International Journal of Enhanced Research in Management & Computer Applications
ISSN: 2319-7471, Vol. 6 Issue 12, December-2017, Impact Factor: 3.578

Trend Analysis of Exports and Imports Before and After Liberalizations

Venkata Sanyasi Rao Sasipalli[1], Hideaki Mukai[2], K. Raju Gottumukkala[3], Unyal Prasad Pitre[4]

[1]Center for Excellence in Computer Technology, Hiroshima, Japan
[2]Fuji Soft Co. Ltd. Hiroshima City, Hiroshima, Japan
[3]Center for Excellence in Computer Technology, Visakhapatnam, Andhra Pradesh, India
[4]RAMTEJ Technologies Corporation, Hiroshima City, Japan

ABSTRACT

Forecast through trend analysis is powerful methodology to suggest suitable recommendations for decision making. While exchange rate plays a crucial role in the economy, stabilizing it through policies is in our hands. Exports and Imports data presentation is good in limited situations, forecast through trend analysis help decision makers in right direction. Taking the suitable periods for comparison is very necessary in trend analysis. Historical data is live source for future decisions, analysis is our tool to make our economy better. In this paper, all the above said concepts are considered while taking the reader to focus on liberalizations keyword. We have found some better performance of Exports and Imports but not steep increase in exports to keep balance of trade healthy. Overall, liberalizations gave the country a chance to experience FDIs and FIIs, however watchdog system is necessary to mitigate future hollow, which is unforeseen now.

Keywords: Liberalization, Exchange Rate, Exports and Imports, Balance of Trade, Trend Analysis, Decision Making

1. INTRODUCTION

Advantage of market liberalization and open doors to foreign investors through the liberalizations, can be categorized into several perspectives. However, the two important are Advantages to domestic investor and Advantages to foreign investor. The point of discussion is originated from a big question arising from the missing fact that whether the liberalization is Market Liberalization for Domestic Investor Advantage (MLDIA)thereby Indian economy or Market Liberalization for Foreign Investor Advantage (MLFIA). To simply check the performance, Terms of Trade can be used, however, Terms of Trade are a kind of scales to manipulate the results and to please the stakeholders who are in need of them. Economy shows doing better always depends directly on the revenue accumulated from exports which should be much higher than the revenue incurred for imports. No doubt if the revenue from exports increase relatively to its imports, the terms of trade are said to be better. For a given value or quantity of exports a country can have imports of the same or less a value, otherwise the country's economy will be in dangerous state. Continuing such dangerous state of economy leads to business losses and thereby business occupations and hence acquisition of authority by foreign investors. The crucial point of a country to survive or do better in the international arena is exports. So, if the imports dominate the exports, the country is in unstable state both economically and politically. Therefore, proper analysis and results are very necessary for decision makers to lead the country's economy and political ruling.

Adopted Standard Definitions

The international trade statistics section of United Nations Statistics Department (UNSD) compiles price / unit value index numbers of manufactured goods exports and fuel imports and total exports and imports. Unit value export and import indices compiled from returns to customs authorities are often used as surrogates for price indices in the measurement of inflation transmission, terms of trade (effects), and to deflate export and import value series to derive volume series.

Real exports and imports are derived from dividing the export / import Value of goods, which is compiled by the concerned Ministry for its trade statistics, export/ import Price Index in principle. The Nominal Export/Import Value of goods varies according to changes in both its price per unit and quantity.

Real exports and imports, which are the ratio of export/ import value to export/ import Price Index, represent movements of exports/ imports in real terms by eliminating influences from price changes. Their widespread use is mainly due to their relatively low cost compared with establishment price surveys. Even though there is substantial bias in their representation of such price changes. Their continued use would mislead economic analysis. Though alternative strategies for their improvement, and argues for a move to establishment-based price surveys is discussed in [1],we just follow the unit value / quantum index numbers for the analysis purpose in this paper.

2. DEVALUATION AND DEPRECIATION OF RUPEE

US Dollar perspective analysis is very crucial for exports and imports.

