EXPORT COMPETITIVENESS OF GEMS AND JEWELLERY IN INDIA

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DECLARATION BY STUDENT

I hereby declare that the data presented in this Dissertation report entitled, "Export competitiveness of Gems and Jewellery in India" is base on the results of investigations carried out by me in Economics at Goa Business School, Goa University under the Supervision of Prof. B. P. Sarath Chandran and the same has not been submitted elsewhere for the award of a degree or diploma by me. Further, I understand that Goa University will not be responsible for the correctness of observations/ experimental or other findings given the dissertation.

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PREFACE

The gem and jewellery business in India has a long and distinguished history that dates back thousands of years. India's gem and jewellery industry is well-known for its beautiful craftsmanship, wide variety of gemstones, and cultural significance. It is a major player in the domestic and worldwide markets. This introduction explores the importance, development, and state of the Indian gem and jewellery export market. One of the main drivers of India's economy is the gem and jewellery industry, which also generates jobs, preserves cultural heritage and earns foreign cash. India is one of the world's top exporters of jewellery and diamonds, serving a wide range of international markets thanks to its long history of creating jewellery. Presently, India is the world's leading exporter of jewellery and gems, supplying a diverse range of goods such as coloured gemstones, fashion accessories, diamonds, and gold jewellery. The success of the sector is largely due to a trained artisan workforce, a strong manufacturing base, pro-industry government regulations, and strategic partnerships with foreign suppliers and purchasers. India's exports of jewellery and stones have proven to be resilient and flexible in the face of several obstacles, including shifting customer tastes, shifting regulations, and fluctuating commodity costs. It is important to know the export performance of India’s gems and jewellery industry.

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I would like to acknowledge that this project was completed entirely by me and not by someone else.

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ABBREVIATIONS USED

Entity	Abbreviations
Foreign Direct Investment	FDI
Geographic Indicators	GI
Government Of India	GOI
Gems and Jewellery Export Promotion Council	GJEPC
Harmonised System	HS
International Trade Centre	ITC
Revealed Comparative Advantage	RCA
Relative Export Competitiveness	REC
Special Economic Zones	SEZs

ABSTRACT

The study analyses the export competitiveness of India's gems and jewellery industry. It also aims to find out the factors affecting the gems and jewellery industry in India. The Revealed Comparative Advantage (RCA) is used to understand the competitiveness of India's gems and jewellery industry. Regression analysis was used to look into the factors affecting the gems and jewellery industry, to see how significantly the variables are affecting the industry. Data from International Trade Centre (ITC) 2-digit and 4 -digit HS classification from 2015 to 2022 has been taken for RCA. For regression analysis, data was taken from Reserve Bank of India (RBI) from 2005 to 2022, the results show that export of diamonds significantly affect the gems and jewellery industry in India.

CHAPTER 1

1.1 INTRODUCTION

One of the industries with the quickest rate of growth is gems and jewellery, which is important to the Indian economy. India is renowned for its extensive history and skill in the creation of jewels. It is also renowned for having the biggest diamond-cutting and polishing facilities in the world. To encourage the export of gems and jewellery, the government also maintains organisations such as the Government of India (GOI) and the Gems and Jewellery Export Promotion Council (GJEPC).

When compared to US$ 2518.83 million (Rs. 20621.52 crores) for the same period the previous year, the total gross exports of gems and jewellery in January 2024, at US$ 2393.66 million (Rs. 19894.91 crores), show a decrease of 4.97% (-3.52% in rupee terms). When compared to US$ 1388.45 million (Rs. 11365.29 crores) for the same period the previous year, the total gross imports of gems and jewellery in January 2024, at US$ 2259.35 million (Rs. 18782.45 crores), show a growth of 62.72% (65.26% in Rs. term). (GJEPC, 2024).

The Indian gem and jewellery business makes up 7% of the country's GDP (gross domestic product). Over 5 million skilled and semi-skilled workers are employed in the business nationwide. The sector represents the third-largest percentage of commodities and generates between 10 and 12% of India's overall merchandise exports. India's total exports increased to US$ 419 billion in 2021–22, up 39% from 2019–20 and 44% from 2020–21 in large part to the country's exports of jewels and jewellery (Indian trade portal).

The world's biggest importer of imitation jewels is India. Imitation jewellery is imported by India from Austria, Thailand, and China. India bought 762.6K worth of imitation jewellery from 1,915 suppliers, through 3,031 importers (Volza, 2023). The export of jewellery and diamonds has been reported to have stagnated at US$36 billion on average over the past eight years, a trend that needs to change.

The global spread of the COVID-19 pandemic is mentioned in GJEPC reports as the reason why exports from the sector fell to a historically low level of US$26 billion in 2020–2021. It was imperative to put the sector into a fast recovery mode to avoid unemployment, income loss, and foreign exchange losses in both the sector and the economy. Despite the pandemic outbreak that caused a global shutdown of manufacturing, India has managed to hold onto its leading position in the global market as a percentage of world exports in 2020 increased for several important commodities, including cut and polished diamonds, silver jewellery, coloured gemstones, and synthetic diamonds and stones.

1.2 Review

India has established itself as the world’s largest manufacturing sector for cut and polished diamonds, contributing nearly 60% of the world’s supply in terms of value and 80% in terms of volume (Kumar and Punithavathi, 2014). In composition cut and polished diamonds, we are exporting more among the others followed by Gold. In the composition of import, we are importing more rough diamonds gold bars and cut and polished diamonds. (Palanisingh & Gurumoorthy, 2017). It is important to identify whether India still has a competitive edge in gems and jewellery exports. To know about the specific products under gems and jewellery that

India is exporting to other countries. It is important to know what factors are affecting the gems and jewellery industry for the current period.

1.3 Research Gap

India's creativity, tenacity, and spirit of entrepreneurship are demonstrated by the country's gem and jewellery industry. Enthralling audiences with its timeless beauty and workmanship, the sector continues to prosper in the worldwide marketplace thanks to its trained staff, rich cultural legacy, and dedication to perfection. The gem and jewellery industry in India continues to be a bright example of the nation's lasting legacy and future promise, dazzling the globe with the beauty of Indian workmanship and ingenuity as it navigates the opportunities and difficulties of the twenty-first century. Some factors affect the gems and jewellery industry in India. This study is conducted to understand the factors that affect the gems and jewellery industry in India through a regression model. It will also look into the comparative advantage that a product has in India. The product under the 4-digit HS classification is widely exported.

1.4 Research questions

1) Where India's competitiveness and comparative advantage lie in Gems & Jewellery industry within the framework of international trade with other countries?
2) What are the factors affecting the Gems and Jewellery export in India?

1.5 Research Objectives

1) To study the export competitiveness of the gems and jewellery industry of India.

2) To analyse the factors affecting the Gems and jewellery export in India.

1.6 Significance of the study

The study focuses on the export performance and competitiveness of the gems and jewellery sector of India. It also analyses the factors affecting India's gems and jewellery industry. It will show which specific goods, India has export competitiveness.

