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INDIA'S GEMS AND JEWELLERY EXPORT GROWTH IN THE GLOBAL MARKET SINCE 1991

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ABSTRACT

This paper basically revolves around measuring the export performance of INDIA'S Gems and Jewellery Industry since 1991.This paper will cover up a period of 28 years for India's Gems and Jewellery Exports and its eight sub-categories (cut and polished diamonds, gold jewellery exports, coloured gemstones, pearls, synthetic stones, non- gold jewellery, costume jewellery and rough diamonds). In this paper, I will calculate the Compound Annual Growth Rate for all the eight sub categories of India's Gems and Jewellery Exports and will try to find out the factors responsible for the improvement of India's Gems and Jewellery Exports.

***KEYWORDS**: Gems and Jewellery, Compound Annual Growth Rate, Export Performance.*

Introduction

Development implies change that is to describe the process of economic and social transformation within countries. It occurs when there has been an improvement in basic needs, greater sense of self – esteem, expansion of people's entitlements, freedoms and capabilities. (Goulet, 1971 and Sen, 1983). To achieve economic development, required process of raising standard of living and productivity in all sectors of an economy is important, which in turn, is the function of level of technology and innovation, further which requires capital formation. To meet the increasing needs of capital formation, foreign trade is one of the major factors which can provide foreign exchange (Todaro, 2007).

Economic development and foreign trade are intimately connected. There are many studies on the cause-and-effect relationship between Economic development and foreign trade. The Economist such as Prebisch, Myrdal, Singer, Emannuel, Nurkse and other have suggested an inward oriented approach for development of developing countries. Whereas, economists such as J.N. Bhagwati, Kruger, Chenery, BelaBlassa and others have strongly recommended the export led growth strategy. (Manjappa and Hegde, 1998).

Export act as a motivating force and plays a significant role to speed up the growth and development process of developing countries. Export expansion can play an instrumental role in promoting rapid economic growth. Since exports are a component of GDP, rapid export growth means an even faster growth of GDP, through the Keynesian multiplier process. Moreover, export expansion increase efficiency in the economy, which further stimulates economic growth. The increase in income that comes directly from exports leads in time to rise in demand for a wide range of products, including non-durable. The expansion of exports sector leads to the inflow of Foreign Direct Investment, foreign loans and advance technology. Apart from above, through export activities the international Trade relations are developed between the foreign countries which promote healthy political relations among different economies of the world and at the time of any economic and natural crisis, the trading partner' countries are the first to come to rescue. (Sharma,2013).

Moreover, exports can create employment, and its strength determines Current Account deficit of a country, increasing exports therefore, is a key concern for development economists and policy makers in all developing countries. Kaldor for British economy conducted an empirical, structural and comparative investigation focussed on the role of that is played by manufacturing sector which further become Kaldor growth laws. These laws attribute crucial importance to the manufacturing sector for

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economic development. In 1991, India adopted economic reforms, which aimed at greater market orientation and more liberalisation of country's economy through deregulation of government controls. With this objective India's external sector had underwent significant changes and since 1991, India's foreign trade policy focused more on export expansion. In order to promote the exports, several provisions were made in India's foreign trade policy like removing of quantitative restrictions on exports, establishment of Special Economic Zones (SEZs), EXIM banks, Export Credit Guarantee Corporation (ECGC), State Trading Corporations (STC), Indian Institute of Foreign Trade (IIFT).

The India's Manufacturing sector has the high potential in augmenting growth and development of an economy as it plays major role in employment generation and exports. With growth in this sector, its share in GDP tends to increase and also supplements other sectors of the economy. The study of transitional economy of many countries especially of China has revealed that in growth process, the share of manufacturing sector in GDP increased overtime and this sector absorbed people migrating from agriculture for better employment prospects.