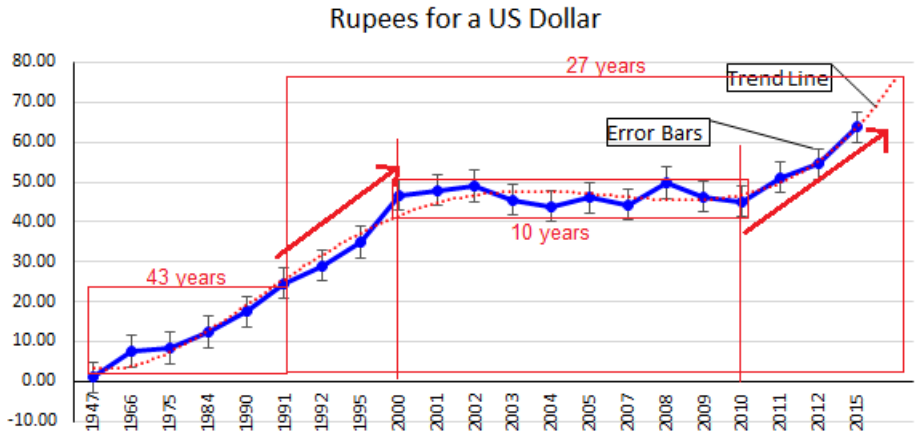
Table 1: Rupee vs. US Dollar

1947, Just at Independence	1 $ = Rs. 1	There were no outside borrowings on the balance sheet
		Due to heavy borrowings devaluation taken place in 1966
1990, just before Liberalization	1 $ = Rs. 17.50	Political troubles in and out of India caused depreciation
		Due to fiscal deficit and balance of payments rupee devalued
2000, 10 years of Liberalization	1 $ = Rs. 46.78	US $ appreciated, hence rupee got depreciated
		Relatively stable rupee
2010, 10 years of post-liberalization	1 $ = Rs. 45.09	Relatively stable rupee
		Domestic consumption is more that export expectation
now	1 $ = Rs. 64	Main items such as Automobiles, Electronics not exported

Exports and Imports are directly influenced by exchange rate of now the so called universal currency US Dollar ($). During Nehru era the Rupee was depreciated by 4.75/$ in 16 years. First major devaluation of 35.6% of the rupee occurred in 1966 when it was pegged at Rs 4.75/$. And due to wars, with China and Pakistan, and with multiple changes to India's leadership in the post-Nehru era, rupee further depreciated. However, for a period of 22 years, from 1966 to 1980, the rupee remained largely stable, during this period there is no much trade deficit, we will discuss this in detail in the following sections.

Due to the global economic problems of the early 1980s followed by the energy crisis during which the prices of oil and gold surged, rupee had to be devalued 19% again, to Rs 17/$. Further, to the economic crisis in India, the government had a balance of payment problem, and was on the verge of defaulting. The rupee was further devalued to Rs 25/$ as part of the measures to overcome the crisis.

By 1993, with the so-called liberalization of the economy, the rupee started to slide towards the Rs 35/$ mark, as the open market had taken control of its exchange. By 2002, the rupee further depreciated to Rs 49/$. For a period of 10 years, from 2000 – 2010, the rupee remained largely stable below Rs. 50/$. However, from 2011, due to the liberalizations, large inflow of FDIs influenced the rupee again to slide further, now trading at Rs. 64/$.



Graph 1: Rupee again US Dollar

Rupee performance [2] is shown in Graph 1, on looking at the whole periods together, one can see that before reforms the devaluation or depreciation of Rupee was slow and after reforms it is exponential, in 43 years Rs.22 while in 27 years Rs. 42 depreciated. This exponential change can show better figures of Export values. Do the numbers of exports and imports performance represent true improvement or false or temporal? If the exports / imports or trade performance is seen better due to Liberalizations which opened the doors to FDIs and FIIs, what happens if the FDIs and FIIs drop or go back to

their countries at a certain point of time? Can the domestic investor catch-up the continuation? and mitigate the losses? Big question.

Let us start with simple approach understandable to common man.
If an item is to buy for 10$ from outside India and exchange rate is Rs.10/$, one has to pay Rs.100 to import it.
If an item is to buy for 10$ from outside India and exchange rate is Rs.12/$, one has to pay Rs.120 to import it.

⇨ Depreciation of Rupee costs more money for Importers

If an item is to sell for 10$ outside India and exchange rate is Rs.10/$, one can earn Rs.100 on its export.
If an item is to sell for 10$ outside India and exchange rate is Rs.12/$, one can earn Rs.120 on its export.

⇨ Depreciation of Rupee earns more money for Exporters

It means Depreciation of Rupee is good for Exporters and bad for Importers, similarly Appreciation of Rupee is bad for exporters and good for importers. We can rewrite this as given in below table, however, can we say the opposite?
Exports performance is good => Rupee is depreciated
Imports performance is good => Rupee is appreciated
We do not know in the market controlled exchange rate system.

