India's Exports of Gems and Jewellery Industry- SWOT Analysis

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Abstract

This paper examines the India's Gems and Jewellery Exports during the period 1991-92 to 2016-17. It measures their growth, structure and concentration. Their product concentration is measured with the help of Concentration ratio (CR), Hirschman- Herfindahl Index (HHI), Rosenbluth- Hall -Tideman Index (RHT), Comprehensive Measure of Concentration (CCI) and Entropy Index (H).

Keywords: CR,HHI,RHT,CIT,H

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 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.

Review of Literature

A brief review of literature related to the theme of present study gives an idea that most of the studies are based on India's total exports and India's total Gems and Jewellery Exports. Some of the studies are also based upon specifically Concentration of India's total Gems and Jewellery Exports.

Chandra, Rai Govind (1979) studied the Greek and Indian forms of Jewellery and also 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.

Varma, Manohar Lall (1983) studied the problems of the majority of Indian Diamond Exporters and found that the import of raw materials is the biggest problem for diamond manufacturers.

Nayyar, D. (1987) studied the India's Export Performance for the time period (1970-85). The study attempted to evaluate India's export performance in the recent past examining the underlying factors and assessing the relative importance of domestic and foreign constraints. The study sourced the data from

DGCI&S, Calcutta. It found that the impressive growth in exports between 1970 and 1978 was attributable to an unusual combination of external and internal factors.

Chand, Ramesh and S.C.Tewari (1991) studied the growth and instability of Indian exports and imports of agricultural commodities for the period 1970 to 1988. The study found that the imports of agricultural commodities pulses, vegetable oils and fertilizer exerted severe strain on India's foreign exchange earnings.

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

Malhotra, Meenu (2010) analysed the growth structure and concentration of Indices imports in order to find out the imports that are progressive and development oriented for our society. The study reveals the reasons for the dominance of imports like imports of base metal and articles or allied products which help the same industry and depend upon the pace of industrial development, infrastructural development and growth of the economy.

Padhi (2013) examined the manufacturing exports and its policies in India. The paper suggests that Growth in manufacturing exports can be effectively achieved by cost reduction practices like greater industrial differentiation and specialization.

Kapoor, ASSOCHAM (2015) examined whether the Indian Gems and Jewellery Industry has a potential to contribute to the governments "Make in India" initiative and various economic indicators like GDP, gross value added, indirect tax collections with the help of Leontief Input-Output multiplier by CSO matrix. The study concluded that the G& J industry has the great potential to contribute to the government's "Make in India" initiative and has a significant positive contribution in the increment of GDP, indirect tax collections, gross value added, employment and so on.

Indian Gems and Jewellery sector has the potential to augment growth and development of the country as it plays a major role in employment generation and exports. With the growth in this sector, its share in GDP tends to increase and also supplements other sectors of the economy. Such a study enables us to analyse the structural shifts taking place in the Gems and Jewellery exports, whereas export concentration reflects the degree to which India's Gems and Jewellery exports are concentrated in a small number of categories or a small number of trading partners.

The present paper makes an attempt to empirically analyse the growth, structure and concentration of India's Gems and Jewellery exports and changes therein overtime. It has been organized into four sections:
1. Section I deals with data base and methodology.

2. Section II discusses the India's Gems and Jewellery Exports Scenario and analyse their growth.
3. Section III deals with the structure and concentration of India's Gems and Jewellery exports.
4. Section IV deals with conclusions and policy implications.

Database and Methodology

The data for the present study have been collected from various issues of Handbook of statistics on Indian Economy, Reserve Bank of India. They are also taken from secondary sources and analysed by calculating growth rates, percentage shares and concentration. The methodology used is explained below:

Growth Rates of India's Gems and Jewellery Total Exports and its categories/Sub Categories

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:

$Yt = ab^t e^u$

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

The Growth rates will be calculated for whole of the study period (1990-91 to 2016-17) and also for the sub-periods

a. 1991-92 to 2000-01,
b. 2001-02 to 2010-11,
c. 2011-12 to 2016-17,
d. 1991-92 to 1995-96,
e. 1996-97 to 2000-01,
f. 2001-02 to 2005-06,
g. 2006-07 to 2010-11.

Structure of India's Gems and Jewellery Exports

For analysing the structure, following shares will be calculated:-

(A)At all points of study period(1990-91 to 2016-17)
1. The shares of Gems and Jewellery Exports in total Exports.
2. The share of Gems and Jewellery Exports in G.D.P.
3. The share of sub-categories in total Gems and Jewellery Exports.
4. The share of sub-categories in total Exports.
5. The share of sub-categories in G.D.P.

(B) At selected points of study period(1991-92, 1995-96, 2000-01, 2005-06, 2009-10, 2010-11, 2011-12, 2012-13, 2013-14,2014-15,2015-16, 2016-17).
1. The shares of Gems and Jewellery Exports in total Exports.

2. The share of Gems and Jewellery Exports in G.D.P.
3. The share of sub-categories in total Gems and Jewellery Exports.
4. The share of sub-categories in total Exports.
5. The share of sub-categories in G.D.P.

Concentration of India's Gems and Jewellery Exports

By Concentration of India's Gems and Jewellery Exports , we mean when total Gems and Jewellery Exports are controlled by a small number of leading Gems and Jewellery products (commodity concentration) or leading markets(market concentration).The most popular and simplest index for the measurement of concentration is Concentration Ratio.

In many studies, a single measure of concentration is decided upon as being the most appropriate one for the problem at hand. Appropriateness depends on the use to be made of the concentration measure and the nature of the data on which the estimate is based (Bailey and Boyle (1971:702). Erlat and Sahin (1998:56), Ergun (1991) and Togan (1994) are examples of such studies. We will follow Erlat (1975, 1976) and will use five different measures of concentration and compare the results of these different measures.

All five concentration measures are based on the shares of individual elements. The individual elements, in the present context, are the trading partners of India's Gems and Jewellery Exports. Let m denote the number of these trading partners and qit represents the exports to the ith partner country at time t. Then the sum of qit from 1 to m will be qt and the share of each country in exports of that commodity and it's sub-parts for year t, would be expressed as:

pit=qit/qt

i = 1,...,m and t = 1,...,T

In this study m is equal to 51, T is equal to 28 and there are 8 commodity groups. Therefore, a value for pit is calculated for each commodity group and country at time t. All the concentration measures below are based on pit.

The five measures of concentration can be classified into three groups:-

Discrete Measures of Concentration

Discrete measures of concentration consider only some of the pits and the first measure, Concentration Ratio (CR), belongs to this group. CR shows the total share of k countries which have the largest shares in exports of a commodity group. It is denoted by CR(k) and calculated as,

$$CR(k)_t = \sum_{i=1}^{k} p_{it}, \qquad k < m$$

In most applications CR (4), CR(8) or CR(16) are used; the selection of k is arbitrary.

