

# An Analytical Study of International Trade of India and its Impact on the GDP

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## ABSTRACT

The present paper is an endeavor to examine the growth patterns of exports and imports of India and also to expose the year-wise trends of the same. The paper is exclusively based on secondary data which were collected mainly from the Annual Reports of the Ministry of Commerce and Industry of India and from CMIE. A period of seven years was selected by the researchers for the purpose of the study and the data pertaining to the period have been transcribed into various tables and was analyzed with the help of various suitable statistical tools such as Mean, Standard Deviation, Percentage, CAGR etc. to draw the conclusions.

## 1. Introduction

The capital and non-capital goods and services are transferred/ exchanged across the borders of various countries under the international trade with the help of individuals, organizations and/or the Government which impact ultimately the Gross Domestic Product, Balance of payments, Current Account balance etc. The products and services which are sold to other countries in consideration of money or money's worth are known as exports and contrarily if the same are bought from other countries to satisfy the local needs are known as imports. The present global market which is very much competitive provides ample opportunities to various types of organizations and countries having a unique product with differentiation in cost and quality to earn foreign reserves and profits which leads to financial consideration. Undoubtedly, the technology plays a great role in the exports and imports of global market now-a-days augmenting in level of competition resulting in to supply of more affordable products and services for the consumers.

The global economy showed the sign of improvements during the year 2014-15 after passing through a long economic crisis, but it is yet to take a comfortable pace. The troublesome position of Euro Area, Greece debt crisis, slow pace of Chinese economy, slow down of Brazilian economy, wealthning position of oil exporting countries etc. are some of the major problems of the world economy. The global growth rate is estimated at 3.5 and 3.7 per cent for the financial year 2015 and 2016 respectively by IMF while during 2014 it remained at 3.3 per cent. The Indian economy registered a growth rate of 5.8 per cent during 2014 by observing an increase of 0.8 per cent over previous year and is projected to grow at a rate of 6.3 and 6.5 per cent for 2015 and 2016 respectively and is expected to surpass the growth of Chinese economy by 0.2 per cent during 2016, moreover the growth rate of Indian economy is expected to be fastest among all BRICS economy during in same year. A sound global economic integration with well planned development objectives leads towards in faster economic growth and development through creating jobs and investment by enhancing commercial opportunities, paves the way for progress.

However, India is required to cope up with the competition from outside the world, in order to accept the challenges. The competition of the economy is upgraded through shin infrastructure development, a sound planning system, adoption of latest technology, quality goodness skilling the labour and a congenial working environment.

## 2. Review of literature

**Mbaku, M John (1981)** examined the effect of export growth on economic performance in low and middle income countries of Africa. He found export continued to have a significant effect on the growth of middle income countries and a strong effect was found in poorer countries as comparison to middle income countries. Further, he studied the factor affecting the export expansions in Africa. It was observed through the results of the study that the Exports of the continent were seriously affected by inflation, expenditure in Army and instability in the environment. Growth in labour force was seen to be negative in export expansion as they don't have appropriate capital stock in their hand.

**Bernard and Jenson (1995)** conducted a study at firm level to establish a relationship between export and productivity after taking into consideration many studies. They examined whether export increases productive (learning through export) or whether more efficient or productive firms select the option to export. Proof of learning through export is generally productive is a lot of firms.

**Joshua, J.Lewer and Berg, D. Hendik Van (2003)** made a study for the economy of Wiley and explored the effect of international trade on the growth of economy. They found that estimated static welfare gains from the foreign trade are very small. They found the impact of international trade on the economy. They concluded their study at a significant statement that a one percent increase in export may result in one-fifth point increase in economic growth.

**Das, S., & Pohit, S. (2006)** found that globalization has opened the way of growth and development for the developing countries in the form of outflow of value-added services, low

cost raw material, advantages of availability of labour, improved technology, improved market access and advantage of efficiency gain. But for getting the advantage of this opportunity infrastructure of developing countries must be strong. In India there is lack of physical infrastructure facilities which may be improved by investing in new infrastructure projects, and it is also an important that the administrative problems should be mitigate through good governance and change in attitude and culture to get the advantage of the globalization in real sense.

