



CALCULATIONS OF REVEALED IMPORT
DEPENDENCY INDEX OF COMMODITIES
IMPORTED BY INDIA IN POST-WTO
REGIME

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ABSTRACT

Due to developing nature of India's Economy, there is always an increasing trend in demand of various good and services in India. India is not a self-reliant economy that is India needs to import various commodities from various economies of world. In this context we need to identify the import dependency of India in various commodities. In 2021-22 Indian Economy records an annual growth rate of 8.7%, which reflects rapid growth of Indian Economy. In this research paper we have identified five commodities of interest imported by India. We have calculated Revealed Import Dependency index of commodities of interest in Post-WTO regime. As there were transformational shift in India's imports in Post-WTO period due to first degree reforms framed and executed since early 1990s. We have also consider the relative position of India with respect to global economic environment. During the research I have come to know the intensity of dependency on imports of commodities of interest.

Keywords: trade, import dependency index, international trade, trade deficit

INTRODUCTION

India is trade deficit country because the trade exports of India are lesser than the trade imports of India. Trade Surplus is favorable position in international trade, every country wants to export more in comparison to their imports because it increases the foreign reserve of economy which eventually enhances the bargaining power in international trade. Recently Reserve Bank of India has allowed more than 15 countries to settle international trade in Indian National Rupee. In 2021-22 value of India's exports is all time high of USD 422 Billion and value of India's imports is USD 613.2 Billion and it has recorded a growth of

23% since 2012-13. Another reason of consistent trade deficit of India is increasing expectations of Indian citizens and revolutionary change in taste and preference of Indian customers. Despite all this the trade deficit of India is also consistent due to late move of industrial revolution in India, due to which the life cycle of manufacturing economy of India is still in introductory phase and manufacturing does not gain its maturity therefore for advanced products we are very much rely on imports.

Review of Literature

Reviewing literature creates new ways of exploring research problems. In this research of import dependency various related literatures are available but there is an vacuum of any particular formula to calculate exact figures about import dependency of any country for particular commodity. Every country imports various commodities but how one can rationalize the imports of that commodity.

Edwards (1992) described in his study about trade interventions by the means of exploring differences between actual and expected trade intensity. **Balassa (1985)** elaborated his study on the basis of Export GDP and Import GDP; he explained this in terms of ratios of export to GDP and import to GDP. **Quah and Rauch (1990)** explained about ratio of imports to GDP. Harrison (1996) explained Annual Index of Trade Liberalization, based on commercial policy and exchange rate. **Edwards (1998)** identified WOLF Index of Import Distortions calculated with Regression Analysis. **Kudzai, Jian Min, Kodjo (2022)** describe the export and import led economic growth of Botswana, Namibia, South Africa and Zimbabwe. In these countries productions are largely based on imported raw materials and in South Africa only manufacturing is not much depends upon imported raw material. In his paper they describe import dependency of raw materials required for further manufacturing as is in proportion of world's imports of that raw material.

Objectives of the Research

- To Calculate Revealed Import Dependency Index of top 5 commodities imported by India in Post-WTO Regime.
- To identifying the import commodities, on which India is depended.

Limitations of the Research

- Only 5 commodities are considered. Selection of commodities on the basis of their value of imports' to India in 2020-21. Top five traded commodities have been studied in this paper.
- Period of study is Post-WTO that is from 01 April 1995 to 31 Dec 2021. For the year 2021-22 only first three quarters data is taken into analysis.
- Study ignores global scenario of international trade.
- Study ignores global pressure on economy of India.
- Study ignores domestic demand and supply of commodities of interest.

Research Methodology

Research design

Empirical Research Design to calculate Revealed Import Dependency values of Commodities of interest.

Data sources

Secondary data is primary source of data collection. For the calculation of RID import data have been collected from World Integrated Trade Solutions (WITS).