2. The second group of measures are referred to as summary measures. Three of our five measures will belong to this group.
a. The Hirschman-Herfindahl Index (HH) simply consists of the sum of pits weighted by themselves:

The HH index lies between 1/m, the case where all pits are equal, and 1, where there is only one pit, implying that qit = qt.1

$$HH_t = \sum_{i=1}^{m} p_{it}^2$$

b. The next summary measure, the Rosenbluth-Hall-Tideman (RHT) index, requires the pit to be put in descending order because the pit are weighted by their ranks, i. Small sized countries which do not have a significant effect in the HH index, could now have a larger effect on concentration this way. RHT is calculated as:

$$RHT_t = \left[2\sum_{i=1}^{m} (i.p_i) - 1 \right]^{-1}$$

c. The final summary measure of concentration is the Entropy Index (H). The pits are weighted by the natural logs of the inverses of the pits:

$$E_t = \sum_{i=1}^{m} p_{it}.ln\left(\frac{1}{p_{it}}\right)$$

Hence, small values of the entropy index reflect high concentration, as opposed to the previous three measures.

3. The final group of measures combine the characteristics of both discrete and summary measures. Our last measure of concentration, the Comprehensive Measure of Concentration (CCI), belongs to this group. As with RHT, it requires the pit to be put in descending order but its main focus is on the largest pit, p1t according to this ordering. The remaining pits are used to adjust p1t:

$$CCI_t = p_{it} + \sum_{i=2}^{m} p_{it}^2 (1 + (1 - p_{it}))$$

With the help of the above discussed concentration measures, we did the calculations of commodity concentration of India's Gems and Jewellery exports. The concentration measures denoted by CR(4) for Gems and Jewellery products is calculated for the study period . After this, the number of years that a commodity has a share in the concentration ratio (4) is found and then commodities are ranked accordingly. The maximum value that a commodity can take is 28 as the study period covered 28 years and the minimum value is zero.

The Gems and Jewellery products can be mainly classified into eight major groups based on the Gems and Jewellery Export Promotion Council (GJEPC) export data such as following:
1. Cut and Polished Diamonds
2. Gold Jewellery
3. Coloured Gemstones
4. Pearls
5. Non-gold Jewellery
6. Costume/Fashion Jewellery
7. Synthetic Stones
8. Rough Diamonds

Objectives of the Study

After identifying the foresaid gaps in the available literature, the present study will be in the direction of filling up these gaps to an extent. Therefore, the major objectives of this study are:
1. To analyse the Growth and Structure of India's Manufacturing Exports, India's Gems and Jewellery Exports and its sub-categories.
2. To analyse the concentration and compeititiveness of India's Gems and Jewellery Exports and its sub- categories.
3. To analyse the significance of determinants of India's Gems and Jewellery Exports and its sub-categories.
4. To study the India's trade policies and their impact on India's Gems and Jewellery Exports.
5. To derives the policy Implications.

HYPOTHESIS

Keeping in view the foresaid objectives of the proposed study the following hypothesis will be tested:

$H1_0$

India has a Revealed Comparative Advantage (RCA) in Gems and Jewellery Exports over the total Gems and Jewellery Exports of the world.

$H2_0$

India's Gems and Jewellery Exports need to improve compeititiveness in terms of diversification of products and market.

$H3_0$

Similarity of GDP between India and the importing country is a significant determinant of India's Gems and Jewellery Exports.

$H4_0$

Geographical distance between India and the importing country is a significant determinant of India's Gems and Jewellery Exports.

India's Gems and Jewellery Exports Scenario

To analyze the India's Gems & Jewellery exports, it is also pertinent to consider the total exports, manufactured exports and GDP of India. This section is denoted to India's total exports, manufactured goods exports, share of total exports in GDP, share of Gems and Jewellery exports in GDP, share of manufactured exports in GDP, share of manufactured goods exports in total exports, change in Gems and Jewellery exports overtime, share of Gems and Jewellery exports in total exports and in total manufactured exports (Table1& 2).

As per table1, India's total exports (32527.28 crores in 1990-91 to 1849430 crores in 2016-17), manufactured goods exports (26092 crores in 1990-91 to 1543726 crores in 2016-17) and Gems and Jewellery exports (5360 crores in 1990-91 to 54084 crores in 2016-17) have registered a continuous increase for the study period 1990-91 to 2016-17. The share of total exports in GDP measures the relative contribution of exports in a given country's income. As per table 1, the percentage share of India's total exports in GDP fluctuated between 5.43 percent and 10.02 percent for the years 1990-91 to 2003-04. Thereafter, it increased to 15.83 percent in 2008-09, but due to global economic slow down , the share

declined to 13.8 percent in 2009-10 , further it recovered and increased to 18.08 percent in the year 2013-14, but started declining and reached to 15.16 percent in 2016-17. The share of manufactured goods in GDP fluctuated between 5.43 percent and 10.02 percent for the years1990-91 to 2003-04 and it stabilized around 9 percent for four years (2004-05 to 2007-08). The share of manufactured goods exports in GDP was around 10 percent for the years 2009-10 to 2012-13. The share increased continuously 11.09 percent in 2013-14 to 14.52 percent in 2016-17. The percentage share of Gems & Jewellery exports in GDP is also increasing but at a very slow pace from 0.89 percent to 1.9 percent for the years 1990-91 to 2003-04. The share of Gems &Jewellery exports in GDP declined from 2.36 percent in 2004-05 to 1.80 percent in 2008-09, but after that it increased to 2.64 percent in 2011-12. For the rest of the years(2012-13 to 2016-17), the share of Gems & Jewellery exports fluctuated between 2.3 percent to 2.5 percent.

