

The state of India's foreign trade during the post reform period: an empirical analysis

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Abstract

Objectives: The present study tries to throw light on the direction, nature, share and variation of India's foreign trade with rest of the world during the post reform period.

Methods/Statistical analysis: An analysis of India's balance of trade position is made at disaggregate level with different category of countries like OPEC, OECD, Eastern Europe, Developing countries and the other types of countries. A statistical analysis in the form of ANOVA is carried out for examining variation in the level of India's export and import with rest of the world.

Findings: The empirical findings of the study show that though India is facing deficit balance of trade with rest of the world throughout the study period but the volume of trade deficit has widened mainly after 2002-03. India has enjoyed a trade surplus with OPEC, OECD, Eastern Europe, Developing countries and other type of countries during some points of time. The study has also found that India is having surplus balance of trade mostly with the developing and other type of countries. The study has also found that export and imports sharing of India among different countries are found statistically highly significant. The share of India's export and import is also found to be shifted more towards developing and other type of countries in recent times and thus representing the dominance of these two countries in India's current foreign trade situation. The findings of the present study are unique in the sense that it tries to analyse India's balance of trade position by disaggregating the rest of the world into different groups.

Application/Improvements: The present study recommends that efforts must be put in raising India's level of export to those countries where her products have relatively higher demand and she must look for some import substitution measures in case of those countries upon which she is heavily relying upon her import. The scope of improvement of the present study lies in exploring the causes of variation in the level of India's foreign trade with the rest of the world.

Keywords: Foreign trade, Post reform period, Nature of trade, Balance of payment, Share of trade

JEL Codes: F10, F14 and F19

1. Background of the study

India's foreign trade policies from 1951 to 1991 was centralised with extensive regulatory controls which was mainly based on inward looking import substitution model of development. However, India has introduced economic reforms under the extreme pressure of economic crisis in 1991 [1]. With the opening up of Indian economy her foreign trade has got new direction during post liberalization period [2]. Trade has been increasing at a faster rate during the post reform period compared to pre reform [3]. With the opening up of the trade boundary the share of Indian trade has increased and it has become competitive in nature. Due to globalization India has got a good market for her domestic products [4]. At this back drop, the present study tries to throw light on the direction and nature of India's balance of trade position as well as on her global trade share during the post reform period. Further the paper attempts to examine the inter-national variation in export and import with rest of the world. The study also provides some policy suggestions regarding the trade decisions depending upon the empirical results. The present paper is organised into seven sections starting with introduction followed by review of literature, objectives, data base and data sources, methodology, findings and conclusion of the study.

1.1. Direction of India's foreign trade- review of existing literature

Economic reform is a process of international integration, and its development is due to increased exchange of trade [5]. The evaluation of modern trade is the outcome of the traditional views of trade given by Adam Smith and David Ricardo in eighties. In Wealth of Nations of Adam Smith [6] and Principle of Economics of Ricardo [7] has given the idea of trade. His theory said that nation should sell their goods to other countries without buying anything from them and people should be given freedom to produce and exchange the goods to opening up the market for domestic and foreign competition [8]. Ricardo is of the view that it is comparative cost advantage which is considered both necessary, as well as sufficient to ensure mutually gainful trade across nations, complete specialization in the specific commodity with a comparative advantage in terms of labour hours used per unit of output [9].

It is generally believed that trade liberalization should be beneficial for the domestic economy as well as the world as a whole. The shifting pattern in export and import has been noticed in India's foreign trade during post reform period. Just before reform period India's foreign trade was growing in tremendous manner. But due to slow pace of Industrial growth of third world countries export items failed to get its appropriate market [10]. The average annual growth rate of productivity has been higher in post reform period than pre reform period [11]. The growth acceleration in India has begun in eighties. Similar Studies about Indian growth are controversial with regard to reforms [12]. Many studies have explored the causes of India's productivity surge since 1980, more than a decade before serious economic reforms were initiated. They find that traditional reforms trade liberalization, expansionary demand, a favourable external environment, and improved agricultural performance did not play a role [13]. On the other hand some studies are of the view that Indian trade has been increasing at a faster rate during the post reform period compared to pre reform period [14]. After giving more emphasis on external sectors the era of new trade policy has begun to liberalise the trade policies and a reversed direction of trade has been noticed in Indian trade growth [15].