1.7 Research Methodology

The study will be using data from the International Trade Centre (ITC) from 2-digit and 4-digit Harmonized System (HS) classifications on the exports of Gems and Jewellery in India for the period of 2015- 2022.

1.8 Limitations

1) The study will be limited to the Gems and Jewellery sector.

2) Due to time constraints the study will be based on 3 countries.

1.9 Chapter layout

Chapter 1:1 Introduction

1:2 Literature review

1:3 Research Gap

1:4 Research question

Chapter 2

Review of literature

2.1 INTRODUCTION

The literature review for this study has been obtained from many sources like books, journals, articles, websites, etc. A thorough analysis of the pertinent literature is crucial because it helps put the research study in context by highlighting the quantity of previously completed work. By applying scientific methodologies and understanding previous work, an in-depth analysis of the literature aids in the derivation of intellectual and practical answers to the challenges. It broadens the researcher's understanding of the research problem, aids in creating and analysing the research activity, and helps the researcher avoid repeating research efforts.

The review of literature is divided into three parts: the first is about the gems and jewellery industry, the second part is about the Revealed Comparative Advantage (RCA), and the third part is about export competitiveness.

2.2 Literature review on Gems and Jewellery exports.

Simoni et al., (2010) Italian gold companies are losing ground to companies headquartered in lower labour-cost countries in international markets for medium- and medium-low-priced items. These companies have a stronger and more tenable competitive edge. Indian companies are probably going to figure out a means to increase their market share in the US and attract non-ethnic clients. At least four significant shortcomings of the Italian gold enterprises are shown by

the analysis. They don't modify their brand strategy to accommodate evolving consumer demands regarding information technology, pricing, services, and customer analysis. Even if the "country of origin" selling factor is no longer as significant, they have persisted in trying to capitalise on this image.

Chattopadhyay et al., (2012) noted that the implementation of the Special Economic Zones (SEZ) policy had a favourable and considerable effect on the working structure and that India's exports are becoming increasingly dependent on the expansion and effectiveness of the SEZs. The overall functioning of these zones is greatly influenced by the overall macroeconomic structure and business climate of the economy.

Kumar and Punithavathi, (2014) According to the study, every facet of these gem and jewellery products is growing positively and consistently. The Gems and Jewellery Board will undoubtedly see positive growth in the future and be able to lead this industry. The Gems and Jewellery Board has the potential to capture a sizeable share of the global market provided it adopts an environment-appropriate strategy and set of policies. Technical developments and the continuance of goodwill to outperform competitors are key factors in exporter growth, both today and in the future.

Arora, (2014) Since the turn of the century, the cut and polished diamond has accounted for about 80% of the gem and jewellery industry's exports. However, this percentage has gradually decreased to 50% of the sector's exports of gems and jewellery, mostly as a result of an increase in the export of gold jewellery, which made up only 15% of the sector's total exports in the fiscal year 2001–2002 and increased to 35% in the fiscal year 2011–2012. The average yearly growth rate of cut and polished diamond exports and the overall amount of gem and jewellery exports from India have a weakly positive association. Stated alternatively, the average yearly growth

rate of India's exports of polished and cut diamonds is unrelated to the average yearly growth rate of the country's overall exports from the gem and jewellery industry.

Jain, (2017) The analysis projects that global jewellery sales would increase from $146 billion in 2005 to $185 billion in 2010 and $230 billion in 2015, based on the findings. It does, however, emphasise that sales might reach $280 billion in 2015, representing a CAGR of 6.7 per cent, if the industry as a whole concentrates on "increasing demand for jewellery as a category and "strengthening industry-level and enterprise-level skills" in the "coming 12-18 months."

Anjum and Maqbool, (2016) According to a study on the export performance of SEZs in India, SEZs are crucial to the export of goods from our nation. SEZ exports are growing faster than all of India's exports combined. During the 2009–10 global recession, when the entire globe, including India, was suffering, the rise in exports from Special Economic Zones (SEZs) was 121.40 percent, while the growth in India's overall exports was only 0.57 percent.

Palanisingh and Gurumoorthy, (2017) The Indian government permits 100% foreign direct investment (FDI) on the automatic route for exports of gems and jewellery. Comparatively speaking to other regions of the country, Mauritius is a major source of FDI for India. We are shipping more cut and polished diamonds than any other commodity, with gold coming in second. We are importing more rough diamonds, gold bars, and cut and polished diamonds in terms of composition. More cut and polished diamonds and gold bars are being imported by India in order to add value to designs and perform cutting and polishing tasks. We now need to lead the globe in both "Made in India" and "Designed in India" jewellery for gemstones and jewellery.

Kamath Vani, (2020) The Gems Jewellery Export Promotion Council (GJEPC)has requested a number of reliefs, including the lowering of the polished diamond import duty from 7.5 percent to 2.5 percent, clarification of the online equalisation levy for international diamond auctions between businesses, facilitation of e-commerce, and concerns pertaining to the GST, among other things. The government has recently placed restrictions on the import of precious metals as a result of the excessive import of gold. Certain designated agencies may import gold in any form with notification from the RBI (for banks) and DGFT (for other agencies). Restrictions do not apply to imports made with prior authorization or to the direct delivery of gold to exporters on their orders by foreign customers. Although refiners are permitted to import gold and silver under certain licence conditions for actual user purposes, only in order to manufacture completed goods intended for export, these metals are also included in the restricted list.

Thakor and Parmar, (2021) Indian fashion and accessory industries that are associated with jewellery. Consumer purchasing decisions are greatly influenced by the competitive and varied landscape of branded vs traditional jewels, and as jewellery designs continue to advance, traditional jewellers face even more competition. The study also revealed that among the selection criteria, the four most crucial variables are designs, quality, waiver of manufacturing charges, and branded jewellery. When buying jewelery, the impact of discounts and advertisements on costs is not the most crucial consideration.

Hanpakdeesakul and Bunnag, (2023) The research's conclusions can be used to solve the following three major study problems. Entrepreneurs in Chanthaburi who deal in gems and jewellery believe that geographic indications (GI) can add value, so they use it as a marketing strategy. They can be applied to increase the value of jewellery and diamonds. GI can increase the quality, pricing, and reputation of gem and jewellery products as a component of the

marketing mix. From the standpoint of an entrepreneur, using GI is better than not using them. The following factors are related to gems and jewellery products with GI and variable factors: 1) brand credibility and customer trust; 2) current economic conditions; 3) fierce competition in the gem and jewellery market; 4) product design and aesthetic appeal; and 5) The price of labour, raw materials, and other production expenses 6) Present-day developments in marketing.