Model of the study

Calculation of RID with the help of following mathematical formulae.

$$\mathbf{RID}_c = (\mathbf{M}_{ci} / \mathbf{M}_i) / (\mathbf{M}_{cw} / \mathbf{M}_w)$$

Where;

\mathbf{RID}_c – Revealed Import Dependency Index of India for commodity ‘c’

- \mathbf{M}_{ci} - Imports of commodity ‘c’ from India
- \mathbf{M}_i – Total imports of India
- \mathbf{M}_{cw} – World’s imports of commodity ‘c’
- \mathbf{M}_w – Total world’s imports

Above model of import dependency is based on proportionate analysis of commodity of interest. We have used money value of imports of that commodity with respect to money value of imports of that commodity in rest of the world. The results of model are not conclusive in nature but they are subjective in nature to understand the import dependency of that commodity by the importing country. By the results of the model, we can only illustrate that value of imported commodity by any country is rationalized or it is over imported or there is more scope for imports available for that commodity. We call this as “Revealed Import Dependency Index”. It is significant that if the value of RID index comes out to be 1.00 then the imports of that commodity are rationalized in the respective period and if value comes out to be less than 1.00 then there is more scope for imports of that commodity and if value comes out to be more than 1.00 then country should reduce their imports of that commodity.

Revealed Imports Dependency Index

Revealed Import Dependency index segregates those commodities that have import dependence on the other countries. The Revealed Import Dependency (RID) index of any commodity make us more clearly about future imports of that

commodity. After identifying the trends of import dependency of specific commodity, we can illustrate more precisely on future of imports of that commodity. The RID is defined as commodity 'c's' share in country's total imports vis-à-vis its share in total world imports. The RID index can be computed as follows:

$$\mathbf{RID}_i = (\mathbf{M}_{ci} / \mathbf{M}_i) / (\mathbf{M}_{cw} / \mathbf{M}_w)$$

Where \mathbf{M}_{ci} is equal to imports of commodity 'c' from a country 'i', \mathbf{M}_i is equal to total imports of a country 'i', \mathbf{M}_{cw} is equal to total value of the world imports of commodity 'c' and \mathbf{M}_w is equal to total world imports. Any value of RID index exceeding one suggests a strong dependence of the country on the import of that commodity in a respective period and vice-versa.

CALCULATIONS OF RID OF SELECTED COMMODITIES IMPORTED BY INDIA

For the calculations of RID, commodities have been selected on the basis of their value of imports in 2021-22. Top 5 commodities have been selected for the analysis of study.

Following commodities are selected for the calculations of RID in Post-WTO Regime:

1. Fuels
2. Stone & Glass
3. Machinery & Transport Equipment
4. Chemicals
5. Metals

Calculations of RID for Fuels for India in Post-WTO Regime

Fuels are natural substance, able to provide various types of power. For country like India, fuels are like essential commodities because India is country of 1.35 Billion people and India is a developing nation and naturally poor in fuels. Due

to such a large population and developing orientation of economy the requirement of various types of power is huge therefore there is quite large dependency of India on imports of fuels.

Table 1.1 Calculations of RID of Fuels for India in Post-WTO Regime

1. Fuel					
Year	Value of Import of Fuel from India (Mci) (in US\$ Millions)	Total Imports of India (Mi) (in US\$ Millions)	Total Value of the World Imports of Fuel (Mew) (in US\$ Millions)	Total World Imports (Mw) (in US\$ Millions)	RID = (Mci/Mi)/(Mew/Mw)
1995-96	8.68	36.6	347.74	4738.70761	3.231795728
1996-97	11.48	39.11	435.85	5081.0615	3.421932774
1997-98	10.08	41.43	459.46	5395.40948	2.857079343
1998-99	8.08	42.42	343.6	5345.08653	2.963072526
1999-00	14.38	50.01	404.2	5617.54807	3.996248808
2000-01	19.37	52.94	661.75	6439.96079	3.560696494
2001-02	15.81	50.67	616.6	6221.18338	3.148113983
2002-03	17.95	57.45	615.95	6524.44504	3.309577363
2003-04	21.83	72.43	783.12	7618.99737	2.932275412
2004-05	31.21	98.98	1048.72	9298.44751	2.795742783
2005-06	46.38	140.86	1448.94	10477.38486	2.380924123
2006-07	61.51	178.21	1806.41	12131.72308	2.318034079
2007-08	73.34	218.65	1987.01	13930.24129	2.35152722
2008-09	115.97	315.71	2845.62	16079.7176	2.0756725