Table1: India's Total Exports, Manufactured Goods Exports, Gems and Jewellery Exports and their share in GDP

Years	Total exports (in crores)	Total Gems and Jewellery Exports (in crores)	Total manufactured exports (in crores)	GDP at factor cost(in crores)	Total exports/ GDP*100	Manufactured Exports/ GDP*100	G&J Exports /GDP *100
1990-91	32527.28	5360	26092	598701	5.432976	4.358102	0.895272
1991-92	44041.81	7234	32413	614235	7.170189	5.276971	1.177725
1992-93	53688	9108	40660	704523	7.620475	5.771281	1.348856
1993-94	69748.85	10982	52245	818628	8.520213	6.38202	1.58106
1994-95	82673	12856	64067	956704	8.64144	6.696638	1.52994
1995-96	106353.4	14730	79433	1119567	9.499512	7.094975	1.620716
1996-97	118817.3	16604	87377	1302876	9.119617	6.706471	1.421547
1997-98	130100.6	18478	98660	1448723	8.980364	6.810136	1.419112
1998-99	139751.8	20352	108506	1669608	8.370336	6.498891	1.559528
1999-00	159095.2	22226	128761	1859624	8.555235	6.924034	1.891296
2000-01	201356.5	24100	156858	2001721	10.05917	7.836157	1.762134
2001-02	209018	25974	159146	2177243	9.600123	7.309519	1.647129
2002-03	255137.3	27848	194765	2345089	10.87964	8.305229	1.886154
2003-04	293366.8	29722	222829	2926341	10.02504	7.614594	1.904289
2004-05	375339.5	31596	272872	2971812	12.62999	9.182007	2.363508
2005-06	456417.9	33470	321261	3390915	13.46002	9.474168	2.170011
2006-07	571779.3	35344	384261	3954210	14.46001	9.717769	1.958172
2007-08	655863.5	37218	414599	4583214	14.31012	9.046032	1.836745
2008-09	839978	39092	566402	5304432	15.8354	10.6779	1.802461
2009-10	845534	40966	654656	6109316	13.84008	10.7157	2.276137
2010-11	1142922	42840	719863	7552008	15.13401	9.532074	2.552897
2011-12	1465919	44714	888599	8395823	17.4601	10.58382	2.643576
2012-13	1634319	46588	995441	9392601	17.40007	10.59814	2.493558
2013-14	1894182	48462	1162383	10476623	18.08008	11.09502	2.38951
2014-15	1896450	50336	1359988	10527674	18.01395	12.91822	2.395686
2015-16	1716380	52210	1426758	11386145	15.07429	13.41618	2.260818
2016-17	1849430	54084	1543276	12196006	15.16423	14.52934	2.385207

Source: Author's calculation

Table 2: India's percentage share of manufactured goods exports and gems and jewellery exports in total exports, percentage change in manufactured exports and gems & jewellery exports and %share of gems & jewellery exports in total exports.

Years	%change in manufactured exports	%share of manufactured goods exports in total exports	%change in gems &jewellery exports	%share of gems & jewellery exports in manufacturing exports	%share of gems and jewellery exports in total exports
1990-91	_	80.21575	-	20.5427	16.47848
1991-92	15.41447	73.59598	34.96269	22.31821	16.4253
1992-93	25.44349	75.73387	31.36577	23.37186	17.70042
1993-94	28.49238	74.90446	36.1991	24.77366	18.55658
1994-95	22.628	77.49447	13.08816	22.8464	17.70469
1995-96	23.98427	74.68779	23.96666	22.84315	17.06104
1996-97	10.00088	73.53895	2.072196	21.19665	15.5878
1997-98	12.91301	75.83362	11.00373	20.83823	15.80239
1998-99	9.979728	77.64193	26.65013	23.99683	18.6316

1999-00	18.66717	80.9333	35.07566	27.31495	22.10689
2000-01	21.82105	77.90064	0.290012	22.48722	17.51769
2001-02	1.458644	76.13985	1.669832	22.53403	17.15737
2002-03	22.38134	76.33733	23.33947	22.71045	17.33655
2003-04	14.40916	75.95577	25.98571	25.00841	18.99533
2004-05	22.45803	72.70005	26.0435	25.74064	18.71346
2005-06	17.73322	70.38747	4.76123	22.9045	16.1219
2006-07	19.61022	67.20443	5.228093	20.15043	13.54198
2007-08	7.895155	63.21422	8.719746	20.30443	12.83529
2008-09	36.61442	67.43058	13.57577	16.88029	11.38248
2009-10	15.58151	64.62	45.4408	21.24114	16.44599
2010-11	9.960498	62.98444	38.64518	26.78218	16.86861
2011-12	23.44002	60.6172	15.12228	24.97752	15.14067
2012-13	12.02365	60.90861	5.523767	23.52827	14.33074
2013-14	16.77066	61.36596	6.886982	21.53679	13.21626
2014-15	16.99999	71.7123	0.746984	18.54502	13.29906
2015-16	4.909632	83.126	2.065739	18.0423	14.99784
2016-17	8.166627	83.44603	13.00598	18.84951	15.72917

Source: Author's calculations

As per table 2, the percentage change in manufactured products is higher than 20 percent for the years 1992-93 to 1995-96,2000-01,2002-03,2004-05 and 2011-12. It reached the maximum at 36 percent in 2008-09 and lowest at 9 percent in 2010-11 due to global crisis. For the rest of the years (2013-14 to 2016-17) , the share fluctuated between 4.909 percent to 16.99 percent. The share of India's manufactured goods exports in total exports continuously remained more than 70 percent for the years 1991-92 to 2005-06. Thereafter, their share in total exports declined and remained less than 70 percent till 2013-14.In the study period(1990-91 to 2016-17) the maximum percentage share of manufactured exports in total exports is recorded for the year 2016-17 (i.e.,80.6 percent) and lowest is recorded for the year 2011-12(i.e.,60.61 percent). There a wide dispersion in the changes in Gems & Jewellery exports ranging from as high as 38.64 percent in 2010-11 to 0 .29 percent in 2000-01.

The share of gems and jewellery exports in total manufacturing exports remained more than 20 percent for the years 1990-91 to 2007-08 and 2009-10 to 2013-14. In the study period (1990-91 to 2016-17), the maximum percentage share of Gems and Jewellery exports in total manufacturing exports is recorded for the year 2010-11(i.e.,26.18 percent) and lowest is recorded in the year 2008-09(due to global economic recession, i.e., 16.88 percent).The share of Gems and Jewellery exports in total exports remained more than 15 percent for the years 1990-91 to 2005-06,2009-10 to 2011-12, 2016-17. In the study period(1990-91 to 2016-17), the maximum percentage share of Gems and Jewellery exports in total exports is recorded for the year 2003-04(i.e., 18.99 percent) and lowest is recorded for the year 2008-09(i.e.,11.38 percent). The shares of total exports in GDP; manufactured exports in GDP and total exports; Gems and Jewellery exports in GDP, manufactured exports and total exports for the study period indicate a significant contribution of manufactured goods exports and Gems & Jewellery exports to total exports and also to GDP.

