

## **Evaluation on Influence of Gem and Jewellery Exports on Pre and Post Covid -19 Pandemic in India**

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## Abstract

Gem and Jewellery Industry plays a predominant role in India's economy by contributing 7.5 percent of the India's GDP growth. It is consider as one of the sprightly growing industry. It is especially labor oriented and immensely export intensive. Government has authorized 100% FDI on G&J sector under the automatic route where foreign institutional investor or Indian Company do not require any preceding assent from the RBI. Gems and Jewellery have been recording declining drift from the beginning of the financial year 2019-2020. It has imputed to various local as well as global provocations including rise in precious stone viz. polished diamonds, colored gems stones, gold and silver sluggish demand. This has resulted G&J exports to decline by 5.74% in the course of Post COVID 19. Thus the study has undertaken to study the impact assessment of COVID 19 on Gem and Jewellery Export during Pre and Post Pandemic situation. The study focuses on Growth and impact of COVID 19 on Cut & Polished diamonds, Plain Gold and Gold Bars and Coloured Gemstones by using Semi Log Growth Model, Multiple Regression and Paired t test for the period of January 2019 – June 2021. The study concluded that revamping of low cost gold metal loan, balancing of gold prices and gemstones will likely to improve the growth in the forthcoming years. The importunity for the Gem and Jewellery is significantly supported by the positive developments in the sector.

**Keywords:** *Sprightly, sluggish Demand, Polished diamonds, Coloured Gemstones, Global Provocations*

**JEL Classification:** *F16, I18, O51, J20*

## Introduction

The Gems and Jewellery (G&J) Industry handout to 7.5% (2021) of India's GDP and contributes around 14% of India's total merchandise exports. Based on its prospective growth and value addition, the industry and government joined hands to focus area for export promotion and undertaken several speculative measures to promote investment, enhance technology and skills to evolved 'Brand India' in the intercontinental worldwide. Government has authorized 100% FDI on G&J sector under the automatic route where foreign institutional investor or Indian Company do not require any preceding assent from the RBI. Gems and Jewellery have been recording declining drift from the beginning of the financial year 2019-2020. It has imputed to various local as well as global provocations including rise in precious stone viz. polished diamonds, colored gems stones, gold and silver sluggish demand. This has resulted G&J exports to decline by 5.74% in the course of April to November 2019. Thus, Challenges for G&J sector have incised the outbreak of COVID 19 Pandemic which has took up a shape and stalled all trading activities, shut down of all business events, deferment of order position, slowdown of demand and enlargement of receivables. This sector is extremely exports orientate and had a greater Impact on economic growth and also on global health emergence through its constant decelerate rate from 2019-till now from 19.37% to -1.89%.

## Previous Literature

**Indian Chamber of Commerce (2021)**<sup>1</sup> made attempts on Impact of COVID 19 on Jewellery and Lifestyle Industry. Corona Outbreak has severely affected the Gem and Jewellery sector in India. The study reveals that effect of corona virus has devastated after the announcement of lockdown, many artisans who are dependent are jobless. Thus the study suggested that government should mitigate the impact by providing loan holiday incentive scheme, extension of time limit for repayment of gold metal loan, relief for artisans through "PAHCHAN cards". The study concluded that by giving necessary assistance to enrich safety returns of artisans from different part of the country to their hometowns.

**Vikas Barbate, Rajesh N Gade (2021)**<sup>2</sup> assesses the impact of COVID 19 on Indian Economy both in short term and long term. The researcher question being addressed on silver

lining. The study exhibits that silver lining has come steeper fall in crude oil from 110 per barrel to 70 per barrel due to offset the direct losses by COVID 19. The study adopted decision tree approach considering three pessimistic situations. Hence, the study suggests that recovery in the long term will depend on the mode of recovery based on strong, moderate and severe effects on economy. On the account of government should adopt financial contributions by central banks, commercial banks in formulating the policies as per the demand of the situation, provide awareness to the private, public for assuming a good amount of responsibility for speedy recovery.

