An Enquiry into India's Export Market and Product Diversification

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Abstract

India's exports during the post economic reform period witnessed an upward growth, until the global recession erupted in 2008. Annual export growth rate was registered at 29 % in 2007-08, but declined to 13.6% in 2008-09 and turned negative at (-) 3.5% in 2009-10. Export market and export product concentration is considered one of the major causes for significant decline in India's exports resulting from slowdown in advanced countries viz. USA and EU. Therefore, the Government of India has put a great emphasize on export diversification strategy to restrain, revive and strengthen its exports. Few momentous changes are broadly observed in terms of direction and composition of India's exports, but no extensive analysis has been done so far in this context. The paper is aimed at undertaking an in depth analysis of measuring and analyzing diversification of markets and products of India's exports. The analysis shows that the country has been relatively more successful in enhancing exports to the different markets as compared to enhancing variation in its export products.

Keywords: Global Recession, Export Market Concentration, Export Product Concentration, Export Diversification Strategy

Introduction

India's exports have witnessed an upward and steady growth after the economic reforms of 1991. India's exports registered at US$18 billion in 1991-92, rose by 9.6% (CAGR) to US$45 billion in 2000-01 and by 17% (CAGR) to US$163 in 2007-08. However, the global recession of 2008 jolted this upward rising trend. Annual export growth rate which was registered at 29% in 2007-08 declined to 13.6% in 2008-09 and turned negative at (-) 3.5% in 2009-10 (Table -1). Export market concentration is considered as one of the major causes for significant decline in India's exports resulting from slowdown in advanced economies viz. USA and EU[1].

The Government of India has put a great emphasize on export diversification strategy wherein exporters are encouraged to diversify their export markets and export products to restrain, revive and strengthen their exports. The government has extended various policy measures viz. Focus Market Scheme (FMS), Market Linked Focus Product Scheme (MLFPS), Focus Product Scheme (FPS) etc. to support the exporters for diversifying into new export markets[2] and new export products. Few momentous changes are broadly observed in terms of direction and composition of India's exports, however, no extensive analysis has been done so far in this context. At this juncture, the paper is aimed at undertaking an in-depth analysis of measuring and analyzing diversification of markets and products of India's exports. The study enables us to assess the influence of export diversification measures

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[1] America and Europe together comprised of around 40% share in India's total exports in FY2008, Ministry of Commerce and Industry, GOI

[2] In the Foreign Trade Policy 2015-2020 all these schemes have been merged into a single scheme, namely Merchandise Export from India Scheme (MEIS). MEIS, with product and market focused incentives for 4914 tariff lines, is a major export promotion scheme. Rewards under MEIS are payable as a percentage of realized FOB value of exports, by way of the MEIS duty credit scrip which can be transferred or used for payment of a number of duties including the basic custom duty. Furthermore, the Government has recently announced tariff revision for export of various products. The current revision has introduced 110 new tariff lines and increased rates or country coverage or both, for 2228 existing tariff lines.

Table-1: India's exports FY 2001 - FY 2016

Years	Exports (US $ billion)	Annual % Change
2000-01	44.07	20.05
2001-02	43.8	(-) 0.56
2002-03	52.7	20.29
2003-04	63.8	21.1
2004-05	83.5	30.8
2005-06	103.1	23.41
2006-07	126.4	22.62
2007-08	163.1	29.05
2008-09	185.3	13.59
2009-10	178.7	(-) 3.53
2010-11	249.81	39.76
2011-12	305.96	22.48
2012-13	300.4	(-) 1.82
2013-14	314.4	4.66
2014-15	310.3	(-)1.29
2015-16	262	(-) 15.5

Source: Ministry of Commerce and Industry, GOI

undertaken by the government during the post global crisis period.