Structure of India's Gems & Jewellery Exports

Table3 provide an analysis of the structure of India's Gems and Jewellery exports. There are some categories of Gems and Jewellery exports which had a very high share in total exports like cut & polished diamonds, the share of gold jewellery continuously increased in total exports throughout the study period. The share of cut and polished diamonds recorded high in total exports but its share continuously declined in the recent few years from 14 percent in 1990-91 to 12 percent in 1997-98 to almost 10 percent in 2016-17. The share of gold jewellery continuously increased from 1 percent in 1990-91 to 2.3 percent in 1997-98 to almost 4 percent in 2016-17. Some categories recorded very low share in total exports , i.e., almost negligible , less than even .05 percent, are pearls, non-gold jewellery, synthetic stones and costume/fashion jewellery. There are some categories which had a significant share but declined throughout the study period, i.e., coloured gemstones and rough diamonds.

Table3: Structure of India's Gems and Jewellery Exports and its sub-categories in total exports (Percentage share for the years 1990-91 to 2016-17)

Years	share of gems and jewellery exports	share of c &p diamonds	share of gold jewellery exports	share of coloured gemstones exports	share of pearls exports	share of non-gold jewellery exports	share of synthetic stones exports	share of costume/ fashion jewellery exports	share of rough diamonds exports
1990-91	16.47848	14.56931	1.119061	0.639463	0.024595	0.046115	0.024595	0.006148685	0
1991-92	16.4253	13.99352	1.702927	0.583536	0.022706	0.056764	0.022706	0.006811709	0
1992-93	17.70042	15.48949	1.572046	0.502906	0.018626	0.054016	0.018626	0.022351363	0
1993-94	18.55658	16.35869	1.647339	0.447319	0.020072	0.032975	0.020072	0.025806877	0
1994-95	17.70469	15.20811	1.837359	0.534636	0.018144	0.043545	0.018144	0.024191695	0

1995-96	17.06104	14.57499	1.775214	0.458848	0.017865	0.078042	0.017865	0.015044183	0.099668
1996-97	15.5878	12.55373	2.218532	0.404823	0.010941	0.086688	0.010941	0.017674194	0.26343
1997-98	15.80239	12.74322	2.380466	0.376632	0.01153	0.099154	0.01153	0.009223632	0.138354
1998-99	18.6316	15.07959	2.534493	0.534519	0.011449	0.17388	0.011449	0.015742194	0.243288
1999-00	22.10689	18.04391	2.950435	0.556271	0.010685	0.131996	0.010685	0.016342416	0.365819
2000-01	17.51769	13.92654	2.592417	0.458888	0.00596	0.126641	0.00596	0.02185179	0.354098
2001-02	17.15737	13.56151	2.649533	0.414797	0.00622	0.14592	0.00622	0.022964529	0.321982
2002-03	17.33655	13.44296	2.861596	0.362942	0.008231	0.160698	0.008231	0.018029508	0.455441
2003-04	18.99533	13.49539	4.177364	0.278832	0.006477	0.155778	0.006477	0.016020899	0.835473
2004-05	18.71346	13.34099	4.522839	0.230192	0.003197	0.154527	0.003197	0.010657019	0.426014
2005-06	16.1219	11.42074	3.747456	0.225765	0.002331	0.141189	0.002331	0.011636266	0.546392
2006-07	13.54198	8.610065	4.111214	0.194586	0.001947	0.138095	0.001947	0.006226179	0.445759
2007-08	12.83529	8.715018	3.412208	0.169497	0.002429	0.140476	0.002429	0.003380277	0.347682
2008-09	11.38248	6.999287	3.685549	0.142573	0.00197	0.103853	0.00197	0.004869175	0.413694
2009-10	16.44599	10.18599	5.416946	0.160623	0.001928	0.230864	0.001928	0.008607578	0.416946
2010-11	16.86861	11.58486	4.620266	0.150638	0.001522	0.176287	0.001522	0.007013602	0.326097
2011-12	15.14067	9.950717	4.625558	0.123865	0.00131	0.171686	0.00131	0.006285477	0.260956
2012-13	14.33074	9.353711	4.415074	0.121421	0.001322	0.172267	0.001322	0.006177497	0.246224
2013-14	13.21626	8.80587	3.914798	0.109708	0.001221	0.157698	0.001221	0.005937127	0.220622
2014-15	13.29906	8.768678	3.987669	0.114764	0.001357	0.167884	0.001357	0.005928445	0.252818
2015-16	14.99784	9.754169	4.600167	0.13275	0.00161	0.197633	0.00161	0.006615085	0.288771
2016-17	15.72917	10.82947	4.29136	0.124888	0.001565	0.195155	0.001565	0.006260307	0.279983

Table 4 provides an analysis of India's Gems and Jewellery exports and its sub-categories in GDP. The share of India's Gems and Jewellery exports and its sub-categories in GDP measures the relative contribution of India's Gems and Jewellery exports and its sub-categories in a given country's income for the study period(1990-91 to 2016-17). The share of India's Gems and Jewellery exports in GDP fluctuated between 0.89 percent in 1990-91 to 2.84 percent in 2016-17. The share of India's Gems and Jewellery exports in GDP reached its highest in 2011-12 (2.64 percent) and lowest in 1990-91(0.89 percent). The share of sub-categories of India's Gems and Jewellery exports in GDP is very low and there are only two sub-categories of India's Gems and Jewellery exports whose contribution is still relevant in GDP, i.e., cut &polished diamonds (with a share fluctuating between 0.79 percent and 1.75 percent for the study period 1990-91 to 2016-17) and gold jewellery (with a share fluctuating between 0.06 percent to 0.76 percent for the study period 1990-91 to 2016-17).

Table4: Structure of India's Gems and Jewellery Exports and its sub-categories in GDP at factor cost (Percentage share for the years 1990-91 to 2016-17)