India exports mainly seven types of manufacturing products, which consists of Leather and Manufactures, Chemical related products, Engineering goods, Textile and Textile Products, Gems and Jewellery, Handicraft and Other Manufactured Products. The Total Exports were Rs.440.42 billion for the year 1991-92, out of which Rs.324.14 billion are from Manufactured Goods Exports. India's share in world manufacturing export increased from 0.52percent to 1.83 percent in 1991 and 2015 respectively. As per Economic survey, 2015-16, manufactured goods constitute the bulk of exports over 63 percent in recent years, followed by crude and petroleum products (including coal) with a 20 percent share, and agriculture and allied products with a share of 13.7 percent. The present study will deal with the Gems and Jewellery Exports, which constitute a very important part of Manufacturing Exports. As we know, this is one of the fastest growing sectors contributing significantly to employment and exchequer. This industry is more likely to grow at a rapid pace because of the rising global demand and increasing disposable income of the Indian middle class. The role of jewellery as a luxury item and an instrument of investment also make the industry important for the policy makers.

India has one of the earliest known sources of diamonds on earth. World famous diamonds such as the Koh-i-noor, the Orlof, the Great Mogul, Sancy Hope, Floretine, Nassak, Regent, Pitli, Nizametc were products of India.1 Jewellery is an integral part of Indian festivals and social occasions like marriages and births. Indian jewellery is said to be unique in its design and workmanship and traditional jewellery varies from region to region, (Kapoor, ASSOCHAM (2015). The Gems and Jewellery industry is one of the fastest growing sectors of the economy and is highly export oriented and labour intensive. Given the rapid changes in tastes and disposable incomes, increased competition and enabling government policies, and the impact that these would have on employment and the exchequer, the present study will focus on theGems and Jewellery industry.

Objectives

- To calculate the growth rates of India's Gems and Jewellery Industry.
- To analyse the significant factors for the growth of factors of India's Gems and Jewellery Exports.
- To individually calculate the growth rate of each sub- categories of Indian Gems and Jewellery Industry.
- To compare the growth rates of all the sub-categories of Indian Gems and Jewellery Exports and suggesting various measures to increase their growth rates.

An Industry Overview

The Indian gems and jewellery industry is one the largest in the world with a share of 29% in global jewellery consumption. India is the largest diamond processing centre in the world and has the biggest consumer pool of gold. This industry plays a significant role in the Indian economy. Its market size is about 6%-7% of the country's GDP and it plays an important role in maintaining the current account deficit and export-led growth of the economy. It is the second highest contributor to the country's commodity exports with a share of 13%, after petroleum products (20%) in 2012- 13.2 India's Gems and Jewellery is largely export oriented holding 46% share of the market size, the balance being 54% being domestic demand. After the global economic slow-down though, its share in total exports has seen a declining trend. However, recently published data by the Ministry of Commerce shows that exports of jewellery of gold and other precious metal have increased by 40.7% in 2015, (Kapoor, ASSOCHAM (2015)).

The Gems and Jewellery industry is mainly classified into eight categories:

- Gold jewellery
- Cut and polished diamonds
- Coloured gemstones
- Pearls
- Synthetic stones
- Non gold jewellery
- Costume jewellery
- Rough diamonds

Review of Literature

Chandra, Govind (1979) studied the Greek and Indian forms of Jewellery and studied the various forms which developed out of the contact of these two great people of ancient heritages who had both received and absorbed Achemenid impulses. The love of the Indian for ornament is inevitable and therefore this was the most fertile field where ideas of these two people -the Greeks and Indians- could mingle and take a new form. In his study, apart from examining the Jewellery subjectively, an effort has been made to correlate the actual pieces found during the various explorations and excavations with those seen on the Gandhara sculptures**.**

Verma, Lall (1983) studied the problems of the majority of Indian Diamond Exporters. The import of raw materials is the biggest problem for diamond manufacturers. He analysed that low quality and high prices of raw materials are the main problems of this industry that have been faced by the exporters. Lack of training institutes, little use of modern techniques and many others problems are in this industry. On the other hand, Verma concluded that diamonds are the single largest export commodity earning foreign exchange. In his study he reported that in period of five years from 1979 to 1983, diamond imported by the USA from India rose from 33 per cent to 48 per cent and diamonds imported by Japan from India increased from 36 per cent to 50 per cent.