2.3 Literature review on Revealed Comparative Advantage (RCA).

Ishchukova and Smutka, (2013) Considering vegetable oils and oil crops, it resulted from a decrease in oilseed exports from Russia (mostly sunflower seeds), but an increase in sunflower oil exports at the same time. When Vollrath's index is used to analyse the same collection of items, we find that a consistent increase has been observed in the number of products that have demonstrated competitive advantage. It is possible to interpret this tendency as raising the overall competitiveness of Russian agricultural exports. Cereals (mostly wheat and barley), oil seeds, and vegetable oils (sunflower oil) are Russia's competitive advantages. Strengthening of their positions on some regional markets was linked to notable shifts in the comparative advantage. Due to its advantageous position and positive commercial relations, Russia enjoys more substantial competitive advantages in its trade dealings with Asian and CIS nations. During that time, there were no appreciable shifts in the direction of a growing comparative advantage in processed goods.

Raghuramapatruni, (2015) In the context of commodity trade in the 14 categories examined for the study, the analysis shows that the Brazil Russia India China South Africa (BRICS) nations are complementary to one another rather than competitive. Of the 14 categories, South Africa could trade in 10 commodity categories with the other BRICS partners, presenting a greater

potential for intra-BRICS trade, while Brazil could trade with the rest of the BRICS in 5 categories, Russia in 7, India in 5, China in 9, and Brazil in 10.

Rozana et al., (2017) The study's conclusions show that Malaysia outperforms other nations in a few specific fruit categories. Overall, the RCA analysis demonstrated that, in the worldwide watermelon market, Malaysia enjoys a competitive advantage over all five of its competitors. China and Malaysia now compete more closely in this fruit industry, though. It was discovered that Malaysia had a comparative edge over China and Indonesia in the worldwide banana market. It was also discovered to be the second-most competitive country in the world after the Philippines for papaya and pineapple exports. Malaysia must, however, pay close attention to how China and India are positioning themselves in the papaya market since they appear to be gaining ground. In the international starfruit market, Malaysia has an advantage over Indonesia and the Philippines. Malaysia is the only country with a competitive advantage over China in the global mango market.

Irshad and Xin, (2017) The estimates from 2003 to 2015 show how the pattern changed, revealing a comparative advantage for Pakistan's entire external sector at the HS-2 digit level and allowing for comparisons with a number of chosen nations, including Bangladesh, China, India, Bangladesh, Thailand, Malaysia, Indonesia, Vietnam, South Korea, and Sri Lanka. Pakistan's comparative advantage in the textile and apparel, vegetable, and hide and skin industries is expanding. For Pakistan's top three product groups, the disclosed comparative advantage index is higher than that of other nations and has been essentially constant over time. With Pakistan's current resources in terms of both natural and human factors, the textile and apparel industry is dependable in its supremacy. On the other hand, Pakistan has not succeeded in transitioning from low-value, unskilled labor-intensive manufacturing to high-value, technology-intensive

manufacturing. In the current environment of swift trade liberalisation, lower cost producers would put more competitive pressure on Pakistan's apparel and textile industries as well as the other notable sectors. The relevance of research and development, technology capability, and rate of knowledge transfer will determine how far Pakistan can go in its quest to transition into high-value-added export industries, where information and technology intensive businesses play a crucial role. Similarly, one should not undervalue Pakistan's institutional and socioeconomic infrastructure's capacity to create favourable conditions for industrial transformation.

Ignat et al., (2017) The majority of animal products' exports fluctuate from year to year. Disruptions in export supply are frequently the result of a variety of causes, including partner country import bans, more competitive regional imports, and weather. The only animal product that can be exported freely worldwide is natural honey. A restricted number of exported items and markets define livestock exports. Frequently, the majority of a certain type of livestock product's exports go to one nation. The majority of live animal exports are made to countries in the Middle East, namely Syria. However, in recent years, substantial exports have also been made to Iraq and Libya. Belarus and the Russian Federation are the two main meat export destinations. The main destination for dairy exports is Kazakhstan.

TeriN et al., (2018) The study's findings showed that even though Turkey was a net exporter of honey, her competitiveness in the honey market is limited. In the battle for honey trade, Turkey is more competitive than Macedonia, Albania, Bosnia-Herzegovina, Montenegro, and Slovenia, but less competitive than Moldovia, Bulgaria, Romania, Serbia, Croatia, and Greece. Turkey produces a fair amount of honey, but exports little of it because of high producer prices and strong domestic demand. One may argue that strengthening the current competitive position

is primarily consistent with lowering the comparatively high domestic pricing and increasing productivity rates.

Oliveira et al., (2019) Throughout the study period, the Portuguese tomato industry's competitiveness decreased; however, the competitiveness indicator showed a minor improvement from 2011 to 2013. Currently, price plays a significant role in the tomato paste trade between Spain and Portugal. Exports of processed tomato products may become more competitive if they can better differentiate their offerings and become less price-sensitive. Tomato goods have a competitive and dynamic global market. One essential component of success is innovation. New markets, like the ones that have historically existed for Portuguese tomato products, have high standards for quality as well as ethical farming and environmental principles. Strategic goals should include innovation in the food chain and value creation that extends beyond product level to include effective utilisation of natural resources.

Hristov et al., (2019) the production of sunflower seed in Bulgaria shows significant growth in the sector after the accession to the European Union (EU). The results of the analysis indicate that Bulgaria is one of the leading countries in the production and the export of sunflower seed. The rise in exports has coincided with the increase in output in recent years. Due to poor domestic demand in Bulgaria as well as difficulties in the fields of fruit and vegetable production, winemaking, animal breeding, and sunflower and wheat cultivation, these two products dominate the country's export list. Although there have been some positive developments since Bulgaria joined the EU, there is still a great deal of export dependence, which raises key issues about the industry's ability to grow sustainably. Bulgaria is among the top producers and exporters of sunflower seeds, according to the analysis's findings. In the

upcoming years, we should anticipate a decline in sunflower oil export potential and a rise in both domestic consumption and exports.

Ahmad et al., (2021) The study examined the sectors with low and high comparative advantage and their anticipated future development potential. It also established the existence and pattern of comparative advantage. Over the course of the study, dates, citrus fruits, and mangoes were found to have a comparative advantage, with the highest values of these indices. Potatoes and onions demonstrated comparative disadvantage in certain years as well as comparative benefit, but at lesser values. All of these fruits and vegetables do, however, exhibit annual variations, which emphasises the necessity of stabilising at a greater level of comparative advantage and exports. In this sense, vegetables are the main cause for concern because they also demonstrated relative disadvantages. To put it briefly, there is an urgent need to boost Pakistani fruit and vegetable exports. In addition to creating jobs, this will aid in lowering the trade imbalance and increasing foreign exchange reserves to help pay down the country's external debt and partially finance large import bills. Investing in R&D and making infrastructure improvements can raise the competitiveness of fruits and vegetables.

Ganai et al., (2022) it was revealed that India has been slowly moving from a low-technology export base towards medium-technology products. India has started to increase its export competitiveness of medium technology products, but the maximum share of total exported value remains with low-technology and resource-intensive products. In the global market, India is still primarily focused on a small number of items. The top 40 specialised products account for more than 50% of all export value, while the top 4 specialised products account for more than 32% of manufacturers' export value.