Years	share of gems and jewellery exports	share of c &p diamonds	share of gold jewellery exports	share of coloured gemstones exports	share of pearls exports	share of non-gold jewellery exports	share of synthetic stones exports	share of costume/ fashion jewellery exports	share of rough diamonds exports
1990-91	0.895272	0.791547	0.060798	0.034742	0.001336	0.002505	0	0.000334	0
1991-92	1.177725	1.003362	0.122103	0.041841	0.001628	0.00407	0.000163	0.000488	0
1992-93	1.348856	1.180373	0.119797	0.038324	0.001419	0.004116	0.000284	0.001703	0
1993-94	1.58106	1.393795	0.140357	0.038113	0.00171	0.00281	0.000122	0.002199	0
1994-95	1.52994	1.3142	0.158774	0.0462	0.001568	0.003763	0.000836	0.002091	0
1995-96	1.620716	1.384553	0.168637	0.043588	0.001697	0.007414	0.001072	0.001429	0.009468
1996-97	1.421547	1.144852	0.202322	0.036918	0.000998	0.007906	0.000691	0.001612	0.024024
1997-98	1.419112	1.144387	0.213774	0.033823	0.001035	0.008904	0.000552	0.000828	0.012425
1998-99	1.559528	1.262212	0.212146	0.044741	0.000958	0.014554	0.000599	0.001318	0.020364
1999-00	1.891296	1.543699	0.252417	0.04759	0.000914	0.011293	0.000592	0.001398	0.031297
2000-01	1.762134	1.400895	0.260776	0.04616	0.000599	0.012739	0.00035	0.002198	0.035619
2001-02	1.647129	1.301922	0.254358	0.039821	0.000597	0.014009	0.000505	0.002205	0.030911
2002-03	1.886154	1.462546	0.311331	0.039487	0.000895	0.017483	0.000213	0.001962	0.04955
2003-04	1.904289	1.352918	0.418782	0.027953	0.000649	0.015617	0.000171	0.001606	0.083756
2004-05	2.363508	1.684965	0.571234	0.029073	0.000404	0.019517	0.000168	0.001346	0.053806
2005-06	2.170011	1.537234	0.504408	0.030388	0.000314	0.019004	0.000165	0.001566	0.073544
2006-07	1.958172	1.245017	0.594482	0.028137	0.000281	0.019969	8.5E-05	0.0009	0.064457
2007-08	1.836745	1.24713	0.488291	0.024255	0.000348	0.020102	9.82E-05	0.000484	0.049754
2008-09	1.802461	1.108365	0.583621	0.022577	0.000312	0.016445	0.000103	0.000771	0.06551
2009-10	2.276137	1.409748	0.749709	0.02223	0.000267	0.031952	0.000107	0.001191	0.057706
2010-11	2.552897	1.753254	0.699232	0.022798	0.00023	0.026679	0.0001	0.001061	0.049352
2011-12	2.643576	1.737405	0.807627	0.021627	0.000229	0.029977	9.7E-05	0.001097	0.045563

2012-13	2.493558	1.627552	0.768226	0.021127	0.00023	0.029975	9.85E-05	0.001075	0.042843
2013-14	2.38951	1.592108	0.707799	0.019835	0.000221	0.028512	9.68E-05	0.001073	0.039889
2014-15	2.395686	1.579585	0.718337	0.020674	0.000244	0.030242	0.000105	0.001068	0.045542
2015-16	2.260818	1.470371	0.693442	0.020011	0.000243	0.029792	0.000103	0.000997	0.04353
2016-17	2.385207	1.642206	0.650752	0.018938	0.000237	0.029594	0.000107	0.000949	0.042457

Source: Author's calculations.

As per table5, the changes in the structure of India's gems and jewellery exports have been analysed by measuring the share of various sub-categories of India's gems and jewellery exports at all points of time during the study period 1990-91 to 2016-17. Table 4 gives the percentage share of all the sub-categories of India's gems and jewellery exports in total India's gems and jewellery exports.

Cut and polished diamonds

This category is the most important category in India's gems and jewellery exports. Infact, India is today the largest cutting and polishing centre for diamonds in the world and exports 95 percent of the world diamonds, according to Gems and Jewellery Export Promotion Council (GJEPC). India's share in global polished diamond market is estimated to be 70 percent in terms of value, 85 percent in terms of volume, and 92 percent in terms of prices. India has been adding modern techniques and establishing several well organised polishing units to improve productivity and need of growing global demand (www. Internationalseminar.org). It recorded atleast more than 60 percent of the share of the India's total gems and jewellery exports for the whole of the study period 1990-91 to 2016-17. However, the share of cut & polished diamonds exports in total India's gems and jewellery exports continuously declined throughout the study period (1990-91 to 2016-17), still was highest contributor. The category of cut & polished diamonds exports recorded 88.4 percent share for the year 1990-91, The share declined to 81.62 percent for the year 1999-2000 and further to 70.83 percent in 2005-06. The share further declined to 65 percent in 2011-12, but after that it increased to 66 percent in 2013-14, then again it declined to 65 percent for the subsequent two years ,then it increased to 68 percent in 2016-17. The share fluctuated between 3.4 percent to 11.4 percent for the years 1990-91 to 2009-10. For the rest of the study period, the share has been registered between 12 and 18 percent for the period 2011-12 to 2016-17. The highest share was 88 percent in 1990-91 and 2003-04 and lowest was 61.49 percent for the year 2008-09 (due to global economic slow down).

Gold Jewellery

This category is the second most important category in India's Gems and Jewellery exports. This category has recorded even less than 0.5 percent in India's GDP at factor cost and nearly 4% in India's total exports. The share of gold jewellery in India's total Gems and Jewellery exports registered a continuous increase except for few years for the whole study period 1990-91 to 2016-17. The category of gold jewellery exports had a share of 6.79 percent in 1990-91, which raised to 10.40 percent for the year 1995-96 and further raised to 15 percent in 1997-98. Afterwards, this category showed a declining trend and it falls to 13 percent in 1999-00. Furthermore, this

category showed a rising trend and reached 24 percent in 2004-05 and 32 percent in 2009-10. This category experienced a share of 27 percent in 2016-17. The highest share of this category was 32.93 percent for the year 2009-10 and lowest share of this category was 6.79 percent for the year 1990-91. This sector had shown a tremendous growth in India's Gems and Jewellery exports.

Coloured Gemstones

This category has recorded even less than 0.05 percent in India's GDP and nearly 0.1 percent in India's total exports. The share of coloured gemstones in India's total Gems and Jewellery exports showed a decreasing trend for the whole of the study period 1990-91 to 2016-17. The category of coloured gemstones exports experienced a share of 3.88 percent in 1990-91. The share declined to 2.68 percent in 1995-96 and further declined to 1.40 percent in 2005-06. This category further declined to 0.89 percent in 2010-11 and 0.79 percent in 2016-17.

Pearls

This category has recorded even less than 0.02 percent in India's total GDP and total exports. It recorded 0.14 percent share in the year 1990-91, which decreased to 0.070 percent in the year 1996-97 and thereafter it continuously declined throughout the study period. The share even remained less than 0.05 percent for the years 1999-00 to 2016-17. The highest and lowest shares were 0.14 percent and 0.008 percent for the years 1990-91 and 2011-12.

Non-Gold Jewellery

This category has recorded even less than 0.01 percent in India's total GDP and 0.2 percent in India's total exports. It recorded 0.27 percent share in the year 1990-91, which increased to 0.55 percent in 1996-97. Further the share of this category slightly improved to 1.01 percent in 2006-07 and 1.24 percent in 2016-17. The highest share of this category was 1.31 percent in 2015-16 and lowest share was 0.17 percent in 1993-94.