	Depreciation	Appreciation
Exports	Good	Bad
Imports	Bad	Good

Now the Balance of Trade (BoT) = Exports – Imports,
which is negative if Imports > Exports and positive if Exports > Imports.

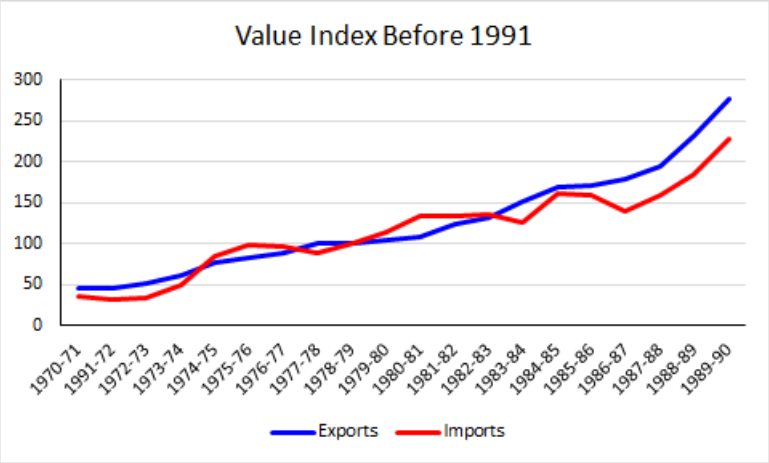
We are or will be left with big questions again:
Q1: How to stabilize Rupee / $
Q2: How to stabilize BoT

3. EXPORTS AND IMPORTS INDICES BEFORE LIBERALIZATIONS

In this section, we show the export and import indices before liberalizations to argue the benefits of reform policy. We draw the graphs of the data published by [3].

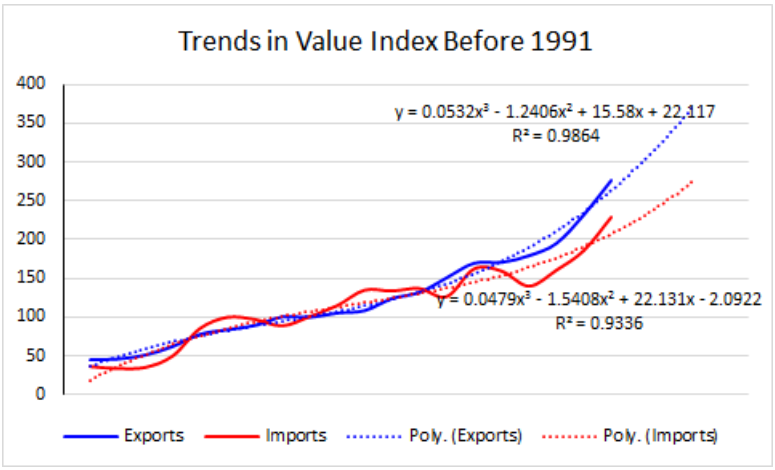
Value Index Before 1991

The value index of exports and imports with the base year 1978-79 = 100 is considered in Graph 2. From this graph, we can see Exports exceeded Imports from 1982-83 onwards. This may be due to the fact that the rupee remained stable for 22 years up to 1980.



Graph 2: Value Index before 1991

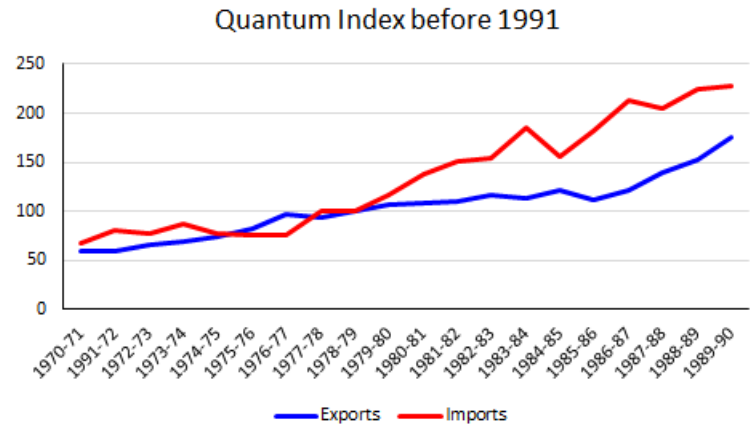
Trend of value index of exports and imports before 1991 is estimated in Graph 3. In general, the regression R-squared is higher, the better the model fits to the data. R-squared value for Exports and Imports is close to 99% and 93% respectively, which explains the variability of response data around its mean. This trend is calculated for 5 years forward. The trend lines of exports and imports diverging and the exports are higher than the imports, it means the BoT should be much better in further 5 years.