2.4 Literature Review on Export Competitiveness.

Supongpan et al., (2013) A country's product exports are compared to its imports to determine the disclosed comparative advantage index. Except for Australia, we discover that Thailand kept its comparative advantage in all significant markets. If low import tariffs continue, we anticipate Thailand's comparative advantage will hold steady in the US and Canada's North American markets. Due to the Thailand-Australia Free Trade Agreement's zero tariffs, its competitive advantage in the Australian market could grow (TAFTA). Thailand faces challenges in the EU due to high tariffs, and it can become less competitive in the eyes of ACP exporters who are exempt from tariffs. If low tariff rates continue, Thailand's comparative advantage in the Middle East could be maintained.

Ceglowski, (2017) discovered that a large number of the business service industry's most competitive exporters have higher Revealed Comparative Advantage (RCAs) based on domestic value added than on gross exports. The degree of RCA is lowered for several of the most competitive nations in the three Global Value Chain (GVC) manufacturing areas when considering value addition.

Rua et al., (2018) Small and Medium Enterprises **(**SMEs) cannot alter their business model concept by developing a differentiation-based competitive strategy due to lack of worldwide competitiveness. In fact, price deflation brought on by overcapacity and increased rivalry are traits of mature businesses (Parrish et al., 2006). Pressures from globalisation, such the liberalisation of the textile trade, have had a significant impact on the sector, according to the ATP (2014). The textile industry is facing significant challenges in a dynamic business climate brought on by global rivalry and unstable markets. The industry's critical success factors are

primarily associated with labour, energy, and transportation costs; they are also closely linked to geographic location, which affects responsiveness, flexibility, and proximity to services; knowledge, which includes experience, technical expertise, know-how, and networking; and recognition, which includes tradition, branding, and quality.

Gamariel and Hove, (2019) According to the analysis, FDI significantly and favourably affects export competitiveness, indicating that FDI improves export competitiveness. For export competitiveness, other factors include institutional quality, human capital, export demand, and the macroeconomic climate. The significance of human capital emphasises how much foreign direct investment (FDI) relies on human capital and educational endeavours to integrate foreign technologies. Export competitiveness is lowered by rising unit labour costs and restricted access to overseas markets. The findings indicated that foreign direct investment (FDI) significantly impacts export competitiveness by means of human capital, technology spillovers, particularly through forward linkages, and, to a lesser extent, increased domestic productivity. The study also supported the idea that foreign companies are pushing out local producers through export competitiveness through potential competition and dominating impacts of FDI.

Riniwati et al., (2020) The study's conclusions are as follows: a) Indonesia exports raw seaweed; and b) Indonesia is currently in the maturation stage of its product cycle. By implementing a co-management plan involving local government, local communities, local investors, and institutions, Indonesia has to enhance and increase its competitiveness. In order to stay in the mature stage of its product cycle, Indonesia must continue to produce an excess supply of processed seaweed and identify the nations where there is a surplus of demand for these items worldwide.

Daulika et al., (2020) the results show international rubber prices, and domestic consumption have a positive relationship with Indonesia's natural rubber export prices and the exchange rate of the rupiah against the dollar has a negative relationship with the export prices of Indonesia's natural rubber. Revealed Comparative Advantage (RCA) analysis, which is based on competitiveness analysis, demonstrates that Indonesian rubber has a comparative advantage or strong competitiveness with RCA value > 1, or 1.01, on the global market. On the other hand, the maturation stage is when the competitive advantage appears. This situation arises from the fact that Indonesian-produced natural rubber has a Trade Specialisation Index (TSI) value of 0.98, which is very near to 1.

Hassanain and Gabr, (2020) This study focuses on the orange crop, which is regarded as one of Egypt's most significant fruit exports. It was selected due to the fact that, on average, between 2014 and 2017, its exports were valued at 493.28 million dollars, or 11.3% of the total value of Egyptian agricultural exports. Egypt's orange exports are most crucial to Saudi Arabia, Russia, and the Netherlands markets, according to the report. With 55.04% of Saudi Arabia's average annual imports of oranges, Egypt holds the top spot in the country. It makes up 20.43% of all orange imports into Russia. It accounts for 4.24% of all orange imports into the Netherlands. With an average yearly growth of 253.8%, the export efficiency varies from 102.3% in 2000 to 461.1% in 2015. According to the market share model, the ratio of Egyptian orange import prices to the average Saudi market prices and the market share of Egyptian oranges in Saudi Arabia are significantly inversely correlated.

Popescu, (2020) This paper's analysis of several factors revealed that the crisis in the pork market has had a significant impact on commerce and production of pork. First, the decline in pig livestock had an impact on pork production. On the one hand, this was due to farms that

failed because they could not withstand market pressure. On the other hand, the African Swine Fever forced the authorities to reduce the pig livestock to about 486,000 heads, of which 10% were sows. Romania had 3,925 thousand pigs at the end of 2018, which was 27.7% fewer than in 2010, and 3,726 thousand heads in May 2019. Nonetheless, pork production increased little by 3.35% from 2014 to 2018, reaching 426,100 Tonnes (equivalent fresh pork carcass).

Abdullahi et al., (2021) The purpose of this study was to calculate the Relative Export Competitiveness (REC) for the Nigerian cocoa industry from 1995 to 2018. The Nigerian cocoa industry's three REC indices were calculated in this article based on their proportion to global exports overall (REC), global agricultural exports (REC_WA), and global merchandise exports (REC_WM). We have also looked into these REC indicators' determinants. While the research showed that Nigerian cocoa is competitive, it is not as competitive as other major cocoa exporting nations, such as Cote D'Ivoire, Ghana, Cameroon, Indonesia, Eduardo, and Sierra Leone, whose RECs are significantly lower than Nigerian cocoa.

Nisar, (2021) Over time, there has been a rising tendency in exports, however, these exports have increased more in value than in number. The cause is that expensive goods like prawns and crustaceans have become more expensive over time. The forecasting model showed that there could be a reduction or stagnation in Indian fish exports to China shortly. China and India are major contributors to global exports from Asia, but Bangladesh is also emerging as a prospective exporter, with annual increases in fish output and capture. The growth in terms of quantity and value has been rising over time, according to the CAGR. According to this report, it has taken an average of six years.

Chapter 3

3.1 Gems and Jewellery in India

Gems and jewellery have long been an essential component of many civilizations throughout the world, making them one of the biggest industries in the global economy. Gem and jewellery pieces were highly valued for their aesthetic qualities and were prized by men, women, and kings throughout history. Over time, the industry has experienced significant changes in terms of designs, production techniques, usage trends, commercialization, and so forth. The contemporary worldwide gem and jewellery industry is distinguished, among other things, by technical innovation, well-organized participants, a staff with professional skills, committed marketing initiatives, an infinite number of designs to meet the needs of all market segments, and government assistance. As a result, the market for gems and jewellery has grown significantly worldwide. India, a hotspot for creating a wide variety of gem and jewellery products because of its distinctive craftsmanship skills and cheap labour, has also seen tremendous expansion in this area.