Gonclaves (1987) discussed the experience of Latin America concerning the effect of export expansion and import liberalization on the process of economic growth of the region for the time period(1970-1980). The clustering exercise was undertaken and the variables used for forming the four clusters were population, GDP per capita, the share of agriculture in GDP, Investment ratio, employment in agriculture, employment in industry, elementary school registration and high school registration. Cluster I include Brazil and Mexico, Cluster II includes Argentina, Chile, Columbia, Costa Rica, Peru and Uruguay. Cluster III was formed by Bolivia, Ecuador, Gautemala. Cluster IV consists of Pnama and Venezuala. The study found that the marginal propensity to import and the import income elasticity are particularly in determining the value of the multipliers and the balance of payments constrained output growth rates. The study also found that distinct combinations of export-import ratios and marginal propensity to import in economies with very different economic structure may result in similar values for the super-multiplier. The study also indicated that the highest output growth rates among Latin American economies were associated with the lowest import income elasticity and marginal propensity to import.

Chand, Tewari (1991) studied the growth and instability of Indian exports and imports of agricultural commodities for the period 1970 to 1988. For this purpose, exponential time trend was fitted to the data on value (in terms of U.S. dollars) of exports and imports using four yearly moving averages of data. Thus, the analysis was based on the quadrennial 1970-73,1974-77,1978-81,1982-85 and 1985-88. The agricultural commodities grouped under agricultural products, forest products, fish and fishery products and agricultural requisites. According to the results, all the items included in the agricultural sector except pulses, sugar and honey and forest product indicated positive growth rates in exports. Among the various items of imports, pulses and sugar and honey and forest product indicated positive growth rate in exports. Among the various items of imports, pulses and sugar and honey show a trend rate of growth which exceeded 50 percent per annum during the period 1970-88. For most of the agricultural commodities, exports showed less instability than the imports. The growth in exports as well as imports of agricultural sector was much lower than the growth in total merchandise exports and imports. The study also found that the imports of agricultural commodities pulses, vegetable oils and fertilizer exerted severe strain on India's foreign exchange earnings.

Sathe (1997) examined the export intensities of a sample of Indian industries and import intensity of their exports. He also examined Net Foreign Inflow Rate (NFIR) and Direct Cost of Technology Imports (DCTR).The study period was 1989-90 to 1992-93.The sample consisted of 1521 manufacturing companies, aggregated into 96 industries and four sectors. It is concluded that import intensity of exports has declined (from 10.9% in 1989-90 to 8.9% in 1992-93) for the study period. The share of imported raw material in total raw material consumed has fallen over period . It point towards import substitution .The correlation coefficient between exports and imported raw material consumed has fallen over study period (from 0.64 to 0.59).The high import intensities are observed in chemical and capital goods industries .The NFIR has increased the sample for study period(from 89% to 91%).It is highest for traditional exports and lowest for diamond cutting/trading .The DCTR has also increased slightly for study period (from 1.15 to 1.65) .The number of industries spending more than 1% of their sales on technology imports far also increased over the period.

Burange (2001) estimated import intensity of Indian manufacturing sector and the different industries over the period of 1978-79 to 1997-98.The study uses data of two types .One is from Annual Survey of Industries(ASI),which has been used for estimating import intensity for the years 1978-79,1983-84,1989-90,1993-94 and 1994-95.The other source of data is Centre for Monitoring Indian Economy (CMIE),which have been used to estimate import intensity, export intensity ,net foreign exchange inflow rate and import dependence of manufacturing activity in India for the period 1991-92 to 1997-98(i.e. post liberalisation period).Analysis based on ASI data shows that overall import intensity is fluctuating one , i.e. , upto 1983-84 it shows increasing trends but after that import intensity has declined during the years 1993-94.It has again increased in the year 1994-95.Similarly export intensity of manufacturing sector recorded a continuous rise during the period 1991-92 to 1997-98.On the basis of comparison of both export and import intensities o manufacturing sector, export performance of manufacturing sector is found to be very disappointing. Sample data also measures Net Foreign Inflow Rate (NFIR) and show that the net contribution of manufacturing sector to foreign exchange is negative for the period of 1991-92 to 1997-98.This is mainly because of decreasing price compeititiveness in international market over the period.