Reform towards international trade liberalization could affect both positively or negatively. Increasing export opportunities opening up to international competition will not only induce increased efficiency in domestic firms but it will also stimulate their exports [16] and [17]. A study on Indian growth argues that growth tends to be correlated with increases in investment, trade, and real exchange rate depreciation [18]. However, as all these growth accelerations are highly unpredictable, they conclude that in most instances economic reforms in India do not necessarily produce growth. India has traditionally been an exporter of agricultural raw materials and manufacturers based on agriculture. There has been a decline these agricultural products and the reason for the relative decline in total exports in the increasing population and consequent increase in domestic consumption of these goods.

2. Objectives of the study

1. To examine the direction and nature of India's Balance of trade position over time
2. To look into India's export and import share with different category of countries
3. To examine the inter-national variation in India's export and import share with different category of countries of the world

3. Data base and Data source

The data base of the study is secondary data provided by Directorate General of Commercial Intelligence and Statistics, which is taken from Hand Book of Indian Economy, 2016-17.

4. Methodology of the study

1. OECD (The Organization of Economic Cooperation and Development) countries
2. OPEC (The Organization of Petroleum Exporting Countries) countries
3. Eastern Europe
4. Developing countries
5. Other countries

For analysing the objectives, the present paper has considered a time period of 26 years i.e 1991-92 to 2016-17. For deeper analysis of the study we have divided the countries into five categories. First objective is analysed by calculating the balance of trade and average annual growth rate of balance of trade of India with each category of the country for the time period 1991-92 to 2016-17. For analysing the second objective, India's export and import share with rest of the world are calculated. The formula used for calculating India's trade share is given as follows-

$$ES_t = \frac{TES_t}{TE_t} \times 100$$

Where, ES_t = Export Share at the time period t

TES_t = Total Export to a specified category of countries at time period t

TE_t = Total export of India with the entire world at time period t

$$IE_t = \frac{TIS_t}{TI_t} \times 100$$

Where, IS_t = Import Share at the time period t

TIS_t = Total Import from a specified category of countries at time period t

TI_t = Total Import of India with the entire world at time period t

We have made use of ANOVA for analysing the third objective of the study to see the variation of export and import share among the various categories of the countries.

5. Empirical Results and Discussion

1. Direction and Nature of India's balance of trade position over time

This section shows the results related to the direction and nature of India's foreign trade during the period 1991-92 to 2016-17 as well as position of Export to and Import from India to the rest of the world as a whole. It also represents India's balance of trade position and growth of her trade deficit in terms of percentage during 1991-92 to 2016-17.

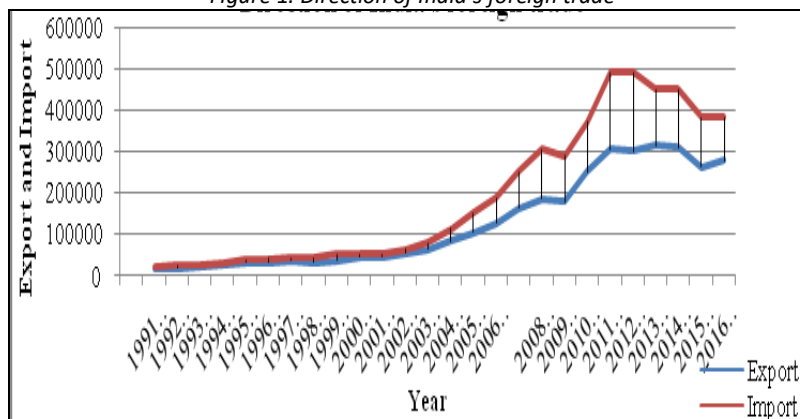
Table 1. Direction of India's foreign trade during 1991-92 to 2016-17 (In terms of US \$)