2009-10	82.75	266.41	1774.59	12375.45231	2.166110118
2010-11	111	350.03	2317.12	15160.92366	2.074888893
2011-12	157.54	462.41	3178.76	18073.30353	1.937061577
2012-13	185.9	488.98	3304.87	18068.90377	2.078575087
2013-14	184.4	466.05	3235.55	18504.8227	2.262899244
2014-15	177.18	459.37	3034.42	18549.07811	2.35775517
2015-16	104.87	390.75	1862.67	16176.39813	2.330763394
2016-17	89.56	356.71	1530.46	15776.74225	2.588178036
2017-18	123.31	444.05	2001.85	17620.45394	2.444285793
2018-19	205.4	617.95	2594.15	18875.21189	2.418487538
2019-20	152.9	478.89	2351.28	18449.26635	2.505223449
2020-21	104.53	367.99	1588.94	19066.21326	3.408488881
2021-22	147.41	495.83	1470.86	17566.34	3.550619166

Source- collected and calculated by author

Table 1.1- Value of RID of fuels product in Post-WTO regime is consistently far more than 1.00, it reflects the dependency of India on fuel imports never be in control and India consistently increasing their fuel imports to satisfy its power requirements. In 2011-12 value of RID is lowest, still it is more than 1.00. Currently India is aggressively trying to reduce its fuel requirements by means of identifying alternative sources of power like to reduce the consumption of petroleum products, several subsidies and other advantages to Electronic Vehicles (EV).

Calculations of RID for Stone & Glass for India in Post-WTO Regime

India is not naturally rich in stone & glass but India has good infrastructure for polishing of various stone & glass and turn them into beautiful products therefore India is one of the largest importer of stone & glass on the contrary India is also one

of the largest exporter of finished stone & glass. There are several small to medium scale industries have been set up for polishing stone & glass. Stone & Glass includes glass fibers, building stones, safety glass, decorative, glasswares, glass bottles, ceramics, float glass, etc.

Table 1.2 Calculations of RID of Stone & Glass for India in Post-WTO Regime

2. Stone & Glass					
Year	Value of Import of Stone & Glass from India (Mci) (in US\$ Millions)	Total Imports of India (Mi) (in US\$ Millions)	Total Value of the World Imports of Stone & Glass (Mcw) (in US\$ Millions)	Total World Imports (Mw) (in US\$ Millions)	RID = (Mci/Mi)/(Mcw/Mw)
1995-96	3.16	36.6	148.6	4738.70761	2.753259208
1996-97	4.096	39.11	157.96	5081.0615	3.368832813
1997-98	6.77	41.43	169.46	5395.40948	5.202725874
1998-99	9.15	42.42	170.39	5345.08653	6.766452964
1999-00	10.47	50.01	177.38	5617.54807	6.630281599
2000-01	10.12	52.94	211.59	6439.96079	5.818146602
2001-02	9.92	50.67	198.28	6221.18338	6.142637132
2002-03	10.35	57.45	216.51	6524.44504	5.42895115
2003-04	12.86	72.43	243.52	7618.99737	5.555020576
2004-05	18.17	98.98	289.14	9298.44751	5.903502411
2005-06	23.97	140.86	330.68	10477.38486	5.391695013
2006-07	22.24	178.21	376.29	12131.72308	4.023486275
2007-08	28.5	218.65	441.81	13930.24129	4.109779068