**Raja Mohan, Jenifer and Satheesh (2021)<sup>3</sup>**, elucidate the impact of COVID 19 on FMCG sector. The study concentrated on varied businesses, including household and personal care with high demand and frequently purchased goods and services with low cost of production on FMCG sectoral indices listed under NSE. The study shows that many factors like labors shifted to their natives, logistics problems and changes in the consumer basket has majorly driven by the sector. The study concluded that sanitary products and consumer cosmetics increased in demand and raise in demand for customers. Thus the result describes that FMCG sector has an adverse impact and the sector has try to cope up with the best flexible plan to ruin the drift in near future.

### **Statement of the Problem**

Due to intensify flare-up of Corona Virus (COVID-19), the Gems and Jewellery sector has come to a dead stop with virtually no vestige in jeweler amidst fear of virus spread. This sector has contributed major portion on India export basket and also has a critical role in terms of employment generation. Around 6 million people working in G&J sector, symbolize a huge pool of consummate man power and major driven of the Indian Economy as a whole. There exists an embryonic growth in terms of rapid output, value addition and chances of moving up the value chain. The Pandemic has upshot the extensive disruption of global supply and induce significant shutdown both in terms of international demand and the G&J sector. The sector has reported highest fall of -19.37% in February 2020, cut and polished diamonds, gemstone are severely hit the export commodities. On the strength of being in the luxury goods brackets, may take longer period to survive to pre pandemic levels. Thus, the study has been undertaken to analyze the COVID 19 impact on select key commodities of Gem and Jewellery exports in India,

### **Research Objectives**

1. To assess the growth of Gem and Jewellery exports during pre and post pandemic scenario.
2. To examine the Impact of COVID 19 on select key commodities exports of Gem & Jewellery industry.

### **Hypotheses**

**H<sub>0</sub>**: There is no significant growth of select Key Commodities during Pre and Post COVID-19.

**H<sub>0</sub>**: There is no significant influence of COVID 19 on select key commodities exports of Gems and Jewellery Industry.

**H<sub>0</sub>**: There is no significant difference of Select Key Commodities exports during pre and post COVID 19.

### **Research Methodology**

The study is purely based on secondary data. Gem and Jewellery sectors are taken based on drift during COVID 19. The select key commodities such as Cut and Polished Diamonds, Coloured Diamonds and Plain Gold and Gold Bars are selected based on high profits and sales during pre and post COVID 19 pandemic. The data is collected for the period of three years

comprising from Jan 2019 – Jun 2021. March 2020 is considered as base month due to announcement of lockdown and the data has been classified based on announcement of lockdown.

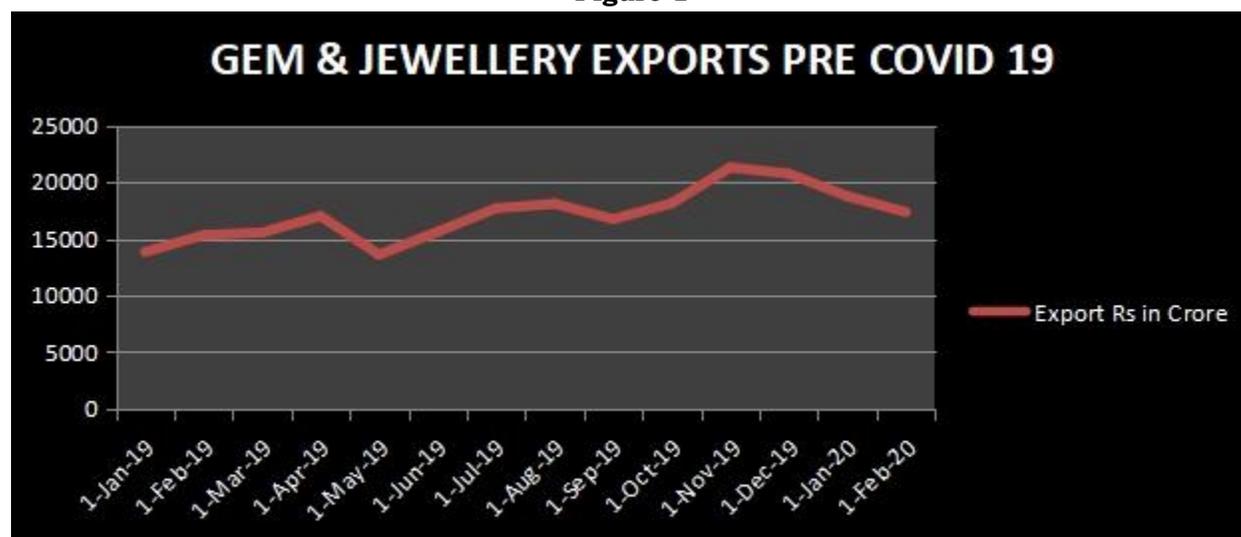
**Pre COVID 19 month = Jan 2019 – March 2020, Post COVID 19 = March 2020 – Jun 2021**