Year	Export X	Import M	Balance of trade X-M	Nature of Balance of trade	Growth of Trade deficit (In %)
1991-92	17865.4	19410.5	-1545.1	Deficit	Does not arise
1992-93	18537.2	21881.6	-3344.4	Deficit	1.16
1993-94	22283.3	23306.2	-1022.9	Deficit	-0.69
1994-95	26330.5	28654.4	-2323.9	Deficit	1.27
1995-96	31794.9	36675.3	-4880.4	Deficit	1.10
1996-97	33469.7	39132.4	-5662.7	Deficit	0.16
1997-98	35006.4	41484.5	-6478.1	Deficit	0.14
1998-99	33218.7	42388.7	-9170	Deficit	0.41
1999-00	36822.4	49670.7	-12848.3	Deficit	0.40
2000-01	44560.3	50536.5	-5976.2	Deficit	-0.53
2001-02	43826.7	51413.3	-7586.6	Deficit	0.27
2002-03	52719.4	61412.1	-8692.7	Deficit	0.14
2003-04	63842.6	78149.1	-14306.5	Deficit	0.64
2004-05	83535.9	111517.4	-27981.5	Deficit	0.95
2005-06	103090.5	149165.7	-46075.2	Deficit	0.64
2006-07	126414.1	185735.2	-59321.1	Deficit	0.28
2007-08	163132.1	251654.0	-88521.9	Deficit	0.49
2008-09	185295.0	303696.3	-118401.3	Deficit	0.33
2009-10	178751.4	288372.9	-109621.4	Deficit	-0.07
2010-11	251136.2	369769.1	-118632.9	Deficit	0.08
2011-12	305963.9	489319.5	-183355.7	Deficit	0.54
2012-13	300400.7	490736.7	-190336.0	Deficit	0.03
2013-14	314415.7	450213.7	-135798.0	Deficit	-0.28
2014-15	310352.0	448033.4	-137681.4	Deficit	0.01
2015-16	262290.1	381006.6	-118716.5	Deficit	-0.13
2016-17	276547.0	382740.9	-106193.9	Deficit	0.1

Source: Calculated by authors based on the data provided by Hand Book of Statistics on Indian Economy, 2016-17

Table 1 shows the direction of foreign trade during post reform period from 1991-92 to 2016-17. During the post reform period the share of export was highest during the year 2013-14, it was 314415.7 and it was lowest during the year 1991-92, it was 17865.4. It shows an increasing trend in export sector. On the other hand, in the import side we can observe that import was highest during the year 2012-13 and it was lowest during the year 1991-92. Similarly, Balance of trade deficit during these periods was fluctuating one, the deficit was highest during the year 1993-94 that is -1022.9 and lowest in the year 2012-13 that is -190336. The trade deficit has increased in the successive years due to rise in import bill over that period and found to be highest in the year 1994-95 that is 1.27 and lowest in the year 1993-94 that is -0.69. Figure 1 depicts that import line is above the export line which exerts deficit in the balance of trade. However during 1991-92 to 1995-96, there is not much difference between export and import but the difference has found to been increasing since 2002-03.

Figure 1. Direction of India's foreign trade



Source: Drawn by the authors based on the data of Hand Book of Statistics on Indian Economy, 2016-17

Table 2. Nature of India's balance of trade position with different categories of countries

Years	OECD		OPEC		Eastern Europe		Developing Countries		Other Countries	
	BOT	Nature of Balance of trade	BOT	Nature of Balance of trade	BOT	Nature of Balance of trade	BOT	Nature of Balance of trade	BOT	Nature of Balance of trade
1991-92	-185.4	Deficit	-2259.3	Deficit	961.1	Surplus	-495.9	Deficit	425.4	Surplus
1992-93	-1059.5	Deficit	-2988.3	Deficit	260.2	Surplus	-44.8	Deficit	488	Surplus
1993-94	-435.2	Deficit	-2839.3	Deficit	438.3	Surplus	1362.2	Surplus	406.2	Surplus
1994-95	712.1	Surplus	-3621.5	Deficit	89.5	Surplus	2794.1	Surplus	428.9	Surplus
1995-96	7495.9	Surplus	-4565.4	Deficit	-333.8	Deficit	1053.4	Surplus	469.4	Surplus
1996-97	-855.2	Deficit	-6913.8	Deficit	-7.2	Deficit	1609.9	Surplus	500.5	Surplus
1997-98	-1850.9	Deficit	-5876.6	Deficit	168.7	Surplus	686	Surplus	394.8	Surplus
1998-99	-2595.7	Deficit	-4214.7	Deficit	189	Surplus	-2673.9	Deficit	125.4	Surplus
1999-00	-257.7	Deficit	-8954.9	Deficit	298.3	Surplus	-4064	Deficit	62.7	Surplus
2000-01	3315.7	Surplus	2161.2	Surplus	467.6	Surplus	1856.4	Surplus	337.9	Surplus
2001-02	981.5	Surplus	2258.7	Surplus	308	Surplus	759.1	Surplus	-11894	Deficit
2002-03	3081.5	Surplus	3405.2	Surplus	108.2	Surplus	2174.1	Surplus	-1441.7	Deficit
2003-04	57.1	Surplus	3935.2	Surplus	-73.5	Deficit	2217.1	Surplus	-20442	Deficit
2004-05	-3495.1	Deficit	3184.9	Surplus	-734	Deficit	2992.9	Surplus	-29930	Deficit
2005-06	-5933	Deficit	4071.1	Surplus	-1813.5	Deficit	-34154	Deficit	-44219	Deficit
2006-07	-12031	Deficit	-35380	Deficit	-2503.6	Deficit	-9031.1	Deficit	-376.2	Deficit
2007-08	-24803	Deficit	-49405	Deficit	-1880.1	Deficit	-11076	Deficit	-1358.5	Deficit
2008-09	-27935	Deficit	-58615	Deficit	-4599.3	Deficit	-28313	Deficit	1060.4	Surplus
2009-10	-30001	Deficit	-54712	Deficit	-4364	Deficit	-23617	Deficit	3072.7	Surplus
2010-11	-29806	Deficit	-70566	Deficit	-2903.1	Deficit	-26086	Deficit	10728.2	Surplus
2011-12	-42206	Deficit	-115490	Deficit	-5323.7	Deficit	-33809	Deficit	12034.5	Surplus
2012-13	-38696	Deficit	-115320	Deficit	-4167.2	Deficit	-35638	Deficit	84.9	Surplus
2013-14	-6308.3	Deficit	-106865	Deficit	-4196.9	Deficit	-24137	Deficit	-1502.2	Deficit
2014-15	-11042	Deficit	-80410	Deficit	-4237.7	Deficit	-38211	Deficit	-252.4	Deficit
2015-16	-9006.4	Deficit	-43607	Deficit	-4655.4	Deficit	-54868	Deficit	-293	Deficit
2016-17	-2820.6	Deficit	-47135	Deficit	-6532.1	Deficit	-45106	Deficit	406.3	Surplus