2008-09	36.39	315.71	538.41	16079.7176	3.442381642
2009-10	43.68	266.41	446.28	12375.45231	4.546589699
2010-11	70.08	350.03	532.93	15160.92366	5.695663426
2011-12	95.52	462.41	704.54	18073.30353	5.299061789
2012-13	83.61	488.98	795.75	18068.90377	3.882596734
2013-14	69.39	466.05	886.48	18504.8227	3.107995359
2014-15	61.89	459.37	786.73	18549.07811	3.176541051
2015-16	61.93	390.75	767.69	16176.39813	3.339627565
2016-17	50.35	356.71	801.48	15776.74225	2.778489956
2017-18	76.81	444.05	808.46	17620.45394	3.770026874
2018-19	83.11	617.95	821.39	18875.21189	3.090596939
2019-20	61.71	478.89	811.27	18449.26635	2.930444242
2020-21	43.14	367.99	857.56	19066.21326	2.60641793
2021-22	50.09	495.83	810.23	17566.34	2.190237429

Source- collected and calculated by author

Table 1.2- In 1995-96 to 1996-97 the RID for stone & glass 2.7 to 3.4, which reflects less dependency of imports with respect to coming years because during this period the furnishing industry for stone & glass was in developing phase and there were less scope for raw procurement of stone & glass. But after this period till 2012-13 the RID ranges between 4 to 6 that is the furnishing industry for stone & glass has been well placed and established. From 2012-13 to 2021-22 the RID values for stone & glass is diminishing because India has explored various sources within India and the dependency on imports of stone & glass has decreased. Further there have been several technological changes taken place which also reduced the requirement of imports of stone & glass.

Calculations of RID for Machinery & Transport Equipment for India in Post-WTO Regime

In early 1990s when first degree reforms in India have been implemented, there was huge inflow of capital in various sectors of economy by domestic private players and by the means of Foreign Direct Investment (FDI), which shoots up the demand of various types of machinery in Indian economy. Till early 1980s Indian economy has been dominated by agriculture and for manufacturing goods, it largely depended on imports. Therefore there were huge dearth of economic reforms and finally it took place in 1991. For any manufacturing industry machinery gives efficiency, effectiveness and standardization of goods and transport equipments provide momentum with speed to entire manufacturing industry. Machinery & Transport Equipment includes electric machinery and parts, general industrial machinery and parts thereof, road vehicles, vehicles used for the transportation of unfinished, semi-finished and finished goods within the factory.

Table 1.3 Calculations of RID of Machinery & Transport Equipment for India in Post-WTO Regime

3. Machinery & Transport Equipment					
Year	Value of Import of Machinery & Transport Equipment from India (Mci) (in US\$ Millions)	Total Imports of India (Mi) (in US\$ Millions)	Total Value of the World Imports of Machinery & Transport Equipment (Mcw) (in US\$ Millions)	Total World Imports (Mw) (in US\$ Millions)	RID = (Mci/Mi)/(Mcw/Mw)