Synthetic Stones

This category has recorded even less than 0.02 percent in India's total exports and .0001 percent in India's total GDP. It recorded 0.013 percent in the year 1991-92, which increased to 0.048 percent in 1996-97, thereafter it continuously declined throughout the study period and recorded 0.004 percent in 2016-17. The highest share of this category was 0.06 percent in 1995-96 and lowest share was 0.0036 percent in 2011-12.

Costume/ Fashion Jewellery

This category has recorded even less than 0.02 percent in India's total exports and 0.0003 percent in India's total GDP. It recorded 0.03 percent in the year 1990-91, which increased to 0.13 percent in 2001-02. Further the share of this category continuously declined throughout the study period and recorded 0.039 percent in 2016-17. The highest share

of this category was 0.13 percent in 2001-02 and lowest share was 0.02 percent in 2007-08.

Rough Diamonds

This category has recorded even less than 0.8 percent in India's total exports and 0.08 percent in India's total GDP. It recorded 0.58 percent in the year 1995-96, which increased to 1.8 percent in 2000-01. Further, the share of this category improved to 3.38 percent in 2005-06 and recorded a decline to1.78 percent in 2016-17. The highest share of this category was 4.39 percent in 2003-04 and lowest share was 0.58 percent in 1995-96.

The sub-categories of India's gems and Jewellery exports whose share is very low and almost continued to be so throughout the study period (i.e., 1990-91 to 2016-17) may be described as low and constant categories of India's Gems and Jewellery exports(with a share of less than even 5%). The sub –categories of India's Gems and Jewellery exports whose share is very high described as leading categories of India's gems and Jewellery exports(with a share of more than 5 % for the study period 2016-17). The sub-categories of India's Gems and Jewellery exports whose share is very less ,had almost negligible impact on India's total Gems and Jewellery exports considered as lagging categories of India's Gems and Jewellery exports(with a share of less than 2 percent for the study period 1990-91 to 2016-17).

Analysis of the structure of India's Gems and Jewellery exports showed that:

Low and Constant Categories

Rough diamonds and coloured gemstones exports.

Leading Categories

Cut & polished diamonds and gold jewellery.

Lagging Categories

Pearls, non -gold jewellery, synthetic stones and costume/fashion jewellery exports.

Table5: Structure of sub-categories of India's Gems and Jewellery Exports in India's total Gems and Jewellery exports(Percentage share for the years 1990-91 to 2016-17)

Years	share of c &p diamonds	share of gold jewellery exports	share of coloured gemstones exports	share of pearls exports	share of non-gold jewellery exports	share of synthetic stones exports	share of costume/ fashion jewellery exports	share of rough diamonds exports
1990-91	88.41418	6.791045	3.880597	0.149254	0.279851	0	0.037313	0
1991-92	85.19491	10.36771	3.552668	0.138236	0.34559	0.013824	0.041471	0
1992-93	87.50921	8.881406	2.841208	0.10523	0.305167	0.021046	0.126276	0
1993-94	88.15576	8.877385	2.410569	0.108167	0.177702	0.007726	0.139071	0
1994-95	85.89875	10.37781	3.019744	0.10248	0.245952	0.054656	0.13664	0
1995-96	85.42849	10.40507	2.689446	0.104712	0.457426	0.066134	0.088179	0.584183
1996-97	80.53561	14.23249	2.597052	0.070191	0.556125	0.048593	0.113385	1.689974
1997-98	80.64108	15.06396	2.383384	0.072961	0.627462	0.038912	0.058369	0.875529
1998-99	80.93556	13.6032	2.868884	0.061449	0.933251	0.038405	0.084492	1.305784
1999-00	81.62122	13.34622	2.516278	0.048335	0.597083	0.031276	0.073925	1.654772
2000-01	79.4999	14.79885	2.619567	0.03402	0.722933	0.019845	0.124741	2.021376
2001-02	79.04188	15.44253	2.417601	0.03625	0.850482	0.030673	0.133846	1.876638
2002-03	77.54115	16.50615	2.093507	0.047477	0.926931	0.011304	0.103997	2.627057
2003-04	71.04583	21.99153	1.467896	0.034095	0.820084	0.008972	0.084341	4.398306
2004-05	71.29088	24.16891	1.230086	0.017085	0.825752	0.007119	0.056948	2.276513
2005-06	70.83991	23.2445	1.40036	0.01446	0.875756	0.007624	0.072177	3.389128
2006-07	63.58055	30.35903	1.436906	0.014374	1.019757	0.004339	0.045977	3.291686
2007-08	67.89889	26.58459	1.320556	0.018923	1.094451	0.005346	0.026336	2.708799
2008-09	61.49177	32.37914	1.252564	0.01731	0.912391	0.005721	0.042778	3.634483
2009-10	61.93601	32.9378	0.976668	0.011722	1.403769	0.004689	0.052338	2.535245
2010-11	68.67704	27.38974	0.893006	0.009025	1.045058	0.003921	0.041578	1.933162
2011-12	65.72176	30.55055	0.818094	0.008651	1.133934	0.003667	0.041514	1.723541
2012-13	65.27026	30.80842	0.847274	0.009222	1.202084	0.003949	0.043107	1.718155
2013-14	66.62906	29.62108	0.830099	0.009235	1.193213	0.00405	0.044923	1.669322
2014-15	65.93458	29.98459	0.862952	0.010202	1.262373	0.004397	0.044578	1.901019
2015-16	65.03714	30.67219	0.885125	0.010737	1.317745	0.004565	0.044107	1.925414
2016-17	68.8496	27.28281	0.793991	0.009952	1.240722	0.004479	0.039801	1.780024

Source: Author's calculations.

Table 6 provide an analysis of the structure of India's Gems and Jewellery exports for the selected years. There are some categories of Gems and Jewellery exports which recorded a very high share in total exports like cut & polished diamonds(almost above 60 percent), the share of gold jewellery continuously increased throughout the study period. The share of cut and polished diamonds recorded high in total exports but its share continuously declined from 13percent in 1991-92 to 10 percent in 2009-10 to 8 percent in 2015-16. Furthermore, its share increased to 10 percent in 2016-17. The share of gold jewellery continuously increased from 1.7 percent in 1991-92 to 3.7 percent in 2005-06 to almost 4.2 percent in 2016-17. Some categories have a very low share in total exports, i.e., almost

negligible, less than even .05percent, they are pearls, non-gold jewellery, synthetic stones and costume/fashion jewellery. While some categories which had a significant share but declined through the selected years, i.e., coloured gemstones and rough diamonds.