Graph 3: Trends of Export and Import before 1991

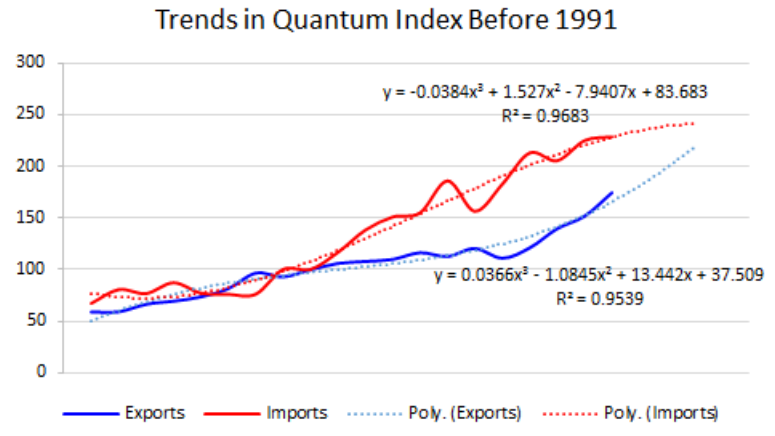
Quantum Index Before 1991

The Quantum index of exports and imports for the same base year 1978-79 = 100 is considered in Graph 4. Imports exceeded exports for a period of 10 years. This also may be due to the stable exchange rate in its previous periods or whatever reason. The point here is how they are going to behave in further 5 years.



Graph 4: Quantum Index before 1991

Trend of quantum index of exports and imports before 1991 is estimated in Graph 5. The R-squared value for Exports and Imports is close to 95% and 97% respectively, which explains the variability of response data around its mean. This trend is calculated for 5 years forward. The trend lines of exports and imports are going to converge and though the imports are higher than exports they are estimated to come close to each other after 5 years. So, the BoT performance should be round zero in further years.



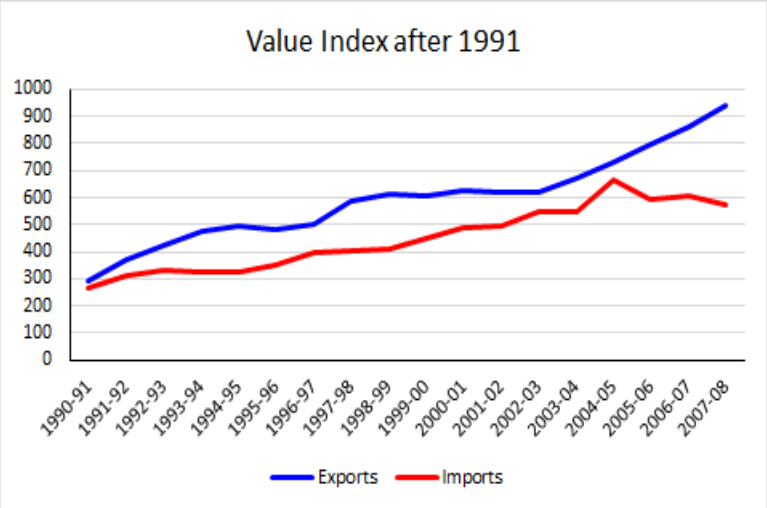
Graph 5: Trends in Quantum indices before 1991

4. EXPORTS AND IMPORTS INDICES AFTER LIBERALIZATIONS

In this section, we draw and estimate the exports and imports in value and quantum after liberalization policy implemented, to see how the reforms effect exports and imports and BoT.

