

INDIA'S FOREIGN TRADE AND IMPACT OF EXPORTS ON FOREIGN EXCHANGE RESERVES OF INDIA

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ABSTRACT

The Indian economy is fleeing through a stressed phase due to growing trade balance deficit having an adverse impact on the growth and development of the nation. The present study is solely based on secondary data collected from various sources and was analyzed with the help of appropriate statistical techniques such as Mean, Standard Deviation, CAGR, Diagrams, Regression, and Charts, etc. to draw the conclusions. It was exposed through the results of the study that the oil import besides other things contributes the most in the adversity of trade balance of the nation which needs to be addressed by the government of India and its allied agencies through measures like, energy conservation, adoption of alternative sources of energy and the awareness among the masses, etc. Import substitution and a surge in exports are the need of the hour for maintaining the good financial health of the nation which can be realized only through more capital formation and be expending more on research and development to avoid the heavy cost of borrowings of capital and technology.

KEYWORDS: *Trade Balance, Deficit, Exports, Imports, Import Substitution, Capital Formation, Research & Development*

INTRODUCTION

No country is self-contained to produce the goods and services that it calls for, which leads to trade among nations and acts as an engine for economic growth as exports are imperative to earn foreign exchanges and availability of wider market while imports facilitate the nation by providing the goods and services not available within the country itself. The Indian economy has gained considerable momentum over the last one decade, by achieving and sustaining an annual GDP growth rate of over 7 percent. This high growth rate can be in part attributed to the growing contribution of the export sector to the economy (Mukherjee, S. and Mukherjee, S., 2012). Export is pre-eminent for the growth and development of the economy as it leads to the earning of valuable foreign exchange which assists in the growth of the economy (Goyal, S. 2012). India, since the implementation of new economic policy in 1991, has been experiencing a high rate of economic growth along with a high rate of export growth. Though the growth slowed down to some extent during the period of the Asian currency crisis of 1997, it once again picked up since the beginning of the 21st century (Sultan, Z.A. 2012). The import substitution (IS) strategy remained as the trade policy for the long time in India as a major drawback for economic growth. Indian policymakers realized India needs the rapid industrialization, which was possible through suitable trade policy reform. Indian export grew very slowly as the focus was the domestic

market to substitute the imports (Kruger, 2010).

OBJECTIVES OF THE STUDY

- To study the pattern of foreign trade in India during the period of seventeen years (2000-01 to 2016-17).
- To examine the impact of exports on the foreign exchange reserves of the country.

RESEARCH METHODOLOGY

Research Design: The present study is descriptive as well as analytical in nature as it provides the description of the current state of the country's foreign trade. The study is analytical one as it strives to establish the relationship among variables and to know the impact of a change in exports on foreign exchange reserves of the economy.

Data Collection: The study is purely based on the secondary data (for a period of seventeen years) which is collected through various sites of GOI, journals and other related sources.

Statistical Techniques: Various statistical tools and techniques like, average, standard deviation, CAGR and graphical representation, etc were used to analyze the collected data.

REVIEW OF LITERATURE

Mukherjee, S. and Mukherjee, S. (2012): Examined the performance of exports and other associated factors affecting exports in India; the manufactured exports contribute a major share of total exports of the country and identified the increasing importance of exports in the economic growth of the country.

Paudel, R.C. (2014): Analyzed the impact of liberalization on exports of India using ARDL approach for the period 1975-2008 and found that export supply is affected by domestic output whereas export demand is influenced by the world demand. The study established a favorable impact of liberalization reforms on manufacturing exports of India.

Jayakumar et.al (2014): Highlighted the importance of various determinants of imports and exports of India by establishing the relationship between foreign direct investment, imports, and exports of India and found a positive linkage exists between FDI and exports & imports.

Prasad et.al (2014): The study suggested various general and specific policy measures like, export infrastructure, market diversification, export promotion schemes and formation of Regional Trading Agreements, etc. to compete in global emerging trade scenario by analyzing the current trade scenario in global as well as in Indian trade.