The data is collected from the Website of ibef.org, Money Control, Times of India and Gem & Jewellery Export Promotion council. Semi Log Growth Model is used for examining the Growth of Key commodities, Multiple Regression is used for finding the impact of Gem and Jewellery Exports on Key commodities and Paired t test is used to determine the significant difference of Gem and Jewellery Exports on Key commodities during Pre and Post COVID 19 situation.

### Data Analysis and Interpretation

#### Overall Growth of Gem and Jewellery Exports during Pre and Post COVID 19

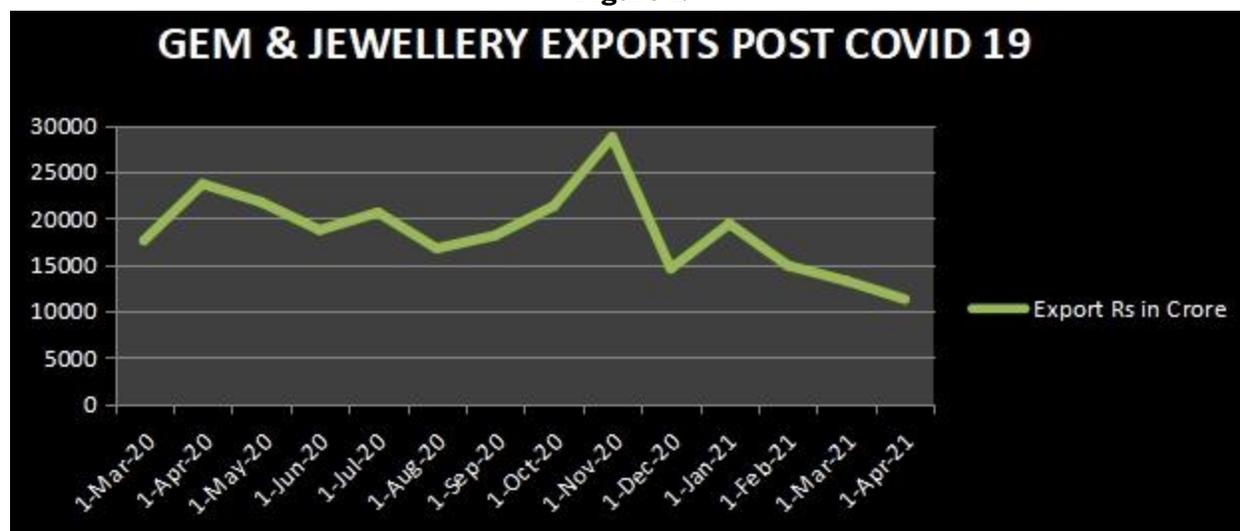
Figure 1



**Source:** <https://gjepec.org/admin/Statistics.pdf>

Figure 1 shows the Overall Growth of Gem & Jewellery Exports during Pre COVID 19. It exhibits that the export price of Gem & Jewellery has a positive growth during pre COVID 19 (January 2019 to January 2020). The growth drifts down in the month of 1<sup>st</sup> May 2019 and upsurge from the month of 1<sup>st</sup> June to 2019 during the study period.

Figure 2



Source: <https://gjepec.org/admin/Statistics.pdf>

Figure 2 shows the Overall Growth of Gem & Jewellery Exports during Post COVID 19. It exhibits that the export price of Gem & Jewellery started to decline after the announcement of COVID 19 lockdown in the month of April 2020 and the growth of exports swings depends on the situation of CORONA Impact. After the relaxation of lockdown the export has an immense growth and started to decline from 1<sup>st</sup> December 2020 due to 2<sup>nd</sup> wave of COVID 19 during the study period.