Ertat, Atyliz (2001) studied the turkish exports and imports for the time period of 31 years (1969-19990.For this purpose, the data was sourced from undersecretariat of foreign Trade, Economic Research Department in the form of SITC (Standard Industrial trade classification) 2- digit code. The study focused on measuring the country and commodity concentration of Turkish exports and imports for a period of 31 years. The study investigated 14 trading partners of Turkish trade (France, Germany, Great Britain, Italy, Netherland, Iraq, Iran, Saudi Arabia, Kuwait, Syria, aLebanon, USA, Canada and Japan) after 1980's reforms and 31 commodity groups for this purpose. The economic tools used for the country concentration are discrete concentration measures (CR) summary measures (Hirschman Herfindahl Index, Rosenbluth- Hall Tideman Index, Entropy Index) and finally the comprehensive measure of concentration which combines the characteristics of both discrete and summary measures. The economic tool to measure commodity concentration is simply the sum of share of the k highest ranked commodity groups and is denoted by (CR4). The study concluded that country concentration of Exports experienced a downward shift after 1980 while in case of imports, it was highly stable and the movement in the industrial commodity groups was mainly industry specific as shown in the case of "Fixed vegetable fats and oils" for import and for exports of "live animals".

Martimez, Lehman (2002) The study applied the gravity trade model to assess Mercosur-European Union trade, and trade potential following the agreements reached recently between both trade blocs. The model is tested for a sample of 20 countries, the four formal members of Mercosur plus Chile and the fifteen members of the European Union. A panel data analysis is used to disentangle the time invariant country-specific effects and to capture the relationships between the relevant variables over time. We find that the fixed effect model is to be preferred to the random effects gravity model. Furthermore, a number of variables, namely, infrastructure, income differences and exchange rates added to the standard gravity equation, are found to be important determinants of bilateral trade flows

Baltagi, Egger, Pjaffermayer (2003) discussed the full interaction effects design to analyze bilateral trade flows between EU15, USA and Japan and their most important 57 trading partners over the time period 1986-1997. Their analysis fully support the new trade theory and linder's hypothesis. The article declared the significance of all the interaction effects and absence of any of the effect will lead to biased estimates and misleading interpretation.

Padhan (2004) used the time- series analysis to investigate the relationship between exports and economic growth in India over the period, 1950-51 to 2000-01. The study finds the evidence of cointegration to establish a long run relationship between export and economic growth with the help of Johansen and Johansen Juselius co integration tests. The study also reveals that there is a unidirectional Granger causality between exports and economic growth of India and exports have a direct impact on economic growth of India.

C. Veeramani (2007), examined the sources of India's Exports growth in Pre- Reforms (before 1991) and Post –Reforms (after 1991) period by applying constant Market Share Analysis. The country's exports growth was not distinctively high till 2002, but after that its position starts improving. The study suggests that the country's exports should be concentrated in commodities which has high world demand and in faster regions of the world. The paper also concluded that the competitiveness effect is not the major contributing factor to the growth rate of exports in India in the post liberalization period. Infact, exports have been adversely affected by the appreciation of the real effective exchange rate during the post-reform period.

Amita (2008) investigated the different determinants of Gems and Jewellery exports like economic growth, employment levels; income levels tax rates and credit availability. The study reveals that the competition in Gems and Jewellery industry is based primarily on quality design, availability and product pricing. Government initiatives to promote Gems and Jewellery exports are also discussed in this report.

Kala Alok (2009) discussed the product-wise impact of global economic recession on the export performance of the Indian Gems and Jewellery sector. The study revealed the contrasting point that at world level, total Gems & Jewellery industry has shown a growth but India's Gems and Jewellery has witnessed decline. Further study reveals that cut & polished diamands showed decreasing export trends while gold jewelery exports registered an increase in the year.

Mahfuzkabir, Salim (2010) attempted to explain the pattern of trade with the help of augmented gravity model. It examined the significance of serial correlation, heteroscedasticity in both exports and imports of BIMSTEC (Bay of Bengal Initiative for Multi Sectoral Technical and Economic Cooperation. This study employed three inputs real depreciation, common language and distance elasticity. The estimates of regression showed that the imports of BIMSTEC supports linder's hypothesis, while the exports supports Heckscher- Ohlin Samuelson hypothesis.