Literature Review

The existing literature exhibits that the role of export diversification has received considerable attention over the last 50 years. Before that free trade was premised on comparative advantage, specialization and international labor division inspired by classic trade theories developed by Smith (1776) and Ricardo (1817). According to them each country has a comparative advantage in producing something, in exporting certain products and that specialization in those export lines generates gains from trade. This view has been challenged by Presbish (1950) and Singer (1950) who argued that too much specialization in a narrow group of export products exposes a country to increased instability in export earnings. This volatility can be mitigated through diversification by expanding production and trade of a variety of commodities with different price trends, which can potentially help to achieve some stability in economic performance.

The concept of diversification gained importance with the modern theory of portfolio management developed by Nobel prize winner Professor Harry Markowitz who stressed that "Don't put all your eggs in the same basket" and inspired by modern portfolio selection theory which regarded diversification as a means of reducing a country's dependence on a particular product or a very restricted range of primary products generally exported before processing.

Massell (1964) found that there is a significant positive relationship between instability of export earnings and concentration of exports. Across, cross sectional analysis conducted by Soutar (1977) determined that geographic concentration is one of the significant variables in explaining the instability in 48 less developed countries from 1957 to 1969.

A link between export diversification, export growth and overall growth is also established by different scholars (Vernon, 1966; Krugman, 1979).

Evenett and Venables (2002) showed that about one third of the export growth of developing countries between 1970 and 1997 were due to exports of old goods to new markets. Kahn and Cadot (2007) explained the robust hump shaped relationship between export diversification and level of income. For the low and middle income countries diversification takes place mostly along the extensive margin, whereas for income above the turning point high income countries diversify along the intensive margin and ultimately re-concentrate their exports towards fewer products.

Shepherd (2008) stated that the trade growth of developing countries can take place through the creation of trading relationship between with new partners. Balza, Caballero, Pineda (2008) while studying the pattern at the level of destination market of 10 Latin American countries, by implementing the methodology presented by Evenett and Venables (2002) shows that extension of the export markets is essential to enhance the export growth of both traditional and new products. Saikat and Anwesha (2008) determine that there is non-linear relationship between export concentration and economic growth i.e. economic growth increases with diversification up to a critical level of export concentration, beyond which increasing specialization leads to higher growth.

Agosin (2009) highlights that, the countries with diversified export structures are able to record consistently higher export growth than countries whose exports are largely confined to just a few products. Naude and Rossouw (2011) argues that contribution of export diversification to economic development depends on the size of the economy. Smaller the size of the economy, better the impact of export diversification on its economic development and vice-a-versa. Subsequently a study by La (2011) computed the relationship between market diversification and export stability by applying new correlation adjusted diversification indices and regression model based on Soutar (1977). The study concluded that there is a negative relationship between market diversification and export instability i.e. higher the level of market diversification, higher will be the stability in exports of an economy.

In the context of global economic imbalances and trade flows pattern, several studies have been conducted, but a study by Bacchetta, Jansen et al (2009) is a path breaking as it explains the ability of geographical diversification to reduce the income volatility and to absorb the country specific shocks of trading partners. Using a data set of 180 countries over a period of 1985-2004 the panel regression confirmed that exposure to external country specific shocks contributes to GDP volatility of a country. The study also proved that geographical diversification helps to buffer shocks and thus reduces transmission of external volatility to the exporting economy. But, the relationship between external shocks and geographical diversification is nonlinear indication that the "beneficial" effects of diversification become smaller, as the country gets more diversified.

Thus, most of the studies show that export diversification, both product and market diversification has a significant role in enhancing export growth and overall growth of an economy. The studies also explain the ability of export diversification in absorbing the external shocks and repercussions of global economic imbalances. The Government of India, in the light of global economic crisis has undertaken several policy measures pertaining to export diversification to restrain its declining export growth and stability. Therefore, the study poses few questions whether these measures responded in terms of market diversification and product diversification of India's exports? Is this market diversification or the product diversification which responded better as a result of consistent measures undertaken by the government after the global crisis? The analysis would enable us to know the outcome of various policy measures undertaken by the government to diversify its exports to new markets and products.