Table 6: Structure of India's Gems and Jewellery Exports and its sub-categories in total exports (Percentage share for the selected years)

Years	share of gems and jewellery exports	share of c &p diamonds	share of gold jewellery exports	share of coloured gemstones exports	share of pearls exports	share of non-gold jewellery exports	share of synthetic stones exports	share of costume/ fashion jewellery exports	share of rough diamonds exports
1991-92	16.4253	13.99352	1.702927	0.583536	0.022706	0.056764	0.022706	0.006811709	0
1995-96	17.06104	14.57499	1.775214	0.458848	0.017865	0.078042	0.017865	0.015044183	0.099668
2000-01	17.51769	13.92654	2.592417	0.458888	0.00596	0.126641	0.00596	0.02185179	0.354098
2005-06	16.1219	11.42074	3.747456	0.225765	0.002331	0.141189	0.002331	0.011636266	0.546392
2009-10	16.44599	10.18599	5.416946	0.160623	0.001928	0.230864	0.001928	0.008607578	0.416946
2010-11	16.86861	11.58486	4.620266	0.150638	0.001522	0.176287	0.001522	0.007013602	0.326097
2011-12	15.14067	9.950717	4.625558	0.123865	0.00131	0.171686	0.00131	0.006285477	0.260956
2012-13	14.33074	9.353711	4.415074	0.121421	0.001322	0.172267	0.001322	0.006177497	0.246224
2013-14	13.21626	8.80587	3.914798	0.109708	0.001221	0.157698	0.001221	0.005937127	0.220622
2014-15	13.29906	8.768678	3.987669	0.114764	0.001357	0.167884	0.001357	0.005928445	0.252818
2015-16	14.99784	9.754169	4.600167	0.13275	0.00161	0.197633	0.00161	0.006615085	0.288771
2016-17	15.72917	10.82947	4.29136	0.124888	0.001565	0.195155	0.001565	0.006260307	0.279983

Source: Author's calculations.

Table7 provides an analysis of India's Gems and Jewellery exports and its sub-categories in GDP for the selected years. The share of India's Gems and Jewellery exports and its sub-categories in GDP measures the relative contribution of India's Gems and Jewellery exports and its sub-categories in a given country's income for the selected years. The share of India's Gems and Jewellery exports in GDP fluctuated between 0.89 percent and 2.84 percent in for the selected years. The highest share was 2.64 percent in 2011-12 and lowest was 1.17 percent in 1991-92 . The share of sub-categories of India's Gems and Jewellery exports in GDP recorded very low and only two sub-categories of India's Gems and Jewellery exports had significant contribution in GDP, i.e., cut &polished diamonds (with a share fluctuating between 1.03 percent and 1.75 percent for the selected years) and gold jewellery (with a share fluctuating between 0.12 percent to 0.76 percent for the selected years).

Table 7: Structure of India's Gems and Jewellery Exports and its sub-categories in GDP at factor cost (Percentage share for the selected years)

Years	share of gems and jewellery exports	share of c &p diamonds	share of gold jewellery exports	share of coloured gemstones exports	share of pearls exports	share of non-gold jewellery exports	share of synthetic stones exports	share of costume/ fashion jewellery exports	share of rough diamonds exports
1991-92	1.177725	1.003362	0.122103	0.041841	0.001628	0.00407	0.000163	0.000488	0
1995-96	1.620716	1.384553	0.168637	0.043588	0.001697	0.007414	0.001072	0.001429	0.009468
2000-01	1.762134	1.400895	0.260776	0.04616	0.000599	0.012739	0.00035	0.002198	0.035619
2005-06	2.170011	1.537234	0.504408	0.030388	0.000314	0.019004	0.000165	0.001566	0.073544
2009-10	2.276137	1.409748	0.749709	0.02223	0.000267	0.031952	0.000107	0.001191	0.057706
2010-11	2.552897	1.753254	0.699232	0.022798	0.00023	0.026679	0.0001	0.001061	0.049352
2011-12	2.643576	1.737405	0.807627	0.021627	0.000229	0.029977	9.7E-05	0.001097	0.045563
2012-13	2.493558	1.627552	0.768226	0.021127	0.00023	0.029975	9.85E-05	0.001075	0.042843
2013-14	2.38951	1.592108	0.707799	0.019835	0.000221	0.028512	9.68E-05	0.001073	0.039889
2014-15	2.395686	1.579585	0.718337	0.020674	0.000244	0.030242	0.000105	0.001068	0.045542
2015-16	2.260818	1.470371	0.693442	0.020011	0.000243	0.029792	0.000103	0.000997	0.04353
2016-17	2.385207	1.642206	0.650752	0.018938	0.000237	0.029594	0.000107	0.000949	0.042457

Source: Author's calculations.

As per table8, the changes in the structure of India's gems and jewellery exports analysed by measuring the share of various sub-categories of India's gems and jewellery exports for the selected years. Table 8 gives the percentage share of all the sub-categories of India's gems and jewellery exports in India's total gems and jewellery exports.

Cut and polished diamonds

This category is the most important category in India's gems and jewellery exports. It recorded atleast more than 60 percent of the share of the India's total gems and jewellery exports for the selected years. However, the share of cut & polished diamonds exports in total India's gems and jewellery exports continuously declined for the selected years, still was highest contributor. The category of cut & polished diamonds exports recorded 85.1 percent share for the year 1991-92, The share declined to 79.04 percent for the year 2000-01 and further to 70.83 percent in 2005-06. The share further declined

to 65 percent in 2011-12, but after that it increased to 66.6 percent in 2013-14, then again it declined to 65 percent for the subsequent two years, then it increased to 68 percent in 2016-17.

Gold Jewellery

This category is the second most important category in India's Gems and Jewellery exports. This category has recorded even less than 0.5 percent in India's GDP at factor cost and nearly 4percent in India's total exports. The category of gold jewellery exports recorded a share of 10.36 percent in 1991-92, which raised to 15.44 percent for the year 2000-01 and further raised to 32.93 percent in 2009-10. Furthermore, this category recorded a declining trend at 27 percent in 2016-17. The highest share was 32.93 percent for the year 2009-10 and lowest share of this category was 10.36 percent for the year 1991-92.

Coloured Gemstones

This category has recorded even less than 0.05 percent in India's GDP and nearly 0.1 percent in India's total exports. The share of coloured gemstones in India's total Gems and Jewellery exports showed a decreasing trend for the selected years. The category of coloured gemstones exports experienced a share of 3.55 percent in 1991-92. The share declined to 2.68 percent in 1995-96 and further declined to 1.40 percent in 2005-06. This category further declined to 0.89 percent in 2010-11 and 0.79 percent in 2016-17.