Methodology

Data for Gems and Jewellery Trade taken from secondary sources analysed by growth rates, structure, concentration, competition, gravity model, import intensity, intra industry trade with the help of appropriate methods. The methodology used for this purpose is explained below:

- **Growth Rates of India's Gems and Jewellery Total Exports and it's categories/Sub Categories (Neena Malhotra, Meenu (2010)).**

Growth rates refer to the amount of increase that a specific variable has gained within a specific period and context. In order to find out the Growth Rates of India's Gems and Jewellery Exports and it's sub categories, the Annual Average Growth Rates will be worked out. The Growth Rates will be calculated by fitting the exponential function of the type:

$Yt=ab^te^u$

Transforming the above equation into linear form:

$\text{Log } y_t = \log a + t \log b + u \log e$

Where, Yt = value of dependent variable in the year t

T=trend variable

u=disturbance term

a and b=constants

For the estimated value of regression coefficient 'b' the compound growth rate 'r' was calculated as following:

$r(\%)=(b^{\wedge}-1) \times 100$

Where, ^b=estimated value of b

India's Exports of Gems and Jewellery Products during the Period 1990-91 to 2015-16

Year	Total Gems and Jewellery Exports	C & P Diamonds	Gold Jewellery Exports	Coloured Gemstones Exports	Pearls Exports	Synthetic Stones Exports	Non- Gold Jewellery Exports	Costume/Fashion Jewellery Exports	Rough Diamonds Exports
1991-92	5678	4523	453	210	9	15	18	2	0
1992-93	7234	5264	385	225	11.2	12	21	2	0
1993-94	8212	6732	392	232	13.21	20	23	3.42	0
1994-95	9298	7256	401	264	15.24	22	26	5.65	0
1995-96	10,201	7392	415	252	17.22	25	31	7.53	0
1996-97	11223	8294	464	282	19.21	28	35	9.22	107
1997-98	12505	9214	452	291	21.21	35	42	11.24	108
1998-99	13218	9304	525	352	25.25	42	45	15.25	115
1999-00	15204	13252	735	422	31.31	52	54	18.21	123
2000-01	18122	14163	822	521	35.3	54	58	18.55	201
2001-02	20158	15123	853	520	48.8	58	72	21.21	222
2002-03	22221	28124	902	820	52.2	62	81	20.21	241
2003-04	24312	21312	916	725	51.5	56	83	21.21	248
2003-04	25624	21028	1002	825	52.2	61	84	24.5	252
2004-05	31324	22020	1025	826	55.1	65	89	31.8	786
2005-06	51213	35124	1121	928	62.2	67	80	34.8	821
2006-07	82312	40125	1255	1123	68.8	72	81	35.2	912
2007-08	95915	62123	2134	1412	70.8	70	80	36.1	1028
2008-09	102167	80124	2214	1508	72.2	80	85	38.1	1512
2009-10	92134	85673	3564	1808	81.6	85	90	40.02	2015
2010-11	108976	82123	4896	2209	91.1	92	96	45.04	2121
2011-12	112586	78652	5265	3105	88.8	115	184	55.6	3124
2012-13	121684	80123	6578	3205	87.8	156	224	61.5	5671
2013-14	15623	92346	7156	4198	91.2	265	350	78.8	6734
2014-15	16234	102345	9867	8976	108.8	350	423	98.2	8897
2015-16	171244	112543	9856	5634	124.5	425	567	115.6	8764
2016-17	152664	123124	10104	6123	198	525	890	121.98	9134
2017-18	181434	131432	18567	7143	304	645	902	156.5	10178

Source: Gem and Jewellery Export Promotion Council (GJEPC), Ministry of Commerce and Industry, Government of India, New Delhi.

As a matter of fact, exports of gems and jewellery are increasing day by day with minor fluctuations. But sales of pearls and synthetic stones are declining continuously. This column shows that exports of coloured gem stones are declining continuously. Briefly, our main concern is the diminishing trends of gems and jewellery exports in the whole industry.

Conclusion

This paper concludes that there is a remarkable increase in INDIA'S Gems and Jewellery Exports and its eight sub- categories and the main factor responsible for increase in INDIA'S Gems and Jewellery Exports is the tremendous increase in the demand for rough diamond exports and our friendly trade policies which are favouring the promotion of Exports of INDIA'S Gems and Jewellery Exports and its sub-categories.

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