Objectives of the Study

The main objectives of the study are:

i. To analyze and compare the direction of India's exports during the pre and post global economic crisis

ii. To measure and analyze India's export market diversification and export product diversification during the specified time period.

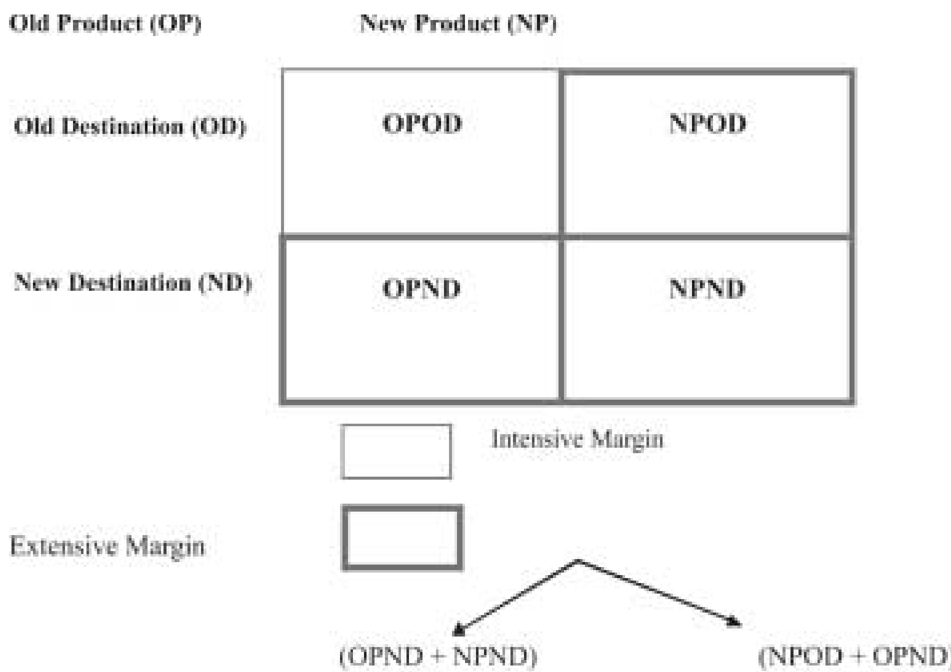

Figure - 1: Definitions

Research Methodology

The study is based on the secondary data collected from Ministry of Commerce and Industry (MOC&I). Further, few specialized indices viz. Regional Hirshman Index (RHI) and Sectoral Hirshman Index (SHI) are applied to measure and analyze the market and product diversification of India's exports. Time period FY2000-FY2015 is considered for the purpose of conducting the captioned study.

Export Diversification Product Vis-À-Vis Market: Conceptual Framework

Export diversification is variously defined as the change in the composition of a country's existing product mix or export destinations (Ali, Alwang et al. 1999). Pacheco & Pierola (2008) defined the concept of export diversification in terms of intensive and extensive margin. The intensive margin of trade refers to the growth of exports in goods that are already being exported i.e. "old products". The extensive margin is defined as the growth of exports in new categories i.e. "new products". This traditional classification is well suited to discuss diversification issues from a product point of view, but it lacks a geographic dimension. This is why a twist is added to the traditional definition. The twist simply consists of including the geographic dimension in order to make distinguish between the product and geographic diversification. This implies that the intensive margin will consist of "Old Products" being exported to "Old Destinations" (OPOD). In the same way, the extensive margin will consist of "Old Products" being exported to "New Destinations" (OPND), "New Products to New Destinations" (NPND), and "New Products to Old Destinations" (NPOD). To sum up, there are two dimensions to export diversification. Product diversification is the sum of NPND and NPOD, whereas geographical diversification is the sum of NPND and OPND. Figure 1 illustrates the classification as per the above discussion.

Data Analysis

The following section pertains to analyzing changes in India's direction and composition of exports over a period of time.