**Kongar, E. (2006)** exposed that when trade expands losses for less skilled workers is more in industrialized economies compared to skilled workers. To the extent that women are less skilled workers in the U.S, they are expected to experience disproportionate job losses and wage declines as a result of the changing trade patterns. So, there is an adverse relationship between employment opportunities for women in traded (manufacturing) sectors and trade expansion.

**Dutta, D., & Ahamed, N. (2006)** studied the globalization and industrial growth in Pakistan during the year 1973 to the year 1995 by taking into consideration the model "Human Capital model of endogenous growth" developed by Lucas (1981). They analyzed the relationship between trade policies and industrial growth in Pakistan. Their results suggest that there is exist a unique long run relationship among the aggregate growth function of industrial value added and its major determinants of the real capital stock, the labour force, real export, the import tariff collection and the secondary school enrollment ratio. They also find the same kinds of pattern of relationship in short run too.

**Konya, Laszlo and Sing. J Pal (2007)** unveiled the causal relationship between GDP, Export and Import from the year 1950 to the year 2004 and also investigated the relationship between these three variables in the two major sector of the Indian economy: Agriculture and Manufacturing. They find granger causality between these three variables where Agricultural GDP causes import, export causes Agricultural GDP and any two variables jointly cause the third. In their study, there is also some evidence that GDP causes Export, Import causes Agricultural GDP and any two jointly cause the other.

**Arvind Chopra (2012)**, observed through his study which was related to the development of two models in the field of cost of quality. One model was related to estimating/calculating cost of quality and second model was related to the implementation of cost of quality system in the industry. It was found in the study that cost of quality can be reduced by implementing such models in the industry because in a globally competitive market, manufacturers are forced to design and manufacture highly reliable and quality products with competitive pricing to fulfill expectations of the customers.

**Anand, R., Kochhar, K., & Mishra, S. (2015)**, expressed through this study that India's export performance is goes on increasing from 1990 (10 percent) to 2013(25 percent). Thus, in order to strengthening the future performance of India a further liberalization of fixed deposit investment, reduction of

trade cost, trade barriers , more investment in research and development, preparing the labour sector more skillful and quality of products are essential.

### 3. Objective of the Study

The following are the objectives of the study:

1. To measure growth and trends of Trade Balance of India.
2. To examine the impact of Export and Import on Gross Domestic Product (GDP) of India.

### 4. Research Methodology

#### Research Design

The present study was conducted by adopting the descriptive cum- exploratory research design as the researcher is required to describe the current growth and trends of export, import and trade balance of India as well as explore the impact of export and import on GDP of India.

#### Source of data

The study was carried out with the help of secondary data, which were collected from the websites of Ministry of Commerce & Industry and CMIE data base for the period of eleven years from 2004-05 to 2014-15.

#### Statistical Techniques

The data for the same have been transcribed into various tables and was analyzed with the help of various suitable statistical tools such as mean, Standard deviation, Percentage, CAGR, graphs, Simple Regression (OLS Method), etc. to draw the conclusions.

### 5. Limitations of the Study

1. The study considered only the India's Exports and Imports.
2. The data used was in aggregate form or yearly data series.
3. The time period has been taken only from 2004-05 to 2014-15.

### 6. Analysis and Interpretation

To attain the objectives of the study, the collected secondary data were transcribed into various suitable tables in the desired manner and were analyzed with the help of the suitable statistical techniques and the results were derived. The following is the details analysis:

The data regarding exports, imports and trade balance have been transcribed through analytical table 1. when the exports were analyzed, it was found that they have shown an increasing trend from 2004-05 to 2011-12 continuously and remained almost stable during next two financial years but declined during 2014-15. The same has been noticed with the help of absolute data absolute data. The mean score of exports during a period of 11 years (Period under the study) has been 2, 07,015 with a standard deviation of 84319.50488 and a CAGR of 11.1 per cent which are indicative of a substantial growth in the exports of the country and they are

moving in the positive directions for the growth and development of the country, but since the growth rate is low, hence more efforts are needed to be made to increase the volume of exports. It is clear from the table that the exports

have been either stable or declining after 2011-12 up to 2014-15. Therefore, it should be a series concerned for the policymakers of the country as to, how to provide a movement to the efforts of the country.