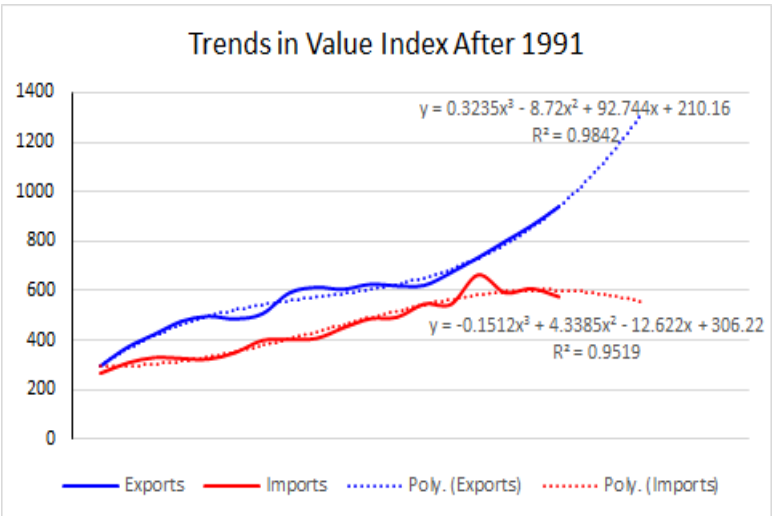
Value Index After 1991

The value index of exports and imports with the same base year 1978-79 = 100 is considered in Graph 6. From this graph, we can see Exports always exceeded Imports from 1991. This is in consistency with the trend estimates calculated and shown in Graph 3.



Graph 6: Value Indices after 1991

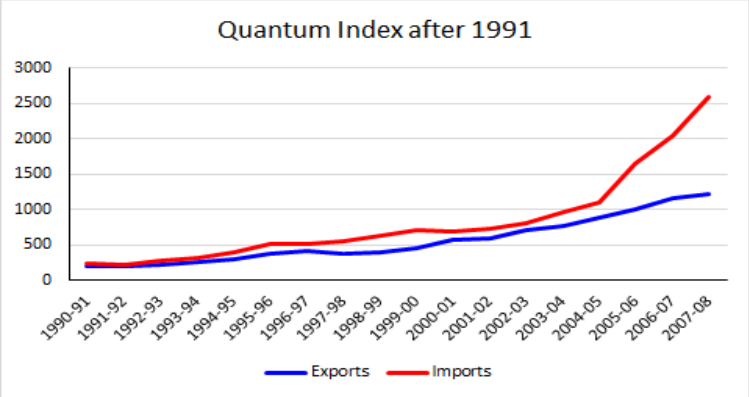
Trend of value index of exports and imports after 1991 is estimated in Graph7. The R-squared value for Exports and Imports is close to 98% and 95% respectively, which explains the variability of response data around its mean. This trend is calculated for 5 years forward. The trend lines of exports and imports drastically diverging and the exports are higher than the imports, it means the BoT must be far better in further 5 years. This drastic divergence is sometimes fail with external influences. But one should understand that there is a caution of crisis from this drastic divergence.



Graph 7: Trends of Value Indices after 1991

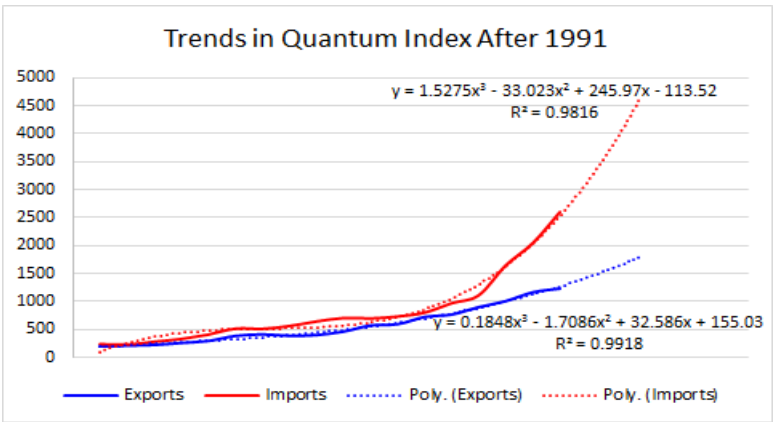
Quantum Index After 1991

The Quantum index of exports and imports for the same base year 1978-79 = 100 is considered in Graph 8. Imports always exceed exports since 1994. The drastic increase of imports since 2005 is indicates there that a crisis. Let us see how the trends of this quantum performance to be in 5 years ahead.



Graph 8: Quantum Indices after 1991

Trend of quantum index of exports and imports after 1991 is estimated in Graph9. The R-squared value for Exports and Imports is close to 99% and 98% respectively, which explains the model is fine. This trend is calculated for 5 years forward. The trend lines of exports and imports are drastically diverging and the imports are higher than exports there is danger to BoT performance in further years, we can see this performance of BoT in Graph 14.