India's Direction of Exports: A Brief Analysis

During the past few years, India's exports witnessed momentous changes in terms of direction of export markets. The share of developed regions (Europe and America) which was approximately 50% in India's

Table – 2 India's Direction of Exports (Value in US$bn)

Regions	FY2000		FY2005		FY2010		FY2015	
	Exports (US$ billions)	**Share (%)**	**Exports (US$ billions)**	**Share (%)**	**Exports (US$ billions)**	**Share (%)**	**Exports (US$ billions)**	**Share (%)**
1) Europe	10.23	25.94	19.67	23.55	38.52	21.55	56.30	18.14
2) America	9.62	24.70	16.79	20.1	26.87	15.03	59.05	19.03
Total	**19.85**	**50.64**	**36.46**	**43.65**	**65.39**	**36.58**	**115.35**	**37.17**
3) Asia	13.86	37.44	40.00	47.88	93.33	52.21	153.81	49.57
4) Africa	1.90	5.35	5.57	6.67	13.43	7.51	32.84	10.58
Total	**15.76**	**42.79**	**45.57**	**54.55**	**106.76**	**59.72**	**186.65**	**60.15**
5) CIS & Baltics	1.06	2.35	1.09	1.31	1.69	0.94	3.40	1.09
6) Unspecified Region	0.04	4.22	0.4	0.49	4.91	2.76	4.93	1.59
Total	**36.71**	**100**	**83.53**	**100**	**178.75**	**100**	**310.34**	**100**

Source: Ministry of Commerce and Industry

exports by the end of the first decade of economic reforms in FY2000 declined to 44% in FY2005 and 36.5% in FY2010 (Table -2). Though the share of these regions has registered a marginal increase to 37.2% in FY2015, it is still relatively less than the share of other developing regions (Asia and Africa) in the same year. The share of the fastest developing region viz. Asia in India's total exports witnessed a rise from around 37% in FY2000 to 48% in FY2005 and 52% in FY2010. The share of Asia in India's exports has reported a decline to around 50% in FY2015; but it is still the highest amongst all regions. The region Africa has also registered a significant rise of share in India's exports from 5% in FY2000 to around 7% in FY2005 and FY2010 and 11% in FY2015.

The analysis shows that export diversification policy measures undertaken and highly focused upon by the Government in recent times has produced positive outcomes in terms of shifting of its exports from the developing regions to the developing regions.

Measurement of Market Diversification of India's Export

The shift of India's share from developed economies to developing economies can be measured by using a standard measure of export market diversification i.e. Regional Hirshman Index (RHI) which is calculated as below.

Regional Hirshman Index = RHI = sqrt [sum (xi / Xt)^2]

Where, RHI - Regional Hirshman Index

xi - Exports to country I

Xt - Total exports of the country

The highest possible value of market concentration index (RHI) is 1; this occurs when total exports are made to only one market. The index would enable us to find whether India's exports are diversifying into new markets and to what extent. The Table 3 shows that RHI for Europe and America have declined from 0.067 and 0.061 in FY 2000 to 0.033 and 0.036 in FY2015 while, RHI for Asia has witnessed a significant rise from 0.14 in FY2000 to 0.24 in FY2015 and RHI for Africa has increased from 0.002 in FY2000 to 0.0112. This indicates that India's concentrations of exports in traditional markets have reduced and diversified to the non-traditional markets viz. Asia and Africa.