**Table 1**  
**Growth and Trends of Exports, Imports and Trade Balance of India**  
 (In US \$ Millions)

Year	Exports	Imports	Trade Balance
2004-05	83,536 (100)	111,517 (100)	-27,981 (100)
2005-06	103,091 (123.41)	149,166 (133.76)	-46,075 (164.67)
2006-07	126,414 (151.33)	185,735 (166.55)	-59,321 (212)
2007-08	163,132 (195.28)	251,654 (255.66)	-88,522 (316.36)
2008-09	185,295 (221.81)	303,696 (272.33)	-118,401 (423.15)
2009-10	178,751 (213.98)	288,373 (258.59)	-109,621 (391.77)
2010-11	251,136 (300.63)	369,769 (331.58)	-118,633 (423.98)
2011-12	305,964 (366.27)	489,319 (438.78)	-183,356 (655.29)
2012-13	300,401 (359.61)	490,737 (440.056)	-190,336 (680.233)
2013-14	314,405 (367.37)	450,200 (403.71)	-135,794 (485.31)
2014-15	265,037 (317.27)	383,411 (343.81)	-118,374 (423.05)
Total	2,277,162	3,473,577	-1,196,414
Mean Score	207,015	315,780	-108,765
S.D	84319.50488	133299.6053	51519.01265
CAGR	11.10%	11.88%	14%

**Data Source:** Annual Report of Ministry of Commerce and Industry of India

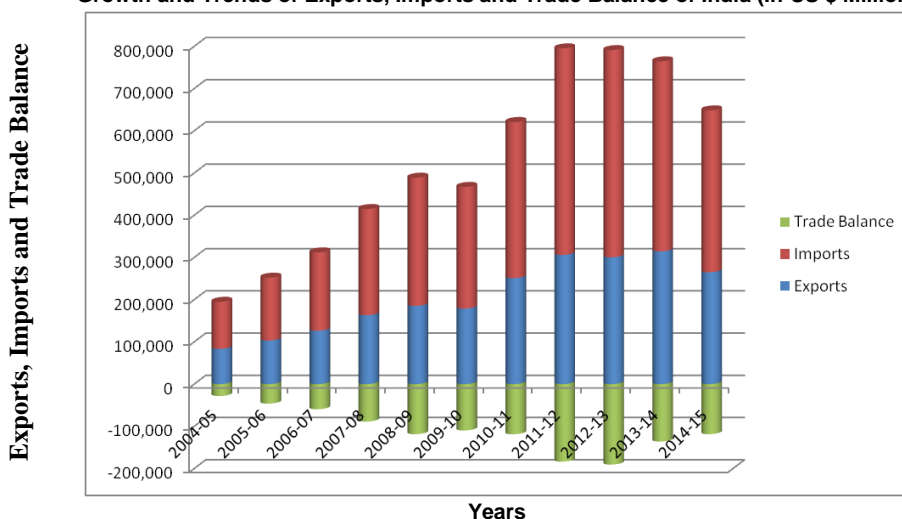
**Note:** Figures in brackets show trend percentages.

As far as the statistics is concerned, it is evident from the table that they have surged from 2004-05 is 1,11,517 US \$ Million to 4,90,737 US \$ Million in 2012-13 showing a continuous increasing trend, though, the volume of imports registered a decline during next two financial years.

The comparative analysis between exports and imports confirms that the imports are increasing at a greater rate in comparison to the exports and hence affecting adversely the balance of payments continuously over the years under study. The mean score of imports has been 315780 US \$ Million with a CAGR 11.88 per cent.

The statistics related to the trade balance also shows that unfavorable trade balance goes on increasing from 2004-05 to 2008-09 and remained almost stable during next two financial years, and then it goes on decreasing from the year 2012-13. The mean score of trade balance during a period of 11 years is 1, 08,765 with a standard deviation of 51519.01265 and a CAGR of 14 per cent. Which are indicating that more efforts are needed to increase exports continuously to make the trade balance favourable.