Goyal, S. (2016): Highlighted the importance of exports as they help in the economic growth of the country by contributing in foreign exchange reserves. The study examined the trends prevailing in exports of India established that despite of US subprime crisis, merchandised exports of India showed a remarkable growth rate of 15.79 per cent for a period of 10 years (2004-05 to 2013-14)

Vermani, C. (2012): Analyzed the post-reform growth and pattern of India's Merchandise exports. It is established through the study that export growth rate (8 per cent) in the first decade after reforms was low as compared to that of second-decade growth rate (21 per cent). A major shift was found to be present in India's export destination from traditional developed countries to emerging markets.

ANALYSIS AND INTERPRETATION

The data associated with imports and exports of India were gathered through secondary sources like Directorate General of Commercial Intelligence and Statistics, annual reports of GOI, etc. and were analyzed with the help of statistical technique i.e. linear regression and following conclusions were drawn:

Table 1: Trends in Imports & Exports of India (• Billion)

Year	Exports			Imports			Trade Balance		
	Oil	Non-Oil	Total	Oil	Non-Oil	Total	Oil	Non-Oil	Total
2000-01	85.42	1950.29	2035.71	714.97	1593.76	2308.73	-629.55	356.53	-273.02
2001-02	101.07	1989.11	2090.18	667.70	1784.30	2452.00	-566.63	204.82	-361.82
2002-03	124.69	2426.68	2551.37	853.67	2118.39	2972.06	-728.98	308.29	-420.69
2003-04	163.97	2769.69	2933.67	945.20	2645.88	3591.08	-781.23	123.82	-657.41
2004-05	314.04	3439.35	3753.40	1340.94	3669.71	5010.65	-1026.90	-230.35	-1257.25
2005-06	515.33	4048.85	4564.18	1946.40	4657.69	6604.09	-1431.07	-608.84	-2039.91
2006-07	845.20	4872.59	5717.79	2585.72	5819.35	8405.06	-1740.52	-946.75	-2687.27
2007-08	1141.92	5416.72	6558.64	3206.55	6916.57	10123.12	-2064.63	-1499.85	-3564.48
2008-09	1233.98	7173.57	8407.55	4199.68	9544.68	13744.36	-2965.70	-2371.11	-5336.80
2009-10	1328.99	7126.35	8455.34	4116.49	9520.86	13637.36	-2787.50	-2394.52	-5182.02
2010-11	1887.79	9541.43	11429.22	4822.82	12011.85	16834.67	-2935.03	-2470.42	-5405.45
2011-12	2679.15	11980.45	14659.59	7430.75	16023.88	23454.63	-4751.60	-4043.44	-8795.04
2012-13	3308.19	13035.00	16343.18	8918.71	17772.91	26691.62	-5610.52	-4737.92	-10348.44
2013-14	3832.48	15217.63	19050.11	9978.85	17175.48	27154.34	-6146.38	-1957.85	-8104.23
2014-15	3460.82	15503.63	18964.45	8428.74	18942.12	27370.87	-4967.92	-3438.49	-8406.41
2015-16	1996.38	15167.40	17163.78	5405.05	19497.93	24902.98	-3408.66	-4330.54	-7739.20
2016-17	2120.25	16420.71	18540.96	5825.61	19842.59	25668.20	-3705.35	-3421.88	-7127.24
Total	25139.67	138079.5	163219.1	71387.83	169538	240925.8	-46248.2	-31458.5	-77706.7
Average	1478.804	8122.321	9601.125	4199.284	9972.821	14172.11	-2720.48	-1850.5	-4570.98
SD	1259.629	5358.722	6533.09	3079.479	6935.766	9832.597			
CoV	85.17889	65.97526	68.04504	73.33343	69.54667	69.37993			
CAGR	20.79	13.35194	13.87706	13.13359	15.9904	15.22076			

Note: Data for 2015-16 are revised and for 2016-17 are provisional.

Source: Directorate General of Commercial Intelligence and Statistics.