The Indian gem and jewellery business makes up 7% of the country's GDP (gross domestic product). Over 5 million skilled and semi-skilled workers are employed in this business nationwide. India is the world's seventh-largest exporter, with its gem and jewellery exports accounting up approximately 3.5% of global exports as per 2020 figures. India exports jewellery and stones to the United States, the United Kingdom, the Netherlands, Japan, Thailand, Singapore, Belgium, Israel, Hong Kong, and the United States. The United States of America is the biggest buyer of Indian jewellery, with imports estimated at US$ 14.5 billion in 2021–22, up from US$ 8.7 billion in exports in 2020–21. Four initiatives have been outlined by the Indian

government to expand the nation's gem and jewellery industry. The production of patented designs to boost value, diversifying exported goods, working with other countries to develop cost-effective solutions, and promoting lab-grown diamonds are the main priorities. To boost the exposure of Indian goods, the Gems Jewellery Export Promotion Council (GJEPC) hosts several expositions, buyer-seller meetings, and trade events. (Indian trade portal).

The total gross export value of gold jewellery as of June 2023 was US$ 561.63 million. India imported jewellery and diamonds totalling US$ 3.37 billion in December 2022. The Gem and Jewellery Export Promotion Council reports that between April and December 2022, imports of gold jewellery were US$ 216 million and imports of gold bars totaled US$ 1,849 million. Ten Special Economic Zones (SEZ) for jewels and gems exist in India. With over 500 manufacturing facilities, these zones account for 30% of all exports from the nation. Exports of jewels and jewellery are predicted to increase as a result of the Revised SEZ Act. The Reserve Bank of India and the Indian government do not need to grant prior approval to foreign investors or Indian companies operating in this sector, as 100% of FDI has been approved by the government through an automatic method. The government has mandated that gold jewellery and antiques be hallmarked, and a year has been set aside for its implementation. The government suggested raising the import tax on silver bars, articles and more to 10% in the Union Budget 2023–24 to bring them into line with the duties imposed on gold and platinum. The Gem and Jewellery Export Promotion Council recommended, by the Union Budget 2021, lowering the import duty on cut and polished diamonds from the current 7.5% to 2.5% to increase gem and jewellery exports to US$ 70 billion by 2025. The Department for Promotion of Industry and Internal Trade (DPIIT) reports that between April 2000 and September 2023, cumulative foreign direct investment (FDI) in jewellery made of diamonds and gold in India was US$ 1,263.34 million.

Despite the pandemic that caused a worldwide shutdown of manufacturing, India has managed to hold onto its position as a major producer of several essential commodities, including polished and cut diamonds, silver jewellery, coloured gemstones, and synthetic diamonds and stones. Global exports showed growth in 2020.

India's share in global exports of cut and polished diamonds has risen from 26.9% in 2019 to 29.7% in 2020 and its share in global exports of silver Jewellery, coloured gemstones and synthetic diamonds/stones rose from 16.7%, 4.3% and 21.2% to 22%, 4.6% and 21.7 % respectively during the said period. While India's share in world exports of gold jewellery has recorded a significant decline from 12.1 % in 2019 to 8.6 % in 2020.

3.2 Research Methodology

All values for the export of commodities are taken from the International Trade Centre (ITC) for the study period 2015- 2022 and HS Classification of 2 digit (71) and 4 digit (7101 – 7118) of the Gems and Jewellery Industry. Table 3.1 shows the products in the gems and jewellery industry under the 4-digit HS classification.

Table 3.1

Code	Product label
'7101	Pearls, natural or cultured, whether or not worked or graded, but not strung, mounted or set, ...
'7102	Diamonds, whether or not worked, but not mounted or set (excl. unmounted stones for pick-up ...
'7103	Precious stones and semi-precious stones, whether or not worked or graded, but not strung, ...
'7104	Precious and semi-precious stones, synthetic or reconstructed, whether or not worked or graded ...
'7105	Dust and powder of natural or synthetic precious or semi-precious stones
'7106	Silver, incl. silver plated with gold or platinum, unwrought or in semi-manufactured forms, ...

'7107	Base metals clad with silver, not further worked than semi-manufactured
'7108	Gold, incl. gold plated with platinum, unwrought or not further worked than semi-manufactured ...
'7109	Base metals or silver, clad with gold, not further worked than semi-manufactured
'7110	Platinum, incl. palladium, rhodium, iridium, osmium and ruthenium, unwrought or in semi-manufactured ...
'7111	Base metals, silver or gold, clad with platinum, not further worked than semi-manufactured
'7112	Waste and scrap of precious metal or of metal clad with precious metal; other waste and scrap ...
'7113	Articles of jewellery and parts thereof, of precious metal or of metal clad with precious metal ...
'7114	Articles of goldsmiths' or silversmiths' wares and parts thereof, of precious metal or of metal ...
'7115	Articles of precious metal or of metal clad with precious metal, n.e.s.
'7116	Articles of natural or cultured pearls, precious or semi-precious stones "natural, synthetic ...
'7117	Imitation jewellery
'7118	Coin, incl. legal tender (excl. medals, jewellery made from coins, collectors' items of numismatic ...

ITC table

For the first objective Revealed Comparative Advantage (RCA) index will be used. The analysis will take into account 3 countries namely: the USA, Hong Kong and UAE. So the analysis will be able to determine which product is widely exported in these countries from India.

In the study, Balassa's Index (BI) will be used to measure the export competitiveness of Gems and Jewellery industry. Balassa (1965) gave the widely used approach for analysis of Revealed Comparative Advantage (RCA), the Balassa Index (BI). Balassa's index is defined as the relative proportion of the export share of a given product or sector in a country as compared to the export share of that commodity or industry in the global market. This index can be expressed as depicted by equation:

$RCAnm = RXA = (Xnm / Xwm) / (Xn / Xw)$

Where,

X_{nm} = nth country's export of product m

X_{wm} = World's total export of product m

X_n = Total export of country n

X_w = Total export of world

RCA_{nm} = Revealed Comparative Advantage of product m in country n.

The RCA index of a country 'n' is said to have a comparative advantage in a commodity 'm' when RCA is greater than 1 (RCA > 1), and is said to have a comparative disadvantage when RCA is less than 1 (RCA < 1). When RCA is equal to 1 (RCA= 1) the proportionate share of the given commodity is considered to be identical to the world average.