**Figure 1**  
**Growth and Trends of Exports, Imports and Trade Balance of India (In US \$ Million)**



The figure1 depicts the data from the financial year 2004-05 up to the year 2014-15, trade balance goes on increasing from 2004-05 to 2008-09 and remained almost stable during next two financial years, and then it goes on decreasing from the year 2012-13. The imports have shown increasing trends

from the year 2004-05 up to the year 2011-12 and remained almost stable in the next years. The exports have shown increasing trends from the year 2004-05 and remained almost stable in the next years.

**Table 2**  
**Growth and Trends of GDP, Exports and Import of India**

(In Rs. Millions)

Years	GDP	Exports	Imports
2004-05	29714640 (100)	3753395.3 (100)	5010645.45 (100)
2005-06	32530720 (109.48)	4564178.6 (121.6)	6604089 (131.8)
2006-07	35643630 (119.95)	5717792.9 (152.34)	8380481.9 (167.25)
2007-08	38966360 (131.14)	6558635.2 (174.74)	10051594.9 (200.6)
2008-09	41586750 (139.95)	8407550.6 (224)	13744355.6 (274.3)
2009-10	45160710 (151.98)	8455336.5 (225.27)	13637355.5 (272.17)
2010-11	49185330 (165.53)	11429219.3 (340.5)	16834669.6 (335.98)
2011-12	52475290 (176.59)	14659594 (390.57)	23454632.5 (468.1)
2012-13	54821110 (184.49)	16343188.4 (435.42)	26691619.6 (532.69)
2013-14	57417910 (193.23)	19050110.9 (507.54)	27154339.1 (541.93)
Mean Score	43750245	9893900.17	15156378.32
S.D	9621645.223	4994525.533	7752682.832
CAGR	6.81 %	17.64 %	18.41 %

Source: - CMIE Reports

Note: Figures in brackets show trend percentages.

Further, to attain the second objective the collected data for the years (2004-2014) were analyzed with the help of

simple regression model (OLS) to see the impact of import, export on GDP on India.

**Table 2.1**

**Correlations**

		GDP	Exports	Imports
<b>Pearson Correlation</b>	<b>GDP</b>	1	0.973	0.978
	<b>Exports</b>	0.973	1	0.991
	<b>Imports</b>	0.978	0.991	1
<b>Sig. (1-tailed)</b>	<b>GDP</b>	.	0	0
	<b>Exports</b>	0	.	0
	<b>Imports</b>	0	0	.
<b>N</b>	<b>GDP</b>	10	10	10
	<b>Exports</b>	10	10	10
	<b>Imports</b>	10	10	10

Table 2.1 shows that both the independent variables are affecting GDP and showing higher degree of correlation. Further table shows that 'Imports' is affecting GDP the most in comparison to Exports and emerged out as a very significant factor with the value of r at .978 that clearly shows that GDP and Imports are correlated with a high degree of correlation.

Similarly, when the dependency of Exports with GDP was examined the results explicates that the independent variable 'Exports' is also emerge out a very significant factor and both (GDP & Exports) are found to be highly and positively correlated (99.1%).

**Table 2.2**

**Model Summary©**

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	.973a	0.946	0.939	2.37E+06	0.946	140.531	1	8	0	1.06
2	.978b	0.956	0.944	2.28E+06	0.01	1.665	1	7	0.238	

a. Predictors: (Constant), Exports

- b. Predictors: (Constant), Exports, Imports
- c. Dependent Variable: GDP

The table 2.2 of model summary is also showing the impact of both the independent variables (exports & imports) on the dependent variable (GDP). When the impact of exports was observed on GDP the results shows 0.1 percent change in exports will result in to 0.946 percent change in GDP. Further as clear from the table 0.1 per cent change in imports will results in to 0.95 percent change in GDP. Thereby reveal that imports have more significant impact on GDP. The table depicting model summary, reports the strength of the

relationship between the model and he dependent variable. R, the multiple correlation coefficients, is depicting the linear correlation between the observed and model predicting values of the dependent variable. Its large value indicates a strong relationship between the variables. R square, the coefficient of determination, is the squared value of the multiple correlation coefficients. In table, the values of R square are .946 and .956 elucidate that the model explains 94 per cent and 95 per cent the variation of the dependent variable GDP.