**Semi Log Growth Model for Select Key Commodities of Gem & Jewellery**

**Table 1: Results of Semi Log Growth Model of Cut and Polished Diamond during Pre COVID-19**

**Ho: There is no significant growth of Cut and Polished Diamond during Pre COVID-19**

Variable	Coefficient	Std. Error	t-statistic	p-value	
Cut and Polished Diamond	C	-125.56	18.595	-56.54	0.000
	T	0.111	0.1243	12.65	0.000
R-squared	0.815	F-statistic	75.66	0.000	

Source: Compiled from Gems & Jewellery Analytical Reports and ibef.org

Table 1 extracts the outcome of semi log growth model of Cut and Polished Diamond during pre COVID 19. The time Coefficient 0.111 indicates that the growth of Cut and Polished Diamond over the pre COVID period of 11.11 percent. Since, the p value of t statistic is less than 0.05, it can be suggested that there is a significant growth on cut and polished diamond during pre COVID 19. R squared value presents 81.5 and this model is valid for predicting the growth of cut and polished diamond during the study period.

**Table 2: Results of Semi Log Growth Model of Cut and Polished Diamond during Post COVID-19**

**Ho: There is no significant growth of Cut and Polished Diamond during Post COVID-19**

Variable	Coefficient	Std. Error	t-statistic	p-value	
Cut and Polished Diamond	C	-175.52	15.742	-10.251	0.012
	T	0.094	0.004	10.84	0.010
R-squared	0.912	F-statistic	125.66	0.109	

**Source:** *Compiled from Gems & Jewellery Analytical Reports and ibef.org*

Table 2 extracts the outcome of semi log growth model of Cut and Polished Diamond during post COVID 19. The time Coefficient 0.094 indicates that the growth of Cut and Polished Diamond over the post COVID period of 9.4 percent. Since, the p value of t statistic is more than 0.05, it can be suggested that there is no significant growth on cut and polished diamond during post COVID-19. R squared value presents 91.2 and this model is valid for predicting the growth of cut and polished diamond during the study period.

**Table 3: Results of Semi Log Growth Model of Coloured Gemstones during Pre COVID-19**  
**H<sub>0</sub>: There is no significant growth of Coloured Gemstones Pre COVID-19**

Variable		Coefficient	Std. Error	t-statistic	p-value
Coloured Gemstones	C	-78.52	42.122	-14.53	0.000
	T	0.115	0.004	7.41	0.000
R-squared		0.885	F-statistic	126.54	0.000

**Source:** *Compiled from Gems & Jewellery Analytical Reports and ibef.org*

Table 3 extracts the outcome of semi log growth model of Coloured Gemstones during pre COVID 19. The time Coefficient 0.115 indicates that the growth of Coloured gemstones over the pre COVID period of 11.5 percent. Since, the p value of t statistic is less than 0.05, it can be suggested that there is a significant growth on Coloured Diamond during pre COVID 19. R squared value presents 88.5 and this model is valid for predicting the growth of Coloured Diamond during the study period.

**Table 4: Results of Semi Log Growth Model of Colored Gemstones during Post COVID-19**  
**H<sub>0</sub>: There is no significant growth of Coloured Gemstones Post COVID-19**

Variable		Coefficient	Std. Error	t-statistic	p-value
Coloured Gemstones	C	-141.852	11.212	--12.554	0.343
	T	0.076	0.041	14.21	0.191
R-squared		0.959	F-statistic	162.53	1.526

**Source:** *Compiled from Gems & Jewellery Analytical Reports and ibef.org*

Table 4 extracts the outcome of semi log growth model of Coloured Diamond during post COVID 19. The time Coefficient 0.076 indicates that the growth of Coloured Diamond over the post COVID period of 7.6 percent. Since, the p value of t statistic is more than 0.05, it can be suggested that there is no significant growth on Coloured Diamond during post COVID-19. R squared value presents 95.9 and this model is valid for predicting the growth of Coloured Diamond during the study period