Source: Calculated by authors based on the data provided by Hand Book of Statistics on Indian Economy, 2016-17

From Table 2 we can see the comparative differences in nature of balance of trade of India with different countries. The maximum time of surplus of balance of trade (BOT) has found with the 'Other' categories of country and minimum time has found with OECD and OPEC categories of countries. In most of the period of trade with OECD countries India's BOT was deficit except six periods. Likewise, BOT with OPEC countries is found to be deficit in most of the periods. But we have noticed that from 2000-01 to 2005-06 India's was gaining surplus. After that it is again we can see the decline in the BOT but the volume of trade was fluctuating in nature. Except two periods BOT with Eastern Europe was in surplus from 1991-92 to 2002-03 and deficit has started from that. Even BOT with developing countries has decline after 2004-05. The trade is beneficial in most of the period of India with 'Other' category country. India's trade is gainful with 'Other' category of country in most of the periods. If we compare the five categories of country trade with 'Other' country is most beneficial. From the above table we can see that from initial period and up to 2000-01 and during 2008-09 to 2012-13 India is gaining surplus in BOT.

2. Share of India's export and import with different category of countries

Table 3 shows that the percentage share of trade with OECD countries has declined over the years. On the other hand the share of trade with OPEC countries increases over the years. In the initial period the share of export with East European countries was highest but later on it has declined and it is found to be same in most of the periods. Table 3 an important shift has been noticed in respect of export and import from OECD countries to Developing countries. The study has found the increasing trend of share of import and export after economic reform with OPEC and Developing countries. The share of trade with Eastern European countries in both export and import is almost same over the years. In case of export during first year it is 11% but after that it is continuously decreasing. In import sector also the share is very less.

Table 3. Different countries' share in India's export and imports during 1991-92 to 2016-17 (In %)

Year	OECD Countries		OPEC Countries		Eastern Europe Countries		Developing Countries		Other Countries	
	Share of Exports	Share of Imports	Share of Exports	Share of Imports	Share of Exports	Share of Imports	Share of Exports	Share of Imports	Share of Exports	Share of Imports
1991-92	56	54	9	19	11	5	20	21	2	0.7
1992-93	60	56	9	22	4	2	23	19	3	0.1
1993-94	57	56	11	22	4	2	26	19	2	0.1
1994-95	59	51	10	21	4	3	26	24	2	0.9
1995-96	56	52	10	21	4	4	29	22	1	0.8
1996-97	55	49	10	26	3	3	29	21	1	0.1
1997-98	56	51	10	23	4	3	29	23	1	0.9
1998-99	58	51	11	18	3	2	27	28	1	0.1
1999-00	57	43	10	26	3	2	28	28	2	0.8
2000-01	53	39	11	5	3	2	29	71	4	31
2001-02	49	40	12	6	3	2	31	25	5	27
2002-03	50	38	13	6	2	2	34	25	1	29
2003-04	46	38	15	7	2	2	36	26	0.05	0.26
2004-05	44	36	16	9	2	2	38	26	0.05	0.27
2005-06	44	35	15	7	2	2	38	25	0.01	0.30
2006-07	41	34	16	30	2	3	40	32	0.03	0.04
2007-08	38	35	16	30	2	2	43	32	0.05	0.09
2008-09	37	32	21	32	1.09	2	37	32	4	2
2009-10	36	33	21	32	1	2	39	32	3	0.7
2010-11	33	31	21	33	1.12	1.55	38	33	6	1.27
2011-12	34	30	19	35	1.06	2	41	22	5	0.9
2012-13	35	29	20	35	1.28	2	44	34	0.14	0.07
2013-14	36	26	18	36	1.17	2	44	36	0.08	0.4
2014-15	36	27	18	31	1.12	2	45	40	0.23	0.22
2015-16	39	29	18	24	0.93	2	42	44	0.29	0.28
2016-17	38	29	17	24	1.03	2	44	44	0.28	0.1