The analytical table 1 depicts the information pertaining to the imports and exports of India during a period of seventeen years i.e. 2000-01 to 2016-17. It is clearly indicated in the table that the oil exports increased many folds from Rs. 85.42 Billion (2000-01) to Rs. 2120.25 Billion (2016-17). The total oil exports amounted to Rs. 25139.67 Billion with an average oil export of Rs. 1478.8 Billion. The oil exports registered a very high variation of 85.17 per cent from the mean value resulting in a high CAGR of 20.79 per cent. During the period under the study, the oil exports showed an oscillating trend. In the year 2015-16, a sudden fall in the oil exports was noticed in such a way that the oil exports in the said period were nearly half of the previous year 2014-15. As far as non-oil exports are concerned, an increasing trend was observed. The non-oil exports surged from Rs. 1950.29 Billion in 2000-01 to Rs. 16420.71 Billion in 2016-17. Total non-oil exports were Rs. 138079.5 Billion with an average of Rs. 8122.32 and standard deviation of Rs. 5358.72 Billion ensuing to high variance of 65 per cent resulting in 13 per cent CAGR, the same can be exhibited in **Figure 1** given below. Total exports of India increased from Rs. 2035.71 Billion in 2000-01 to Rs. 19050.11 Billion in 2013-14. A decline was registered in total exports in the year 2014-15 and 2015-16 because of shrinkage in oil exports of the country. It is observed from the study that the oil imports of the country have shown the growing tendency year over year except in the year 2015-16 where the oil imports were nearly 60 per cent (Rs. 5405.05 Billion) of the previous year

2014-15 (Rs. 8428.74 Billion). The total oil imports amounted to Rs. 71387.83 Billion with an average and standard deviation of Rs. 4199.28 Billion and Rs. 3079.48 Billion, respectively. The non-oil imports during the period amounted to Rs. 169538 Billion with an average of Rs. 9972.821 Billion. The analysis through CAGR exposed the fact that the compound annual growth rate of non-oil imports was 15.99 per cent whereas; total imports surged with a growth rate of 15.22 per cent followed by oil imports (13.13 per cent) clearly portrayed by **Figure 2**. As far as the trend is concerned, all three i.e. oil imports, non-oil imports, and total imports were found low during first ten years (2000-01 to 2009-10) and above average during last seven years of the study. The analytical table clearly illustrates the trade balance of the country during the period under the study. It is found through the analysis that irrespective of oil and non-oil, the trade showed a negative balance indicating towards the trade deficit in the country. It was found that the oil exports (Rs. 25139.67 Billion) were much lower than that of oil imports (Rs. 71387.83 Billion) resulting into the trade deficit. During the first four years of the study (2000-01 to 2003-04), non-oil exports exceed non-oil imports contributing towards favorable trade balance whereas during the remaining period of the study non-oil imports were found to be more than non-oil exports. The same can be demonstrated by the **Figure 3 and Figure 4**.