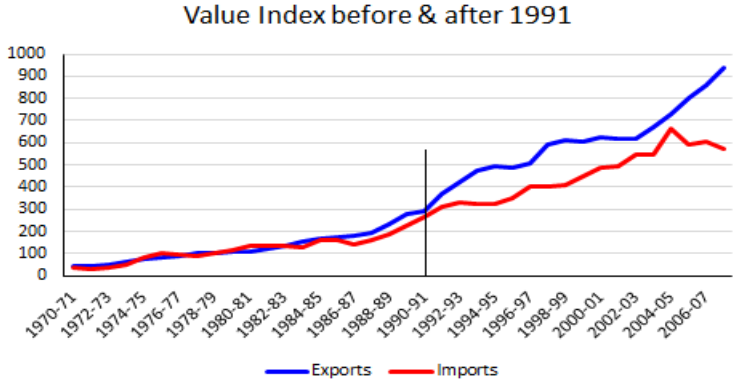
Graph 9: Trends of Quantum Indices after 1991

5 EXPORTS AND IMPORTS BEFORE AND AFTER LIBERALIZATIONS

We have studied the exports and imports performance separately for the period before and after liberalizations, now it is time to see their performance together keeping the year of reform at around center.

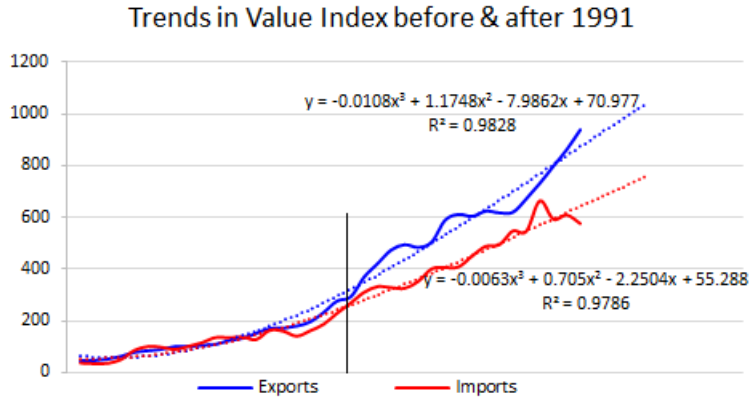
Value Index Before & After 1991

The value index of exports and imports with the same base year 1978-79 = 100 is considered in Graph 10 to see the performance of exports and imports when considering longer periods around the liberalization point. From this graph, we can see Exports dominated the Imports but volatile after 2005. Let us see the trends for 5 years forward, which may show normalized performance or the same volatile performance.



Graph 10: Value Indices before & after 1991

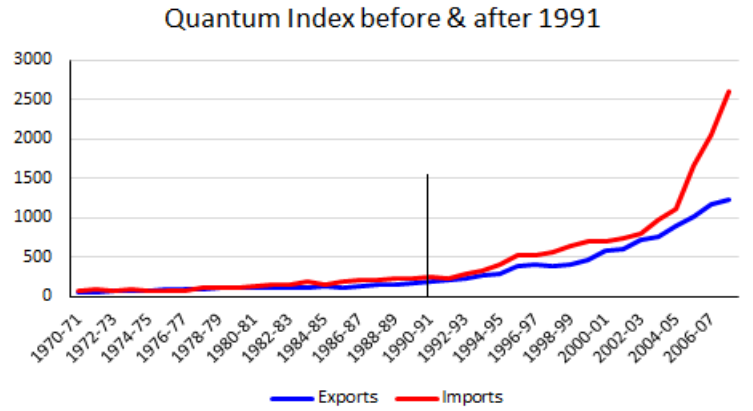
Trend of value index of exports and imports before and after 1991 is estimated in Graph 11. The R-squared value for Exports and Imports is close to 98% and 98% respectively, which explains the model if good fit to the data. This trend is calculated for 5 years forward. The trend lines of exports and imports diverging but not drastically as behaved in Graph 7. The BoT can be expected to do better in further 5 years.