1995-96	7.4	36.6	1210.2	4738.70761	0.79168679
1996-97	7.39	39.11	1020.61	5081.0615	0.94070024
1997-98	7.47	41.43	1140.2	5395.40948	0.853196455
1998-99	6.72	42.42	1410.81	5345.08653	0.600184561
1999-00	7.15	50.01	1920.33	5617.54807	0.418234754
2000-01	7.78	52.94	2606.08	6439.96079	0.363154257
2001-02	7.75	50.67	2470.89	6221.18338	0.385097225
2002-03	10.29	57.45	2579.74	6524.44504	0.452994554
2003-04	14.7	72.43	2908.92	7618.99737	0.531575426
2004-05	19.85	98.98	3552.21	9298.44751	0.52495838
2005-06	28.26	140.86	3844.27	10477.38486	0.546793682
2006-07	40.83	178.21	4377.23	12131.72308	0.634995184
2007-08	47.86	218.65	5015.92	13930.24129	0.60789875
2008-09	64.57	315.71	5391.75	16079.7176	0.609945622
2009-10	58.21	266.41	4225.51	12375.45231	0.639924921
2010-11	63.73	350.03	5210.71	15160.92366	0.529745661
2011-12	76.75	462.41	5863.1	18073.30353	0.511636368
2012-13	79.06	488.98	5919.58	18068.90377	0.493522122
2013-14	75.94	466.05	6090.95	18504.8227	0.495037358
2014-15	74.85	459.37	6293.72	18549.07811	0.480224251
2015-16	80.38	390.75	6452.2	16176.39813	0.515730744
2016-17	82.28	356.71	6020.98	15776.74225	0.604406525
2017-18	97.64	444.05	6719.33	17620.45394	0.576616437
2018-19	134.5	617.95	7214.94	18875.21189	0.569413894
2019-20	110.34	478.89	7040.19	18449.26635	0.603798364
2020-21	91.29	367.99	6610.87	19066.21326	0.715472621
2021-22	97.48	495.83	6213.23	17566.34	0.555835876

Source- collected and calculated by author

Table 1.3- Since very beginning of Post-WTO regime to 2021-22 the RID for machinery & transport equipment is consistent and less than 1.00. This reflects the imports of machinery and transport is justifiable throughout the Post-WTO regime for India. Another reason for this consistent RID is the development of manufacturing phase in India is not very long and it is still in developing phase and it does not attain the maturity for independency.

Calculations of RID for Chemicals for India in Post-WTO Regime

India is one of the sixth largest importers of chemicals in world and interestingly China stand first in chemical imports. Both of these countries are developing and both of these economies are deeply involved into processing of various finished goods. India is very much into final production of glass & glassware, agro chemicals, processed minerals, dyes. One of the main constituent of raw materials of these products is variety of chemicals. Therefore country like India is importing chemicals at large scale. Another dimension of use of chemicals is packaging industry in India. India is hub of packaging in world and in packaging materials chemicals are used.

Table 1.4 Calculations of RID of Chemicals for India in Post-WTO Regime

4. Chemicals					
Year	Value of Import of Chemicals from India (Mci) (in US\$ Millions)	Total Imports of India (Mi) (in US\$ Millions)	Total Value of the World Imports of Chemicals (Mcw) (in US\$ Millions)	Total World Imports (Mw) (in US\$ Millions)	RID = (Mci/Mi)/(Mcw/Mw)

1995-96	4.99	36.6	374.16	4738.70761	1.726720384
1996-97	4.33	39.11	392.33	5081.0615	1.433847666
1997-98	4.95	41.43	419.65	5395.40948	1.536128154
1998-99	4.76	42.42	430.81	5345.08653	1.392211617
1999-00	5.24	50.01	454.71	5617.54807	1.294454306
2000-01	4.33	52.94	491.28	6439.96079	1.072156291
2001-02	4.51	50.67	517.49	6221.18338	1.070031786
2002-03	5.02	57.45	580.27	6524.44504	0.982487748
2003-04	6.12	72.43	689.28	7618.99737	0.933974638
2004-05	8.03	98.98	827.68	9298.44751	0.911414804
2005-06	11.62	140.86	924.42	10477.38486	0.934979326
2006-07	14.07	178.21	1030.1	12131.72308	0.929833371
2007-08	17.81	218.65	1208.38	13930.24129	0.939008553
2008-09	30.85	315.71	1399.75	16079.7176	1.122521767
2009-10	22.92	266.41	1214.51	12375.45231	0.876645639
2010-11	28.31	350.03	1348.15	15160.92366	0.909540509
2011-12	35.77	462.41	1587.67	18073.30353	0.880580424
2012-13	36.88	488.98	1551.88	18068.90377	0.878159664
2013-14	36.47	466.05	1582.65	18504.8227	0.914962505
2014-15	37.94	459.37	1608.1	18549.07811	0.95267326
2015-16	37.24	390.75	1482	16176.39813	1.040265772
2016-17	33.32	356.71	1474.23	15776.74225	0.999635783
2017-18	38.46	444.05	1672.93	17620.45394	0.912256001
2018-19	57.96	617.95	1829.06	18875.21189	0.967918796
2019-20	47.56	478.89	1798.25	18449.26635	1.018908322
2020-21	43.1	367.99	1817.02	19066.21326	1.228983329
2021-22	44.17	495.83	1710.21	17566.34	0.915011268