**Table 5: Results of Semi Log Growth Model of Plain Gold Jewellery & Gold Bar during Pre COVID-19**

**H<sub>0</sub>: There is no significant growth of Plain Gold Jewellery & Gold Bar Pre COVID -19**

Variable		Coefficient	Std. Error	t-statistic	p-value
Plain Gold & Gold Bar	C	-104.52	-90.25	-18.01	0.000
	T	0.041	14.54	18.56	0.000
R-squared		0.826	F-statistic	213.52	0.000

**Source:** *Compiled from Gems & Jewellery Analytical Reports and ibef.org*

Table 5 extracts the outcome of semi log growth model of Plain Gold Jewellery and Gold Bar during pre COVID 19. The time Coefficient 0.041 indicates that the growth of Plain Gold Jewellery & Gold Bars over the pre COVID period of 4.1 percent. Since, the p value of t statistic is less than 0.05, it can be suggested that there is a significant growth on Plain Gold Jewellery

& Gold Bars during pre COVID 19. R squared value presents 82.6 and this model is valid for predicting the growth of Plain Gold Jewellery & Gold during the study period.

**Table 6: Results of Semi Log Growth Model of Plain Gold Jewellery & Gold Bar during Post COVID-19**

**Ho: There is no significant growth of Plain Gold Jewellery & Gold Bar Post COVID -19**

Variable	Coefficient	Std. Error	t-statistic	p-value	
Plain Gold & Gold Bar	C	-245.45	29.581	-8.144	0.000
	T	0.118	0.015	8.136	0.000
R-squared	0.912	F-statistic	76.512	0.000	

**Source:** Compiled from Gems & Jewellery Analytical Reports and ibef.org

Table 6 extracts the outcome of semi log growth model of Plain Gold Jewellery & Gold Bar during post COVID 19. The time Coefficient 0.0118 indicates that the growth of Plain Gold Jewellery & Gold Bar over the post COVID period of 11.8 percent. Since, the p value of t statistic is more than 0.05, it can be suggested that there is a significant growth on Plain Gold Jewellery & Gold Bar during post COVID-19. R squared value presents 91.2 and this model is valid for predicting the growth of Plain Gold Jewellery & Gold Bar during the study period.

**Table 7: Multiple Regression Analysis of select key commodities exports of Gem & Jewellery Industry during Pre COVID-19**

**Ho: There is no significant influence of Select Key Commodities exports on Gems and Jewellery industry during Pre COVID-19.**

COMPANIES	R	R Square	Std. Error	Durbin Watson	F	Sig
Cut and Polished Diamond	0.641 <sup>a</sup>	0.410	6.45	1.24	6.22	0.32 <sup>b</sup>
Coloured Gemstones	0.781 <sup>a</sup>	0.609	29.77	1.55	13.84	0.06 <sup>b</sup>
Plain Gold and Gold Bars	0.810 <sup>a</sup>	0.656	134.51	2.04	15.22	0.05 <sup>b</sup>

**Source:** Compiled from Gems & Jewellery Analytical Reports and ibef.org  
Predictors: Gems and Jewellery Exports @ 5% Level of significance, Dependent Variable: Cut & Polished Diamond, Gold and Gold Bars, Coloured Gemstones

Tables 7 establish the effects of Gem & Jewellery exports on select commodities during pre COVID 19 using Multiple Regression analysis. It is exhibits from the table that the R square value for Cut & Polished Diamond, Gold & Gold Bars and Coloured Gemstones is 0.641, 0.781 and 0.810 which indicates that 64.1, 78.1 and 81.0 percent variation are explained by select commodities on G&J exports. Since, the significant value of f statistics is more than 0.05 for Cut & Polished Diamond, Gold & Gold Bar, it can be suggested that there is no significant impact of Cut & Polished Diamond, Gold & Gold Bars exports on overall G&J Exports on Pre COVID-19 scenario and the significant value is not more than 0.05 for Coloured Gemstones thus it is concluded that there is a significant impact on Coloured Gemstones exports on overall G&J Exports on Pre COVID-19 scenario during the study period.