3.3 Regression Analysis

The second objective of this study is to find the factors that influence the gems and jewellery industry in India so a multiple regression model will be used. The regression model for the gems and jewellery export performance is:

$Y= \beta0 + \beta1X1 + \beta2X2 + \beta3X3 + \beta4X4 + ei$

Where,

Y = gexpo

X1 = exchange

X2 = impold

X3 = golp

X4 = forein

X5 = expodia

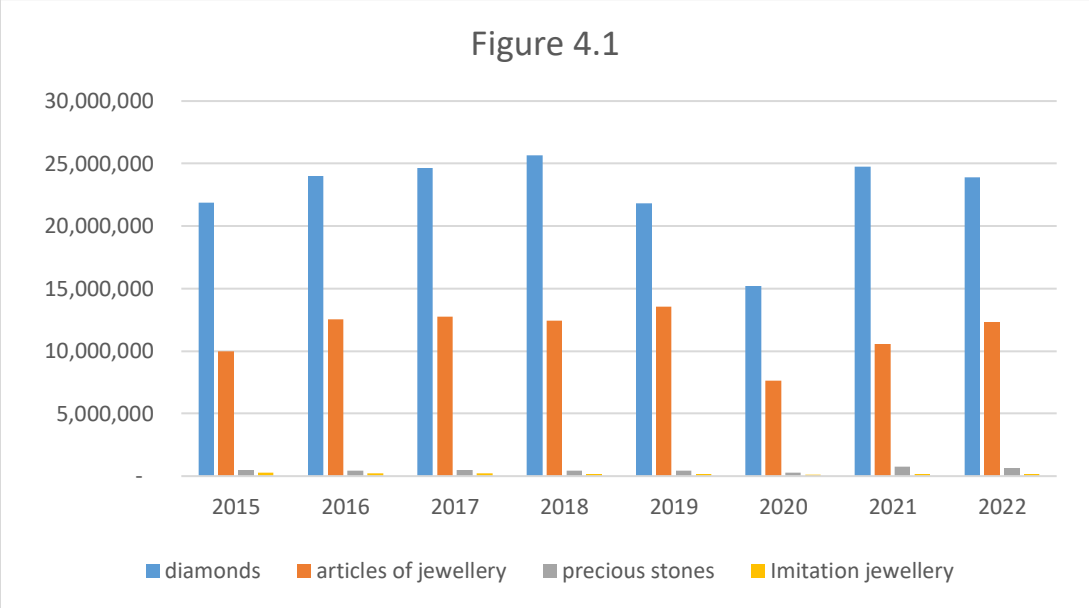
Ei = error term

The regression will be conducted on Rstudio. The dependent variable is Gems and jewellery export (gexpo) , and the five independent variables are exchange rate (exchange), import of gold (impold), price of gold (golp), foreign investment (forein) and export of diamond (expodia). The period for the regression analysis is 18 years (2005 -2022). The data was collected from the International Trade Centre (ITC), World Trade Integrated Solution (WITS) and the Reserve Bank Of India (RBI).

CHAPTER 4

4.1 Analysis

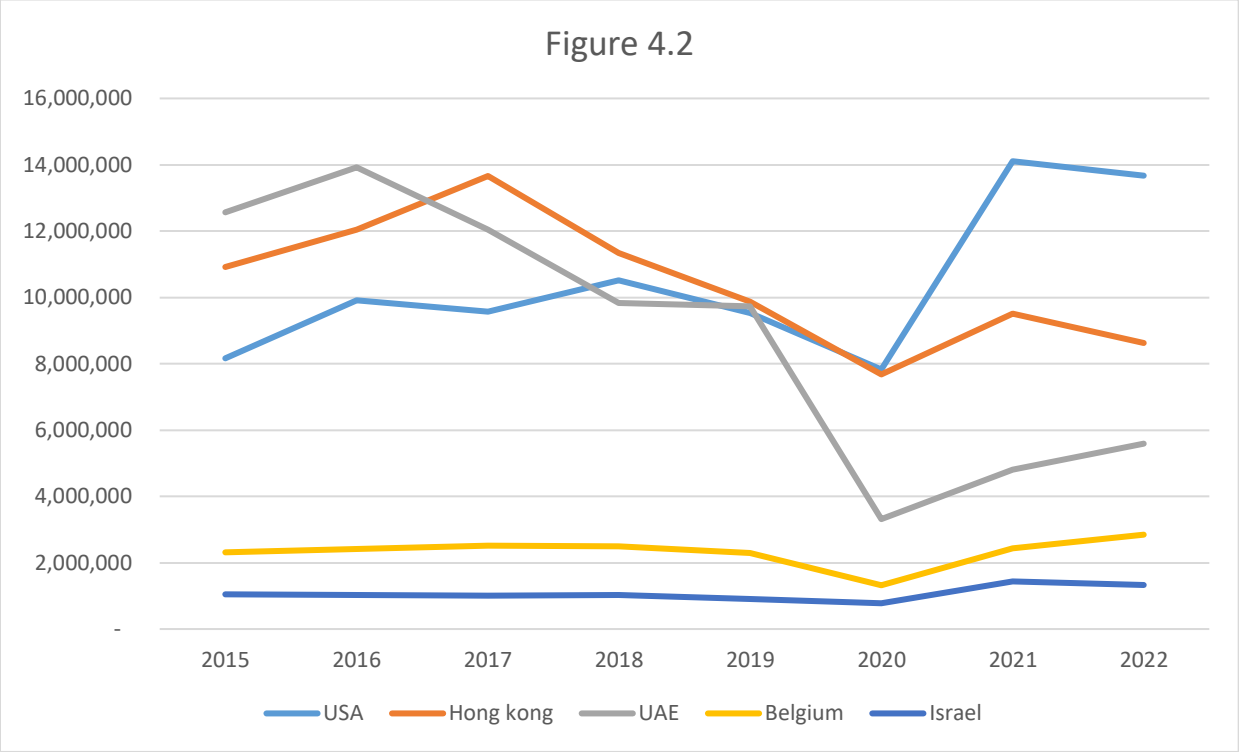
This chapter aims to give results based on the objectives of the study. To know the export competitiveness of the gems and jewellery industry in India.



authors' design from the ITC database

Figure 4.1 shows the 4 top exported products in HS 4-digit classification of gems and jewellery i.e diamonds where or not worked (7102), articles of jewellery and parts thereof (7113), precious and semi-precious stones (7103) and imitation jewellery (7117). It can be noted that diamonds are the top exported product in India in terms of gems and jewellery. Throughout 8 years diamonds remain the top exported product. During the covid period diamond exports reduced but after the period it is back to normal. After diamonds, it is articles of jewellery that are widely exported from India. India is known for its rich heritage, professional craftsmanship, and unique

designs in terms of jewellery. After that are precious stone and imitation jewellery exports which cannot be compared to diamonds and articles of jewellery exports.