Source: Calculated by the authors, Note: Figures of export and import share might not have rounded up to 100

Now, when we see the trade with Developing Countries it is clear before us that the share of export has increases during 1991-92 to 2016-17. But there is slight decrease in the share of export in two periods. After that we see that there is increase in share of export. In import sight also it is clearly visible that there is no such significant increase and decrease in import. But import is highest during 2000-01 i.e. 0.71% of total import. When we take into consideration the share of Other Countries, import is very negligible compared to export during 1991-92 to 1999-00 almost half a decade. But after that period the percentage of share during 2000-01 to 2007-08 import has risen more than export throughout the periods. Now from the above table it is clearly visible that the major share of India's foreign trade has took place with OECD Countries and lowest share of trade took place with Other Countries.

3. Inter-national variation in the level of India's export and import with rest of the world

By using ANOVA, the present study has found that there is a significant difference in respect of export sharing of India with different types of countries. Application of ANOVA in this case has found that this inter-nation variation in the level of India's export is highly significant at 1% level of significance. The same story prevails in case of India's import share, where India's import share with different countries is statistically highly significant at 1% level of significance. The policy implications of these results highlighted that the share of export and import of India at global trade is not uniform and hence efforts must be put in raising the India's level of export to those countries where India's product have higher demand. On the other hand ANOVA results in respect of import share suggest that India must look for some import substitution measures in case of these countries where India is dependant much on importation of the product. The results of ANOVA are shown in Table 4 and 5 respectively.

Table 4. ANOVA result relating to India's export share with different category of countries

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	F crit
Between Groups	3401.211	2	1700.606	321.3451*	3.118642
Within Groups	396.9111	75	5.292148		
Total	3798.123	77			

*Source: Calculated by the authors, * means significant at 1% level of significance*

Table 5. ANOVA result relating to India's import share with different category of countries

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	F crit
Between Groups	2226.329	2	1113.165	127.4103*	3.118642
Within Groups	655.2638	75	8.736851		
Total	2881.593	77	2881.593		

*Source: Calculated by the authors, * means significant at 1% level of significance*

6. Summary of the study and Concluding remarks

The present study is a modest attempt at exploring the direction and share of India's foreign trade. The study is based on time series data from 1991-92 to 2016-17. The overall important findings of the study are: The overall direction of India's foreign balance of trade with rest of the world is found to be deficit and growth of trade deficit is fluctuating in nature. The trade of India with OECD and OPEC countries are not beneficial after post reform period. In most of the periods after reform India is facing deficit in balance of trade. Again trade with Eastern Europe and developing countries during post reform period is more beneficial than OECD and OPEC countries. The study has also found that India's trade is most beneficial with 'Other' categories of country during post reform period. The share of India's trade has declined with OECD, OPEC and Eastern Europe countries during post reform period. A shift has been noticed in India's foreign trade from OECD, OPEC and Eastern European countries towards Developing and 'Other' categories of countries. There is highly significant difference in India's export sharing as well as import sharing among different countries. To conclude, the present study has significantly contributed in highlighting the direction, nature, share and variation in India's foreign trade with the rest of the world. It has identified the countries with which India is having mostly surplus and deficit balance of trade during the post-reform period.

Since India's share of export and import with different category of countries is not found uniform, the present study also recommends that efforts must be put in raising India's level of export to those countries where India's products have relatively higher demand and it must look for some import substitution measures in case of those countries upon which India is heavily relying upon its import. However, it does not explore the causes of international variation of India's foreign trade with rest of the world. Thus, there is a scope of answering these research questions in some future research work.

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