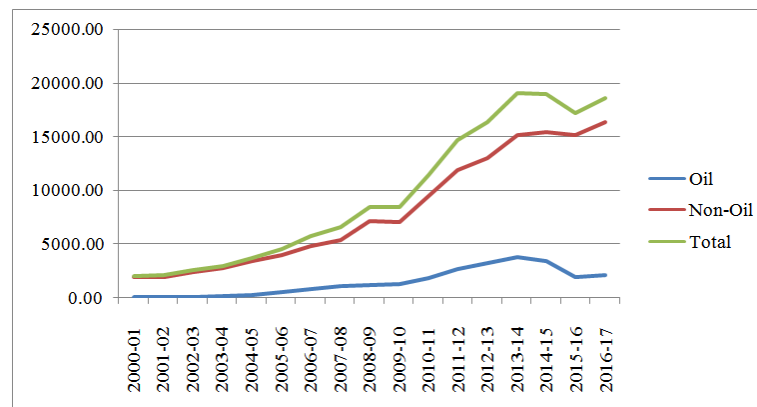


Figure 1: Trends in Exports of India

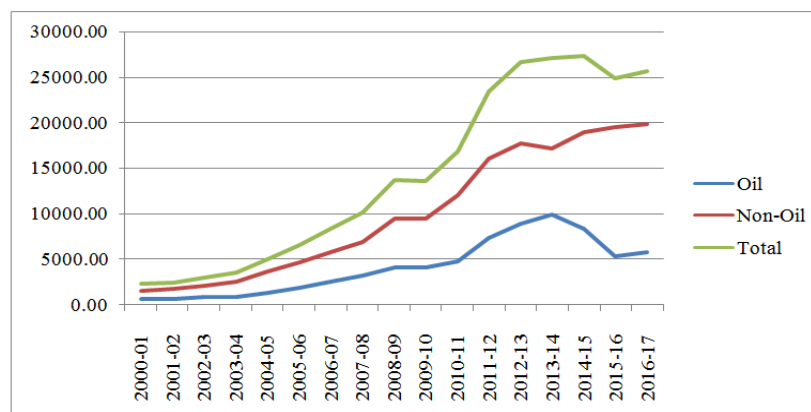


Figure 2: Trends in Imports of India

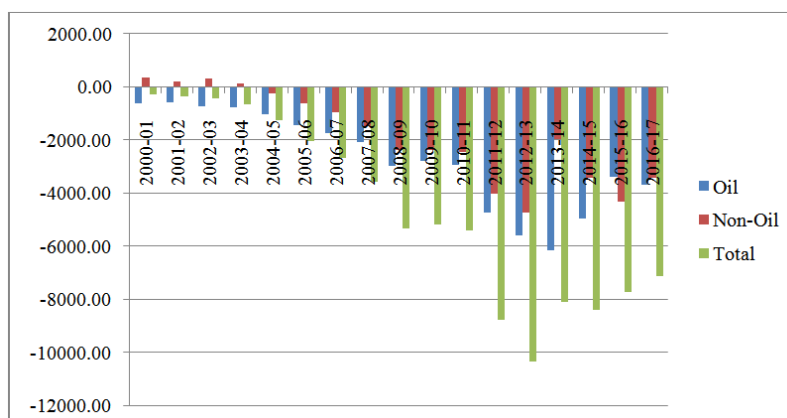


Figure 3: Trends in Trade Balance of India under Various Categories (Oil, Non-Oil and Total)

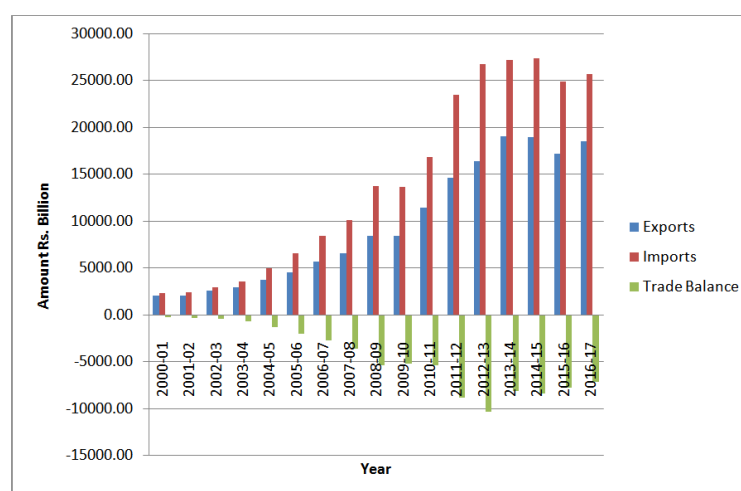


Figure 4: India's Foreign Trade (Imports, Exports and Trade Balance)

Table 2 (A): (Rs. Billion)

End of Financial Year	Foreign Exchange Reserves*	Exports**
2000-01	1972.04	2035.71
2001-02	2640.36	2090.18
2002-03	3614.70	2551.37
2003-04	4901.29	2933.67
2004-05	6191.16	3753.40
2005-06	6763.87	4564.18
2006-07	8682.22	5717.79
2007-08	12379.65	6558.64
2008-09	12838.65	8407.55
2009-10	12596.65	8455.34
2010-11	13610.13	11429.22
2011-12	15061.30	14659.59
2012-13	15884.20	16343.18
2013-14	18283.80	19050.11
2014-15	21376.40	18964.45
2015-16	23787.40	17163.78
2016-17	23982.00	18540.96

Source: *- Reserve Bank of India

** - Directorate General of Commercial Intelligence and Statistics.

In order to examine the statistical relationship between the Foreign Exchange Reserves of India and Exports of India for the period of seventeen years i.e. 2000-01 to 2016-17 (Table 2A), linear regression method was applied. It is evident from the Table 2(B) that there exists a very high degree of positive correlation (0.951) between the two variables i.e. foreign exchange reserves and exports of India under the study.