Authors' design ITC database

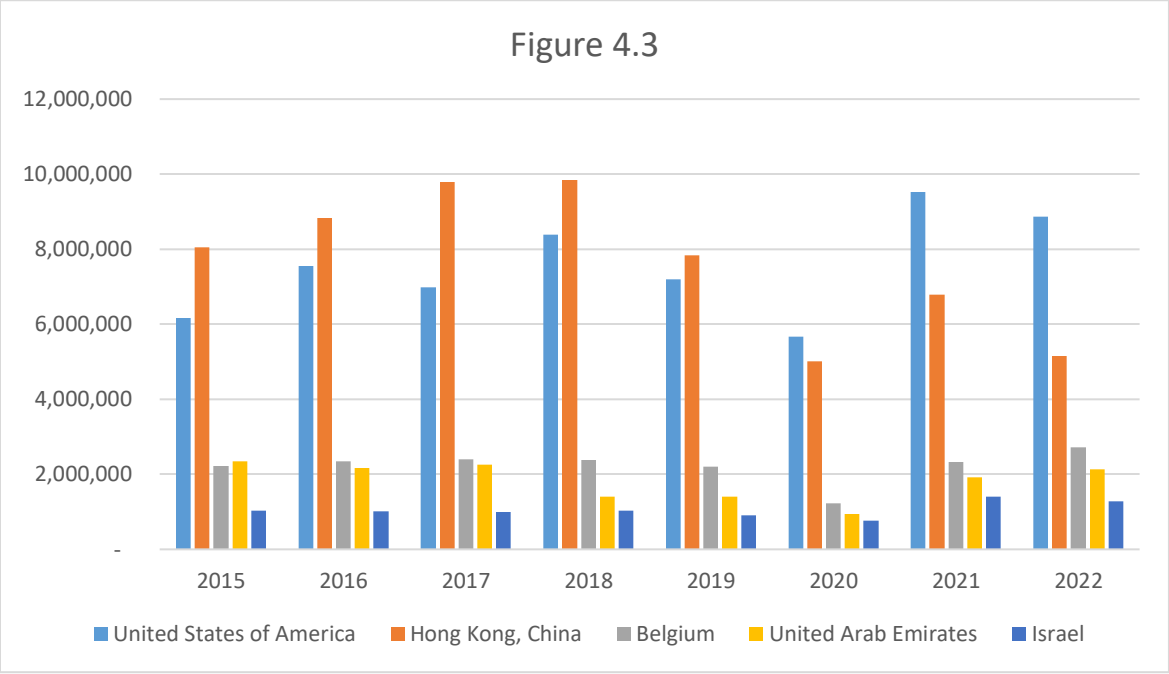
Figure 4.2 shows India's top exporting countries for gems and jewellery for the year 2015- 2022. It can be noted that in 2015 UAE was India's largest exporting country in terms of gems and jewellery. In 2017 there was a decline in UAE's imports of gems and jewellery from India. During covid, it fell sharply making UAE India's third largest exporting country. In 2022, the UAE remained India's third-largest exporting country. In 2015 Hong Kong was India's second largest exporting country, in 2017 I was the largest exporter country. During the COVID years, it fell and was the second, as of 2022 it still is the second largest exporter. In 2015 the USA was India's third-largest exporting country. During 2020 it started rising and became the first largest

and as of 2022 is India's first largest exporting country. Belgium remained the fourth largest and Israel was the fifth largest from 2015 – 2022.

Table 4.1

Importers	2015	2016	2017	2018	2019	2020	2021	2022
United States of America	6,168,783	7,555,524	6,983,578	8,389,332	7,191,441	5,664,648	9,518,981	8,860,452
Hong Kong, China	8,050,223	8,829,087	9,783,690	9,842,546	7,845,143	5,016,270	6,780,021	5,155,145
Belgium	2,223,447	2,341,593	2,400,344	2,388,898	2,205,958	1,231,745	2,319,399	2,724,016
United Arab Emirates	2,342,367	2,172,537	2,250,467	1,408,236	1,399,613	939,894	1,911,110	2,125,743
Israel	1,032,641	1,015,219	998,775	1,023,842	904,383	763,834	1,396,656	1,271,631

ITC data



ITC data authors' design

Table 4.1 and figure 4.3 shows that Hong Kong was India's largest export country of Diamonds in 2015. After 2019 there was a decline in Hong Kong's imports for diamonds. As of 2022 Hong

Kong is India's second largest diamond export country. In 2015 it is evident that the USA was India's second-largest export country. After 2019 USA's imports of diamonds from India started increasing making it the largest importer of diamonds. In 2022 USA remained the largest importer of diamonds. UAE"s imports from India were the third largest in 2015. In 2016 its imports started reducing making it the fourth largest importer of diamonds. In 2015 Belgium was the fourth largest importer of diamonds and as of 2022, it became the third largest importer. Israel remained the fifth largest importer of India's diamonds.

Table 4.2

country	value exported	trade balance
United States of America	13,664,318	5,637,294
Hong Kong, China	8,621,031	1,568,065
United Arab Emirates	5,584,313	(9,191,064)
Belgium	2,845,599	(2,467,697)
Israel	1,328,328	342,151

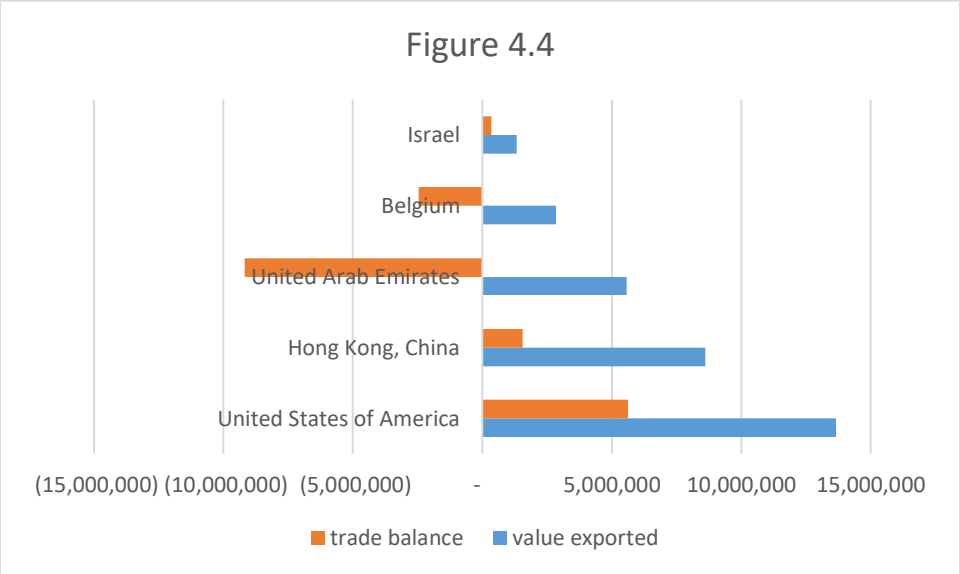


Table 4.2 and figure 4.4 shows that with a $5,637,294 trade surplus, India shipped items worth $13,664,318 to the United States of America. India generated a trade surplus of $1,568,065 by exporting commodities worth $8,621,031 to Hong Kong, China. India has a $9,191,064 trade deficit with the United Arab Emirates after exporting commodities worth $5,584,313. India had a trade imbalance of $2,467,697 with Belgium after exporting items worth $2,845,599 to Belgium. India generated a trade surplus of $342,151 by exporting commodities worth $1,328,328 to Israel.