Source- collected and calculated by author

Table 1.4- From 1995-96 to 2001-02, the RID for chemicals is consistently more than 1.00 and it shows that the dependency of India on chemical imports is high and there were almost nil impact of first degree reforms on the development of chemical industry in India. In first couple of years of 21st century so many industries have been established for the -production of chemicals in India and it is also reflected in the respective values of RID except in the years 2008-09, 2015-16, 2019-20 and 2020-21, when RID for chemicals is more than 1.00. From 2019-20 to 2020-21 was pandemic years and consumption of chemicals has been significantly increased. One more interesting fact is that both China and India are also acts as world factory of chemicals as most of the western developed countries avoid production of hazardous chemicals in their country and for the large scale production of these chemicals; various intermediate chemicals are imported by India and China.

Calculations of RID for Metals for India in Post-WTO Regime

Metals are precious and important commodity of economical interest. To add preciousness in metals, metals go through the process of preparation, polishing and fracturing. Metals are naturally procured and then turn them into precious articles. India is naturally not very rich in metals but India is hub for processing metals into precious articles therefore India is very keen in importing raw metals since very beginning of 1990s. Other dimension of utility of metals lye in their property of conducting electricity and heat as their melting points is quite high therefore in power transmission metal wires are used.

Table 1.5 Calculations of RID of Metals for India in Post-WTO Regime

5. Metals

Year	Value of Import of Metals from India (Mci) (US\$ Millions)	Total Imports of India (Mi) (US\$ Millions)	Total Value of the World Imports of Metals (Mcw) (US\$ Millions)	Total World Imports (Mw) (US\$ Millions)	RID = (Mci/Mi)/(Mcw/Mw)
1995-96	3.25	36.6	364.35	4738.70761	1.154897428
1996-97	3.44	39.11	354.26	5081.0615	1.261545619
1997-98	3.25	41.43	379.47	5395.40948	1.115360836
1998-99	2.55	42.42	378.74	5345.08653	0.848365662
1999-00	2.49	50.01	359.77	5617.54807	0.777435457
2000-01	2.28	52.94	404.25	6439.96079	0.686094763
2001-02	2.46	50.67	384.57	6221.18338	0.785383555
2002-03	2.65	57.45	407.45	6524.44504	0.738626859
2003-04	3.42	72.43	489.05	7618.99737	0.735617718
2004-05	5.44	98.98	674.08	9298.44751	0.758141818
2005-06	9.44	140.86	768.54	10477.38486	0.913630798
2006-07	11.66	178.21	965.08	12131.72308	0.822480581
2007-08	16.84	218.65	1192.61	13930.24129	0.899606942
2008-09	19.93	315.71	1350.94	16079.7176	0.751382917
2009-10	15.91	266.41	855.58	12375.45231	0.863813753
2010-11	20.37	350.03	1107.6	15160.92366	0.796578306
2011-12	26.27	462.41	1332.53	18073.30353	0.770536831
2012-13	27.53	488.98	1244.28	18068.90377	0.817577253
2013-14	23.86	466.05	1213.38	18504.8227	0.780775223
2014-15	26.67	459.37	1263.71	18549.07811	0.852187764
2015-16	26.63	390.75	1096.12	16176.39813	1.005763579
2016-17	22.7	356.71	1013.85	15776.74225	0.990271311