Table-3: Export Market Diversification (Regional Hirschman Index)

Regions	FY2000	FY2005	FY2010	FY2015
1) Europe	0.0673	0.055	0.046	0.033
2) America	0.0610	0.040	0.023	0.036
3) Asia	0.1402	0.229	0.273	0.246
4) Africa	0.0029	0.004	0.006	0.011
5) CIS & Baltics	0.0006	0.000	0.000	0.000
6) Unspecified Region	0.0018	0.000024	0.001	0.000
Sum of the squares of the share of regions	**0.2737**	**0.3298**	**0.3481**	**0.3264**
Regional Hirshman Index (RHI)	**0.5231**	**0.5742**	**0.5900**	**0.5713**

Source: Calculation based on the data, Ministry of Commerce and Industry, GOI

Overall, RHI of India's exports has reported a rise from 0.52 in FY2000 to 0.57 in FY2005 and 0.59 in FY2010, but it declined to 0.57 in FY2015. This suggests that India's exports have been marginally diversified to non-traditional markets in last few years. However, export market concentration coefficient (0.57) is still found to be very high and gives an indication to undertake further measures for enhancing exports to different non-traditional markets.

Measurement of Product Diversification of India's Exports

The shift of India's share from traditional to non-traditional products pertaining to different regions can be measured by using a standard measure of export product diversification i.e. Sectoral Hirshman Index (SHI), which is calculated as below.

Sectoral Hirshman Index = SHI = sqrt [sum (xi / Xt)^2]

Where, SHI –Sectoral Hirshman Index

xi - Exports of product i

Xt - Total exports of the country

The highest possible value of commodity concentration index (SHI) is 1; this occurs when total exports are comprised of only one commodity. The index enables us to find whether India's exports are diversifying to new products and to what extent.

Overall, SHI of India's exports has reported a rise from around 0.32 in FY2000 to 0.36 in FY2005, 0.41 in FY2010 and 0.40 in FY2014. This suggests that India's product export concentration has increased contrary

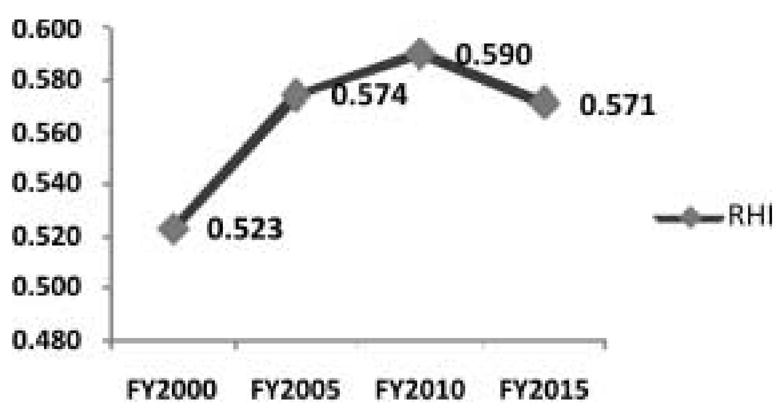

Figure-2: Regional Hirshman Index (RHI)

Table-4: Export Product Diversification–Sectoral Hirshman Index (SHI)

Year	Exports of Top 10 Commodities (US$bn)	% Share of Top 10 Export Commodities in India's Exports	SHI
FY2000	20.7	56.3	0.317
FY2005	50.2	60.05	0.361
FY2010	114.3	63.9	0.408
FY2014*	200	63.5	0.403

Source : Compiled from Ministry of Commerce and Industry

** FY2014 is taken instead of FY2015, because new commodity classification has been adopted since FY2015*

to the expectations of its decline in the light of undertaking various product diversification measures by the Government.

Major Findings

1. With regard to export market diversification, the share of developed regions viz. America and Europe in India's exports has reduced from one half to around one third, while share of developing regions, Asia and Africa has witnessed a gradual rise over the period. This indicates that India has been successful in venturing into non-traditional export destinations, though the share of traditional export destinations in India's total exports is still high. This is also evident from the Concentration Coefficient Index i.e. RHI which has declined in case of Europe and America from around 0.060 in FY2000 to 0.033 in FY2015, while, RHI in case of Asia and Africa has witnessed a significant rise during the same period, indicate that India's concentration of exports in these markets have reduced and are tilted towards the other region viz. Asia and Africa.
2. Overall, RHI of India's exports has reported a rise from 0.52 in FY2000 to 0.57 in FY2005 and 0.59 in FY2010, but it declined to 0.57 in FY2015. This suggests that India's exports have been marginally diversified to non-traditional markets during the last few years.
3. Measuring the shift of India's share from traditional to non-traditional products, standard measure of export product diversification i.e. Sectoral Hirshman Index (SHI) measures and shows that SHI of India's exports has reported a rise from around 0.32 in FY2000 to 0.36 in