Pearls

This category has recorded even less than 0.02 percent in India's total GDP and total exports. It recorded 0.13 percent share in the year 1991-92, which decreased to 0.10 percent in the year 1995-96 and thereafter it continuously declined throughout the study period. The share even remained less than 0.05 percent sometimes for the selected years The highest and lowest shares were 0.13 percent and 0.008 percent for the years 1991-92 and 2011-12.

Non-Gold Jewellery

This category has recorded even less than 0.01 percent in India's total GDP and 0.2 percent in India's total exports. It recorded 0.34 percent share in the year 1991-92, which increased to 0.45% in 1995-96. Further, the share of this category slightly improved to 1.4 percent in 2005-06 and 1.24 percent in 2016-17. The highest share of this category was 1.31 percent in 2015-16 and lowest share was 0.34 percent in 1991-92.

Synthetic stones

This category has recorded even less than 0.02 percent in India's total exports and .0001 percent in India's total GDP. It recorded 0.013 percent in the year 1991-92, which increased to 0.066 percent in 1995-96, thereafter it continuously declined throughout the study period and recorded 0.004 percent in 2016-17. The highest share of this category was 0.06 percent in 1995-96 and lowest share was 0.0036 percent in 2011-12.

Costume/ Fashion Jewellery

This category has recorded even less than 0.02 percent in India's total exports and 0.0003 percent in India's total GDP. It recorded 0.04 percent in the year 1991-92, which increased to 0.072 percent in 2005-06. Further the share of this category continuously declined throughout the study period and recorded 0.039 percent in 2016-17. The highest share of this category was 0.13 percent in 2000-01 and lowest share was 0.039 percent in 2016-17.

Rough Diamonds

This category has recorded even less than 0.8 percent in India's total exports and 0.08 percent in India's total GDP. It recorded 0.58 percent in the year 1995-96, which increased to 1.8 percent in 2000-01. Further, the share of this category improved to 3.38 percent in 2005-06 and recorded a decline to1.78 percent in 2016-17. The highest share of this category was 3.38 percent in 2005-06 and lowest share was 0.58 percent in 1995-96.

Table 8: Structure of sub-categories of India's Gems and Jewellery Exports in India's total Gems and Jewellery exports (Percentage share for the selected years)

Years	share of c &p diamonds	share of gold jewellery exports	share of coloured gemstones exports	share of pearls exports	share of non-gold jewellery exports	share of synthetic stones exports	share of costume/fashion jewellery exports	share of rough diamonds exports
1991-92	85.19491	10.36771	3.552668	0.138236	0.34559	0.013824	0.041471	0
1995-96	85.42849	10.40507	2.689446	0.104712	0.457426	0.066134	0.088179	0.584183
2000-01	79.04188	15.44253	2.417601	0.03625	0.850482	0.030673	0.133846	1.876638
2005-06	70.83991	23.2445	1.40036	0.01446	0.875756	0.007624	0.072177	3.389128
2009-10	61.93601	32.9378	0.976668	0.011722	1.403769	0.004689	0.052338	2.535245
2010-11	68.67704	27.38974	0.893006	0.009025	1.045058	0.003921	0.041578	1.933162
2011-12	65.72176	30.55055	0.818094	0.008651	1.13394	0.003667	0.041514	1.723541
2012-13	65.27026	30.80842	0.847274	0.009222	1.202084	0.003949	0.043107	1.718155
2013-14	66.62906	29.62108	0.830099	0.009235	1.193213	0.00405	0.044923	1.669322
2014-15	65.93458	29.98459	0.862952	0.010202	1.262373	0.004397	0.044578	1.901019
2015-16	65.03714	30.67219	0.885125	0.010737	1.317745	0.004565	0.044107	1.925414
2016-17	68.8496	27.28281	0.793991	0.009952	1.240722	0.004479	0.039801	1.780024

Conclusion

The As per table2, the percentage change in manufactured products is higher than 20 percent for the years 1992-93 to 1995-96,2000-01,2002-03,2004-05 and 2011-12. It reached the maximum at 36 percent in 2008-09 and lowest at 9 percent in 2010-11 due to global crisis. For the rest of the years (2013-14 to 2016-17) , the share fluctuated between 4.909 percent to 16.99 percent. The share of India's manufactured goods exports in total exports

continuously remained more than 70 percent for the years 1991-92 to 2005-06. Thereafter, their share in total exports declined and remained less than 70 percent till 2013-14.In the study period(1990-91 to 2016-17) the maximum percentage share of manufactured exports in total exports is recorded for the year 2016-17 (i.e.,80.6 percent) and lowest is recorded for the year 2011-12(i.e.,60.61 percent). There a wide dispersion in the changes in Gems & Jewellery exports ranging from as high as 38.64 percent in 2010-11 to 0 .29 percent in 2000-01.

The share of gems and jewellery exports in total manufacturing exports remained more than 20 percent for the years 1990-91 to 2007-08 and 2009-10 to 2013-14. In the study period (1990-91 to 2016-17), the maximum percentage share of Gems and Jewellery exports in total manufacturing exports is recorded for the year 2010-11(i.e.,26.18 percent) and lowest is recorded in the year 2008-09(due to global economic recession, i.e., 16.88 percent).The share of Gems and Jewellery exports in total exports remained more than 15 percent for the years 1990-91 to 2005-06,2009-10 to 2011-12, 2016-17. In the study period(1990-91 to 2016-17), the maximum percentage share of Gems and Jewellery exports in total exports is recorded for the year 2003-04(i.e., 18.99 percent) and lowest is recorded for the year 2008-09(i.e.,11.38 percent). The shares of total exports in GDP; manufactured exports in GDP and total exports; Gems and Jewellery exports in GDP, manufactured exports and total exports for the study period indicate a significant contribution of manufactured goods exports and Gems & Jewellery exports to total exports and also to GDP.

percentage change in manufactured products is higher than 20 percent for the years 1992-93 to 1995-96,2000-01,2002-03,2004-05 and 2011-12. It reached the maximum at 36 percent in 2008-09 and lowest at 9 percent in 2010-11 due to global crisis. For the rest of the years (2013-14 to 2016-17) , the share fluctuated between 4.909 percent to 16.99 percent. The share of India's manufactured goods exports in total exports continuously remained more than 70 percent for the years 1991-92 to 2005-06. Thereafter, their share in total exports declined and remained less than 70 percent till 2013-14.In the study period(1990-91 to 2016-17) the maximum percentage share of manufactured exports in total exports is recorded for the year 2016-17 (i.e.,80.6 percent) and lowest is recorded for the year 2011-12(i.e.,60.61 percent). There a wide dispersion in the changes in Gems & Jewellery exports ranging from as high as 38.64 percent in 2010-11 to 0 .29 percent in 2000-01.

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