Graph 11: Trends in Value Indices before & after 1991

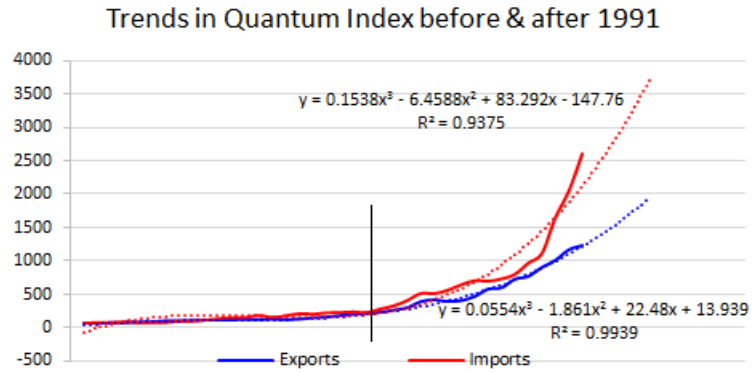
Quantum Index Before and After 1991

The Quantum index of exports and imports for the same base year 1978-79 = 100 is considered in Graph 12. Imports interleaved with exports up to 2005, and then showed drastic increase of imports. This drastic increase since 2005 indicates there that a crisis. Let us see how the trends of this performance to be in 5 years ahead.



Graph 12: Quantum Indices before & after 1991

Trend of quantum index of exports and imports before and after 1991 is estimated in Graph 13. The R-squared value for Exports and Imports is close to 99% and 94% respectively, which explains the model is fine but Imports trend may need to be corrected. This trend is calculated for 5 years forward. The trend lines of exports and imports show quantum increase in performance but diverging. This divergence is not good sign for BoT performance and its stabilization.



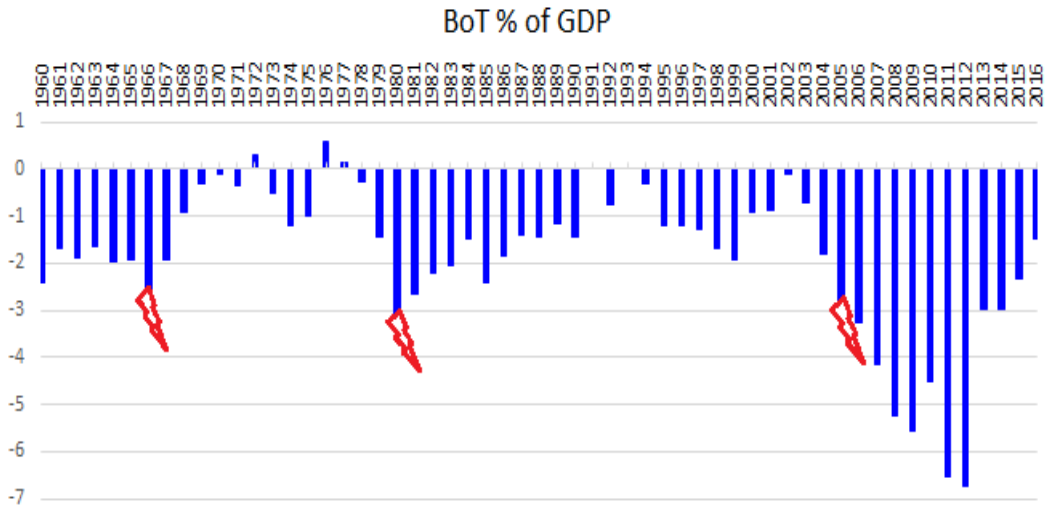
Graph 13: Trends in Quantum Indices before & after 1991

6. BOT PERFORMANCE AND SOME FLAWS IN LIBERALIZATION POLICY

Balance of Trade (BoT): The difference between the value of goods and services exported out of a country and the value of goods and services imported into the country. The balance of trade is the official term for net exports that makes up the Balance of Payments.

Balance of Payments (BoP): The balance of payments of a country is the record of all economic transactions between the residents of the country and the rest of the world in a particular period. These transactions are made by individuals, firms and government bodies. Thus, the balance of payments includes all external visible and non-visible transactions of a country.

Trade Deficit (TD): is an economic measure of international trade in which a country's imports exceeds its exports. Reserve Bank of India (RBI) summarized the BoT for 1950-51 to 2010-11 in its Bulletin [4] as shown in Chart 3, on overall, the BoT performance not better after 1991 compared to its previous period before 1991.



Graph 14: BoT performance as percent of GDP

From this performance, we can analyze the BoT to be good during the period 1969 – 78 and 1991-95 and 2000-04. Other periods BoT performance is worse. Let us see with respect to the trends value indices estimated earlier. As estimated in Graph 3, the BoT showed good performance consistently for the period 1991-95. And as estimated in Graph 7, the BoT showed bad performance consistently for the period 2008-13. Why this bad performance of BoT occurred?