Table 2(B): Correlations

		FR	EX
Pearson Correlation	FR	1.000	.951
	EX	.951	1.000
Sig. (1-tailed)	FR	.	.000
	EX	.000	.
N	FR	17	17
	EX	17	17

Table 2(C): Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				Durbin-Watson	
					R Square Change	F Change	df1	df2		Sig. F Change
1	.951 ^a	.904	.897	2292.53980	.904	140.865	1	15	.000	.653
a. Predictors: (Constant), EX										
b. Dependent Variable: FR										

The analytical table2(C) shows the model summary which indicates the strength of the relationship between the model and the variables. R (.951a), is the linear correlation coefficient between the observed and model predicted values of the dependent variable, the higher the value of R indicates the presence of a strong relationship among the variables. R Square, which is the squared value of linear correlation coefficient, is the coefficient of determination depicting the model enlightens 99.2 per cent of the variation which indicates that the 99.2 per cent variation in dependent variable is caused by the independent variable. We can say that the independent variable, exports, is able to explain around 99 per cent the variation of the dependent variable i.e. Foreign exchange reserves of India. The value of Durbin-Watson is an indicator of the reliability of the applied model. Here, the value of Durbin-Watson (1.223) which is less than 2.000, indicating towards the reliability of the model.

Table 2(D): ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	740348899.85	1	740348899.856	140.865	.000 ^b
	Residual	78836081.028	15	5255738.735		
	Total	819184980.88	16			
a. Dependent Variable: FR						
b. Predictors: (Constant), EX						

The ANOVA table 2 (D) tests and exhibits the acceptability of the model from a statistical perspective. The regression row and the residual row demonstrate the information about the variation accounted for and not accounted for by the model, respectively.

Table 2 (E): Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics		
	B	Std. Error	Beta			Tolerance	VIF	
1	(Constant)	2036.465	1009.262		2.018	.062		
	EX	1.041	.088	.951	11.869	.000	1.000	1.000

a. Dependent Variable: FR

The analytical Table 2 (E) specifies the coefficient and collinearity statistics. The collinearity statistics are tolerance and VIF, as per the rule, it is stated that the value of VIF should not be more than 10 and of tolerance should not be less than 0.02, if it is the case then it puts the question on the applicability of the model. As clear from the table above, the value of VIF is 1.000 (less than 10) and the tolerance statistics is 1.000 i.e. above 0.02 for the independent variable. Hence, it can be believed that the regression model is suitable and there is no predicament regarding collinearity among the variables used in the model. The relationship between the dependent and independent variable is explained with the help of b-value. As stated in the table, the b-value is 1.041 for exports which depict that if exports increase by 1 unit there would be an increase of 1.041 units in the dependent variable i.e. foreign exchange.

CONCLUSIONS

It was established through the results of the study that the oil imports have continuously a substantial cause of adverse balance of trade of India though, on the basis of the non-oil imports and exports, the balance of trade remained favorable during first four years of the study. The big size of the population and its increasing needs are adding to the problem of trade deficit through more imports particularly, the oil. It is found through the results of the study that there exists a very high degree of positive correlation (0.951) between the two variables i.e. foreign exchange reserves and exports of India under the study and the b-value is 1.041 for exports which depict that if exports increase by 1 unit there would be increase of 1.041 units in the dependent variable i.e. foreign exchange reserves. The analysis through CAGR exposed the fact that the compound annual growth rate of 13.877 per cent was registered in case of total exports while total imports surged at a growth rate of 15.22 per cent. Hence, it becomes imperative to focus on more capital formation and research & development to reduce the heavy cost of borrowings of capital and technology and to have a favorable balance of trade. The study also suggests the stringent actions required to be taken by the government of India and its allied agencies like energy conservation, adoption of alternative sources of energy and the awareness among the masses, etc.

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