**Table 2.3**  
**ANOVA(c)**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.88E+14	1	7.88E+14	140.531	.000a
	Residual	4.49E+13	8	5.61E+12		
	Total	8.33E+14	9			
2	Regression	7.97E+14	2	3.99E+14	76.939	.000b
	Residual	3.63E+13	7	5.18E+12		
	Total	8.33E+14	9			

- a. Predictors: (Constant), Exports
- b. Predictors: (Constant), Exports, Imports
- c. Dependent Variable: GDP

Table 2.3 indicates the test of acceptability of the model from a statistical perspective. The regression row explains information about the variation accounted for by the model. The residual row displays information about the variation that has not been accounted by the model. The F statistics is found significant, since, P values are (.000) less than .05. when the

analysis is made with the help of ANOVA table Imports emerge out the most significant factor with the significant value .000 ( at 5 percent level of significance with 1 degree of freedom), followed by Exports (significant value .000 at 5 percent level of significance at 1 percent degree of freedom).

**Table 2.4**  
**Coefficients(a)**

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	Correlations		
	B	Std. Error	Beta	t		Zero-order	Partial	Part
1	(Constant)	2.62E+07	1661989		15.741	0		
	Exports	1.778	0.15	0.973	11.855	0	0.973	0.973
2	(Constant)	2.62E+07	1597675		16.414	0		
	Exports	0.373	1.098	0.204	0.34	0.744	0.973	0.127
	Imports	0.913	0.707	0.775	1.29	0.238	0.978	0.438

- a. Dependent Variable: GDP

Table 2.4 reveals the coefficient statistics when the regression is applied the beta value in table depicts the relationship between dependent and each independent variable. The B value for Exports is .373 showing that if Exports increase by 1 unit (of other independent variable that is Imports remains constant) then GDP increases by .373 , it means 1 percent increase in exports will rise GDP by 37.3 percent. When the independent variables that are exports and imports table shows that 1unit increase in exports and imports will improve the statistic of GDP by 91.3 percent.

**Testing of hypothesis**

**H01:** The exports have no significant impact on GDP

The P value related to exports shown in ANOVA table is .000, which is less than .05, shows that the null hypothesis (H01) is not accepted. Hence it is concluded that exports have significant impact on GDP.

**H02:** The imports have no significant impact on GDP

The P value related to imports shown in the ANOVA table is .000, which is less than .05, shows that the null hypothesis (H0) is not accepted. Hence it is concluded that imports have significant impact on GDP.

## 7. Conclusion and Suggestions

The Indian economy outstripped low level of trade from 1991 and with the Liberalization, Privatization and Globalization of the Indian economy and following liberal foreign trade, there has been changed the business environment. The nature of Indian economy also got changed with the development of science and technology. There has been an increase in the India's exports or India's trade volume in the international trade as well as its impact on GDP has been increase in a favorable direction during the time period under the study. On the basis of findings of the study, following are some important and viable suggestions which may be very fruitful in decision making by the concerned authorities which are involved in the export and import of India in particular, and for the Indian economy as whole in general:-

- The Government should make special efforts to increase the high technology exports.
- India should take in to consideration high skill development and more knowledge intensive goods and services of competitive international quality.
- The relationship with other countries by the Indian Government should be enlarging in order to increase the international trade.
- For India to become a leading exporter in the world trade, it should make diversification in specific export sectors and India should exports those things in which it have more competitive advantage in production of those in comparison to those goods in which it have less competitive advantage.
- The country and the individual exporting units have to be bare the cost of liberalization of foreign funds or capital (FDI and other resources). Therefore, it is suggested that the people of India should be motivated for saving and consequently for the capital formation.

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