Notable instances are Devaluation in 1966, Oil shocks in 1980, and Global recession in 2008. Does spontaneous or continuous negative performance continue further? Or what are the flaws in the liberalization policy that can be considered? Or volatile markets influenced the market controlled exchange rate that affected the performance of BoT? It is not simple to point out our finger to one issue, but it is better look into the flaws that might cause some bad performance of BoT, so that we can fix them suitably for the country.

A. Domestic Investors in Unhealthy Competition

Market liberalizations though aimed at decreasing the government intervention in the business and push the economic growth through reforms. But, the policy opened up the country to international investors. By the time of this reform the domestic investor competition was not encouraged within India and no business perspective was encouraged. Government had not given a chance for domestic investors to adopt the change from Socialist methodology to Open Competition. In brief, one can say there was no ground preparation for domestic investors to compete with foreign investors who were well established in their countries and who are able to sustain with any type of perturbations.

B. Unnecessary Exemptions of Taxes to Foreign Investors

Policy makers or governments have made policies to exempt machinery, electrical / electronic items and all such of those items from import duties to allow foreign manufacturers to import those items though they could be manufactured within India. While domestic investors had no opportunity to establish business setup or environment to take advantage from these exemptions. Foreign investors had tremendous advantage and they could make profits in large amounts from these improper exemptions.

C. No Watchdog System

Market liberalizations should not be blind where policy allowed Foreign Direct Investment (FDIs) and Foreign Institutional Investment (FIIs). There must be a watchdog system check whether the benefits are going to Domestic economy or Foreign investors. At any point of time the FDIs and FIIs can pull their investments from the markets, then what happens to the domestic economy? Are the domestic investors prepared to catch up or fill the gaps created by the pull outs or can mitigate the development process? Who is checking all these issues? And where is a system that check these issues?

7. DISCUSSIONS

Overall performance of Exports and Imports seems good in both periods before and after liberalizations in 1991. However, if the quantum increased and since the depreciation of rupee one can surely see the corresponding value increase. The advantage of calculating the trends of Exports and Imports can give us the convergence or divergence information from which we can foresee the crisis ahead. If we are wise-enough we would take measures to correct these convergence or divergence performance.

In most of the literature or reports published, data presentation and graphical representation takes prominent part for discussion, but one has to derive the conclusions based on this historical data to guide or input or recommend to the decision makers, some measures or the forecasts that might take place.

While we are saying Rupee exchange rate is market controlled the rupee is seen effected by the political decisions of USA, for example Dollar was appreciated in 2000 as mentioned in Table.1. Such of these dependencies have to be made limited on the effects of Rupee for its stabilization.

While we are saying exports increased, we can see no major manufacturing exports such as Automobile, Electronics, Heavy Industry good, etc., are reported [5], [6]. Such reports can mislead the decision makers during policy making. Analysis is very necessary as we did in this paper, which forecasted the performance through calculating trends, that help policy makers to take suitable precautionary measures.

On the past and present scenario, one can see exports are still on non-industrial manufacturing goods and services and imports are on manufacturing goods.

CONCLUSION

In brief, we can conclude that the trend analysis has tremendous advantage than just data presentation. Exports before and after liberalizations showed some relative increase but it is not steep increase, as well the Imports. Stabilization of BoT to stay around zero or positive is possible only if suitable measures are taken based on scientific calculations, forecasts, and most importantly delinking the rupee from global monopoly currency. Rupee need to be part of global monopoly currency. Just achieving the better performance is not enough, an aggressive policy making is very necessary keeping the domestic investor competitive by encouraging them towards acquisitions in house and outside the country.

REFERENCES

[1]. Mick Silver, “Do Unit Value Export, Import, and Terms of Trade Represent or Misrepresent Price Indices ?”,IMF Working Paper, No. 07/121, May2007.
[2]. Werner Antweiler, “Foreign Currency Units per 1 U.S.Dollar, 1950-2016”, Pacific Exchange Rate Servicee, University of British Columbia, 2017.
[3]. Statistical Data published by Directorate General of Commercial Intelligence and Statistics, Ministry of Commerce, Kolkata.
[4]. Deepak Mohanthy, “Perspectives on India’s Balance of Payments” RBI Bulletin 2013.
[5]. Department of Commerce, Ministry of Commerce & Industry, “Annual Report 2016-17”, Government of India, 2017
[6]. Obaid-Ur-Rehman, “India’s Foreign Trade Since 1947-2015 Impact on Indian Economy Growth”,International Journal of Management and Commerce Innovations, Vol. 3, Issue 2, pp: 602-608, Mar. 2016.