2017-18	26.52	444.05	1191.44	17620.45394	0.883255929
2018-19	39.81	617.95	1338.03	18875.21189	0.908792692
2019-20	31.55	478.89	1218.58	18449.26635	0.997444293
2020-21	22.9	367.99	1094.68	19066.21326	1.083868833
2021-22	24.54	495.83	1137.45	17566.34	0.764347286

Source- collected and calculated by author

Table 1.5- From 1995-96 to 1997-98 the RID for metals is just over 1.00 that is imports of metals by India is not in favor of India but after 1997-98 to rest of the Post-WTO period RID of metals is less than 1.00 except in the years 2015-16 and 2020-21. In 2015-16 there was surge in emerging markets of the world but the normal flow of economic activities in developed markets has mitigate the impact of this surge. India is one of the huge market for metals consumption due to second largest populated country as well as the developing activities take place in the economy.

CONCLUSION, FINDINGS AND POLICY IMPLICATIONS

In Table 1.1, Table 1.2, Table1.3, Table 1.4 and Table 1.5, we have calculated RID values of **Fuels, Stone & Glass, Machinery & Transport Equipment, Chemicals, and Metals** of India in Post-WTO Regime that is from 1995-96 to 2021-22 (till 31st Dec 2021). The values of RID Index of all these commodities reflect dependency of India on imports of these commodities. Among these five commodities Fuels, Stone & Glass and Chemicals show maximum dependency of India on imports of these commodities. In Pre-WTO period of India from 1990-91 to 1994-95 almost for all commodities dependency on imports is higher. Commodities like Machinery & Transport Equipment and Metals dependency on imports is decreasing gradually and therefore the value of RID of these commodities in less than 1.00. In 2015-16 there was surge decrease in economic activities of emerging markets and we can

also illustrate the impact of this surge on imports of India, albeit this surge was for very short duration and it is visible in the results of 2016-17.

The existing policy framework of India on commodities like fuels, India is focusing on alternate sources of fuels and they have been shifted their economic activities more on biofuels. By 2030 India is targeting that 30% of road traffic will be electronic vehicle. Therefore I believe this will reduce the fuel import dependency of India.

In case of stone & glass the forward linkage of this industry is already strong in India but the raw material in the form of unfurnished and unpolished stone & glass, India is very much dependent on imports and therefore India is having both import and exports of stone & glass.

Many countries of Europe are largely dependent on India for finished chemicals and they are also providing the raw materials for further manufacturing of chemicals as manufacturing of chemicals create various types of harmful gases and therefore they avoid manufacturing in their own country. In this way India should re-look its existing policy of imports of chemicals.

Due to the emerging nature of Indian economy, the requirement of machinery & transport equipments and metals is substantiate and in last ten years the policy implications in these two broad categories has reduced the import dependency of metals, and machinery in India.

REFERENCES

Acha Leke, Susan Lund, Charles Roxburgh, and Arend van Wamelen, (2010). www.mckinsey.com, Insights and Publications.

Folashade Soule-Kohndou (2013). "The India- Brazil-South Africa Forum a Decade on Mismatched Partners or the Rise of the south", The Global Economic Governance Programme, GEG Working Paper 2013/88.

Goyal, K. A., & Vajid, A. (2018). An Analysis of India's Trade Intensity with UAE. *Journal of Commerce and Trade*, 13, 27-31.

G. Blalock and F. M. Veloso, "Imports, Productivity Growth, and Supply Chain Learning," *World Development*, Vol. 35, No. 7, 2007, pp. 1134-1151. doi:10.1016/j.worlddev.2006.10.009

W. Keller, "Do Trade Patterns and Technology Flows Affect Productivity Growth," *World Bank Economic Review*, Vol. 14, No. 1, 2000, pp. 17-47.

K. Saggi, "Trade, Foreign Direct Investment, and International Technology Transfer: A Survey," *World Bank Research Observer*, 2002.

M. MacGarvie, "Do Firms Learn from International Trade," *Review of Economics and Statistics*, Vol. 88, No. 1, 2006, pp. 46-60.