**Table 8: Multiple Regression Analysis of select key commodities on G&J Exports during Post COVID-19**

**Ho: There is no significant influence of Select Key Commodities exports of Gems and Jewellery industry during Post COVID-19.**

COMPANIES	R	R Square	Std. Error	Durbin Watson	F	Sig
<b>Cut and Polished Diamond</b>	0.912 <sup>a</sup>	0.831	0.124	2.01	7.14	0.00 <sup>b</sup>
<b>Coloured Gemstones</b>	0.932 <sup>a</sup>	0.868	36.41	1.91	74.56	0.00 <sup>b</sup>
<b>Plain Gold and Gold Bars</b>	0.981 <sup>a</sup>	0.962	15.44	2.05	191.04	0.00 <sup>b</sup>

**Source:** Compiled from Gems & Jewellery Analytical Reports and ibef.org  
**Predictors:** Gems and Jewellery Exports @ 5% Level of significance

**Dependent Variable:** Cut & Polished Diamond, Gold and Gold Bars, Coloured Gemstones

Tables 8 establish the effects of Gem & Jewellery exports on select commodities during post COVID 19 using Multiple Regression analysis. It exhibits from the table that the R square value for Cut & Polished Diamond, Gold & Gold Bars and Coloured Gemstones is 0.912, 0.932, and 0.981 which indicates that 91.2, 93.2 and 98.1 percent variation are explained by select commodities on G&J exports. Since, the significant value of f statistics is less than 0.05, it can be suggested that there is a significant impact of select key commodities exports on G&J Industry on Post COVID-19 during the study period

**Table 9: Paired t test of Cut & Polished Diamond during study period**

**Ho: There is no significant difference of Cut and Polished Diamond exports during pre and post COVID 19.**

Pre COVID – Post COVID	Paired samples Test				
	Mean	Std. Error Mean	T	df	Sig.
	1.458	1.115	2.447	23	.001

5% level of significance

The calculated p value of t statistics is less than significant value of 0.05, the null hypothesis is rejected. Thus, there is a significance difference of Cut and Polished Diamond exports during pre and post COVID 19 Pandemic.

**Table 10: Paired t test of Coloured Gemstones during study period**

**Ho: There is no significant difference of Coloured Gem Stones exports during pre and post COVID 19.**

Pre COVID – Post COVID	Paired samples Test				
	Mean	Std. Error Mean	T	df	Sig.
	1.1047	1.5524	2.547	23	.000

5% level of significance

The calculated p value of t statistics is less than significant value of 0.05, the null hypothesis is rejected. Thus, there is a significance difference of Coloured Gemstones exports during pre and post COVID 19 Pandemic.

**Table 11: Paired t test of Plain Gold and Gold Bars during study period**

**Ho: There is no significant difference of Plain Gold and Gold Bars exports during pre and post COVID 19.**

Pre COVID – Post COVID	Paired samples Test				
	Mean	Std. Error Mean	T	df	Sig.
	1.400	2.4165	-1.68	23	0.246

5% level of significance

The calculated p value of t statistics is more than significant value of 0.05, the null hypothesis is accepted. Thus, there is no significance difference of Plain Gold and Gold Bars exports during pre and post COVID 19 Pandemic.

### **Suggestions of the Study**

1. Plain Gold and Gold Bars shows positive signal for the investors to get good returns during Post COVID 19.
2. Investors can diversify their funds in commodities like polished diamond, colored stones, plain silver and cut diamonds for higher returns after the recession of COVID 19 for long term investment options.
3. Investors must hold their commodities like polished diamond and colored gemstones during post COVID 19 situation, so the investors stop investing on those securities to avoid losses during COVID 19.
4. Investors should aware about the prevailing market and they must examine the Pandemic situation before investing in Gem and Jewellery Industry.

### **Conclusion**

COVID 19 Pandemic has hamstringing Indian economy. Like many sectors, the Gem and Jewellery sector had a great hit and many events, shows, marriage postponed for the next few months. The businesses downs significantly as 6 to 10 ounce of diamond and high polished jeweler are severely affected. Thus, the study concluded that revamping of low cost gold metal loan, balancing of gold prices and gemstones will likely to improve the growth and importunity for the Gem and Jewellery is significantly supported by the positive developments in the sector. As the operations is likely to jump in complete swing and also the demand will grow manifold by increasing the impressive sales by the fourth coming decades, be driven by a well waved plans.

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