
Hong Kong	Eastern Asia	10.8 (100)	587.0 (54.4)	182.9 (16.9)	-759.1 (-70.3)
Rep. Korea	Eastern Asia	3.0 (100)	93.1 (31.0)	0.4 (0.1)	-90.5 (-30.1)
Taiwan	Eastern Asia	1.5 (100)	48.3 (33.2)	5.2 (3.6)	-52.0 (-35.8)
Egypt	Northern Africa	1.6 (100)	81.5 (51.6)	28.8 (18.2)	-108.8 (-68.8)
Brazil	South America	2.1 (100)	34.8 (16.8)	10.1 (4.9)	-42.8 (-20.7)
Singapore	South Eastern Asia	6.4 (100)	124.6 (19.4)	33.8 (5.3)	-152.0 (-23.6)
Vietnam	South Eastern Asia	5.7 (100)	265.7 (46.3)	229.1 (39.9)	-489.1 (-85.2)
Indonesia	South Eastern Asia	2.43 (100)	0.0 (0.0)	0.0 (0.0)	2.43 (1)
Malaysia	South Eastern Asia	3.4 (100)	103.6 (30.5)	39.8 (11.7)	-140.0 (-41.2)
Thailand	South Eastern Asia	2.4 (100)	133.3 (56.4)	13.7 (5.8)	-144.6 (-61.2)
South Africa	Southern Africa	2.9 (100)	60.0 (20.6)	22.3 (7.6)	-79.4 (-27.2)
Bangladesh	Southern Asia	4.6 (100)	498.0 (108.1)	638.0 (138.5)	-1131.5 (-245.7)

Iran	Southern Asia	2.2 (100)	70.9 (32.8)	170.8 (79.1)	-239.5 (-110.9)
Sri Lanka	Southern Asia	3.5 (100)	126.9 (36.3)	852.4 (243.8)	-975.8 (-279.1)
Nepal	Southern Asia	4.3 (100)	48.7 (11.2)	22.7 (5.2)	-67.1 (-15.6)
Pakistan	Southern Asia	1.4 (100)	69.6 (48.8)	73.9 (51.8)	-142.2 (-99.6)
Russian Fed	Transition Economy	1.0 (100)	196.9 (202.1)	163.0 (167.3)	-358.9 (-368.3)
UAE	Western Asia	27.5 (100)	1060.7 (38.6)	527.9 (19.2)	-1561.2 (-56.8)
Saudi Arabia	Western Asia	4.2 (100)	220.9 (52.0)	-38.8 (-9.1)	-177.9 (-41.9)
Turkey	Western Asia	4.3 (100)	82.6 (19.4)	9.1 (2.1)	-87.4 (-20.5)
Oman	Western Asia	2.4 (100)	91.3 (37.6)	108.5 (44.7)	-197.4 (-81.4)

Source: Authors Calculation based on UNCTAD data.

Note: ΔX = Actual change in Indian exports; WDE= World Demand Effect; CCE= Commodity Composition Effect and CE= Competitiveness Effect.

4. Summary and Conclusion

In this study an attempt has been made to measure and analyze the export performance of India for overall time period of 2001-16 which was subdivided into two periods pre and post-recession of 2008-09 by using Constant market share method. The analysis indicates that Indian export growth has been quite high since 2001 with respect to the world export growth except few periods of recession, where Indian exports are showing a small decline than world exports. The study confirms the results that the growth of Indian exports during 2001-16 has been mainly due to the Market Distribution Effect and World Demand Effect. The actual change of Indian exports during 2001 to 2007 was \$102.02 billion which was mainly attributed to the World Demand Effect (53.14 percent) and Market Distribution Effect (63.28 percent). The major results of the study reflects that there has been wrong selection of exported commodities during (2001-07) which is reflected by the negative Commodity Composition Effect (-4.62 percent) and also large negative Competitiveness effect (-110.8 percent) indicate that Indian exports failed to capture the competitive edge in the world market during the period of pre-recession.

The study revealed that there was not enough improvement over actual increase in Indian exports during post-recession period of (2008-16) and constitutes only \$78.47

billion. However, this export growth of post-recession period was mainly attributed to high commodity composition effect (10.82 percent) and competitiveness effect (8.29 percent) which remains just opposite from pre-recession period where these effects had negative impact. The reason for this increasing competitiveness means that due to the decrease in the world demand, only those commodities fetched the market which were more competitive. The results related to Commodity wise growth of Indian products revealed that actual increments were only due to the Market Distribution Effect and World Demand Effect. The Competitiveness effect remains negative except SITC 9, indicating that commodities exported by India didn't grow due to their competitive structure in the world market, but due to other two factors. The same is true for the region wise export growth. The Competitiveness effect remains negative for all the regions. The policy implications of the study reflect, to maintain the export growth in future, India has to emerge as the hub of globally competitive products. The competitiveness factor is very crucial in determining the future of export sector of India. So, to get an advantage in the world market, India has to check out its competitiveness of exports. Besides, India should focus on those markets where both world demand as well as commodity composition is positive and should avoid the exporting of wrong selection of commodities.

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