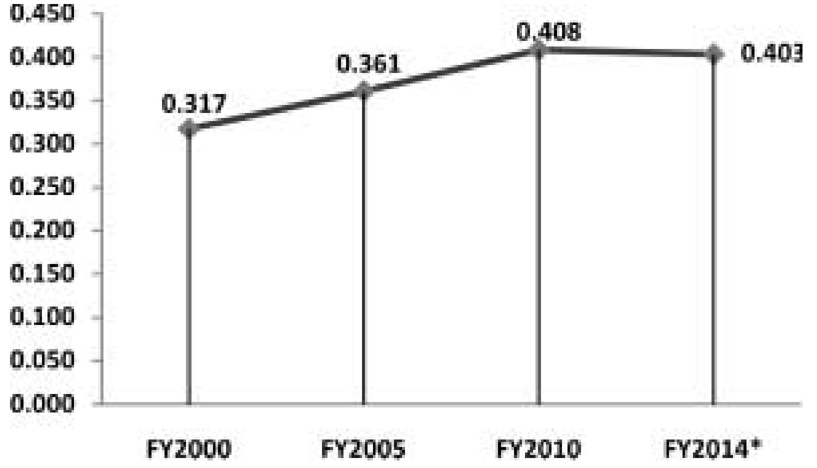

Figure-3: Sectoral Hirshman Index (SHI)

Source: Calculated on the basis of data, Ministry of Commerce and Industry, GOI

FY2005, 0.41 in FY2010 and 0.40 in FY2014. This indicates that contrary to expectations of a decline in product export concentration in the light of various product diversification measures undertaken by the government, product export concentration has gone up which is disappointing in the light of being highly ambitious of reviving and sustaining India's export growth.

4. India has registered a rise in export product concentration from 0.32 in FY2000 to 0.40 in FY2014, while export market concentration has increased from 0.52 to 0.57 during the same period. This suggests that India has not been able to enhance exports of varied products and to the different markets, rather the country is still dependent on few products and few markets for its exports which is not a desirable situation in the present times.

5. The analysis also shows that though export product and market concentration has increased in FY2000, it has registered a decline when compared with its position in FY2010. Export market concentration reduced from 0.59 in FY2010 to 0.57 in FY2015; while export product concentration has declined from 0.41 to 0.40. This shows that the country has been relatively more successful in enhancing its exports to the different markets as compared to enhancing variation in export products. This is a sign of narrow product range and inability of extending value chain of the country, which needs to be achieved amid a frequent changing global dynamics.

Conclusion and Suggestions

The analysis shows that the Central Government has undertaken several measures for encouraging exporters to venture into new markets and to extend/diversify their export baskets; however a desired level of export diversification is still not achieved. In order to make export diversification strategy catalyst for reviving and enhancing India's exports: i. It is imperative to identify the factors which are detrimental to its effective implementation in the economy ii. Exporters, especially the MSMEs exporters should be made aware and encouraged to take the advantage of policy measures w.r.t export market and export product diversification iii. Efforts should be made to enhance value chain of various products in which India has the core competence viz. textiles, leather, engineering etc. iv. Exporters should be well supported with adequate funds at reasonable rates v. Measures should be taken to provide efficient infrastructure and logistics facilities, advanced technology and updated market information to the exporters vi. Last but not the least, process for availing government benefits should be made simpler and less time consuming. These measures may encourage the exporters to undertake the decisions pertaining to diversification of their export baskets or/and export markets which are considered being risky and challenging.

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