Table 4.3

Product	Exported value	Trade balance
Diamonds	23,919,692	(3,382,011)
Articles of jewellery	12,306,262	11,339,251
Precious and semi-precious stones, synthetic or reconstructed,.	1,878,110	195,049
Precious stones and semi-precious stones, whether or not worked	632,018	(2,766,079)
Waste and scrap of precious metal	168,904	15,326

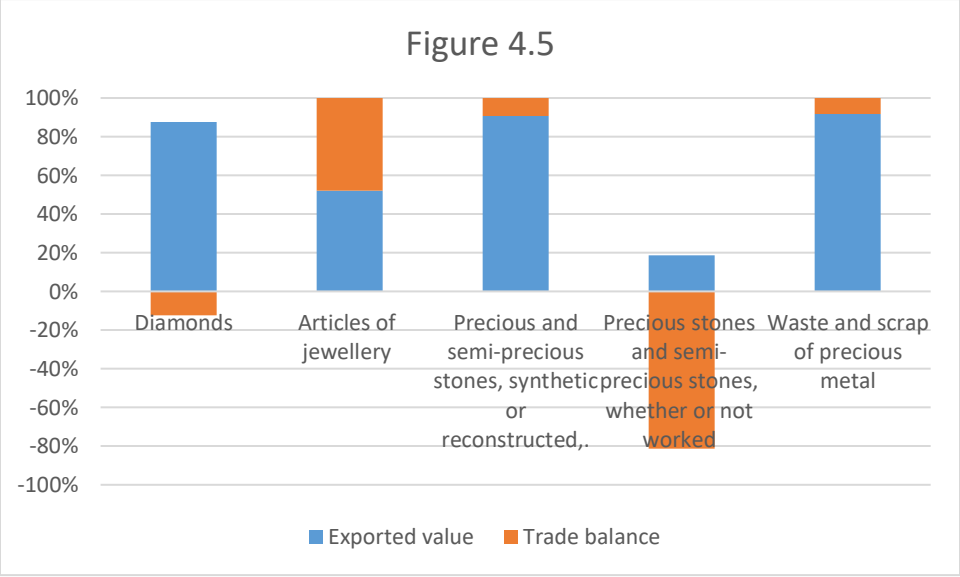


Table 4.3 and figure 4.5 show that a trade imbalance of $23,919,692 in diamonds was shipped by India, leaving a $3,382,011 deficit. Jewellery items: With a trade surplus of $11,339,251, India exported jewellery items worth $12,306,262. India exported synthetic or reconstructed precious and semi-precious stones worth $1,878,110, with a $195,049 trade surplus. With a $2,766,079 trade imbalance, India exported $632,018 worth of precious and semi-precious stones, whether or not they worked. Gold scrap and waste: India exported goods worth $168,904 and had a $15,326 trade surplus.

4.2 Revealed comparative advantage

The first objective is to find India's comparative advantage in the gems and jewellery industry, so 2-digit and 4-digit HS classifications will be used in the study. For this Revealed Comparative (RCA) will be used. RCA will be conducted between India and 3 other countries namely, the USA, Hong Kong and the UAE as India's top 3 exporting countries. Data was taken from the International Trade Centre (ITC).

Table 4.4: RCA- India and USA

code	Product label	2015	2016	2017	2018	2019	2020	2021	2022
'7101	Pearls, natural or cultured, whether or not worked or graded, but not strung, mounted or set, ...	0.18	0.28	0.03	0.09	0.08	0.15	0.05	0.10
'7102	Diamonds, whether or not worked, but not mounted or set (excl. unmounted stones for pick-up ...	19.56	21.70	20.20	23.11	21.79	26.21	24.77	20.49
'7103	Precious stones and semi-precious stones, whether or not worked or graded, but not strung, ...	3.39	3.49	3.45	3.51	3.14	4.28	3.24	2.91
'7104	Precious and semi-precious stones, synthetic or reconstructed, whether or not worked or graded ...	0.94	3.23	10.56	13.28	25.97	39.87	52.26	55.34
'7105	Dust and powder of natural or synthetic precious or semi-precious stones	1.09	1.54	1.67	1.36	1.09	0.97	0.54	0.76
'7106	Silver, incl. silver plated with gold or platinum, unwrought or in semi-manufactured forms, ...	0.03	0.10	0.09	0.08	0.07	0.17	0.05	0.06
'7107	Base metals clad with silver, are not further worked than semi-manufactured	6.04	0.01	0.00	0.00	0.00	0.00	0.07	0.06

'7108	Gold, incl. gold plated with platinum, unwrought or not further worked than semi-manufactured ...	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
'7109	Base metals or silver, clad with gold, not further worked than semi-manufactured	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
'7110	Platinum, incl. palladium, rhodium, iridium, osmium and ruthenium, unwrought or in semi-manufactured ...	0.00	0.01	0.00	0.05	0.00	0.02	0.01	0.00
'7111	Base metals, silver or gold, clad with platinum, not further worked than semi-manufactured	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
'7112	Waste and scrap of precious metal or of metal clad with precious metal; other waste and scrap ...	0.01	0.01	0.03	0.12	0.06	0.03	0.10	0.07
'7113	Articles of jewellery and parts thereof, of precious metal or of metal clad with precious metal ...	6.97	7.96	8.57	6.38	5.94	8.50	10.39	8.45
'7114	Articles of goldsmiths' or silversmiths' wares and parts thereof, of precious metal or of metal ...	0.48	0.40	0.41	1.68	0.73	0.35	1.76	2.57
'7115	Articles of precious metal or of metal clad with precious metal, n.e.s.	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
'7116	Articles of natural or cultured pearls, precious or semi-precious stones "natural, synthetic ...	0.76	1.69	2.03	2.76	3.86	3.76	5.44	4.21
'7117	Imitation jewellery	2.30	2.23	2.43	2.06	1.96	1.98	1.82	1.58
'7118	Coin, incl. legal tender (excl. medals, jewellery made from coins, collectors' items of numismatic ...	0.35	0.02	0.13	0.02	0.04	0.03	0.03	0.04

Authors calculation based on HS data from the International Trade Centre (ITC)

Table 4.4 shows India's revealed comparative advantage with the USA. India has a comparative advantage in 7 products of the gems and jewellery industry at four-digit HS classification (7101-7118). The products are diamonds, whether or not worked (7102), precious stones and semi-precious stones (7103), precious and semi-precious stones, synthetic or reconstructed (7104), articles of jewellery and parts thereof (7113), articles of goldsmiths' wares (7114), articles of natural or cultured pearls (7116), imitation jewellery (7117). Out of the 18 products in the gems and jewellery diamonds, whether or not worked (7102) and precious and semi-precious stones have the highest comparative advantage. India has a comparative disadvantage in 11 products i.e pearls, natural or cultured (7101), dust and powder of natural or synthetic precious or semi-precious stones (7105), silver incl. silver plated with gold (7106), base metals clad with silver (7107), gold incl. gold plated with platinum (7108), base metals or silver (7109), platinum incl.

palladium, rhodium (7110), base metals, silver or gold (7111), waste and scrap of precious metal (7112), articles of precious metal or of metal clad (7115) and coin incl. legal tender (7118).

Table 4.5: RCA- India and Hong Kong

Code	Product label	2015	2016	2017	2018	2019	2020	2021	2022
'7101	Pearls, natural or cultured, whether or not worked or graded, but not strung, mounted or set, ...	0.31	1.27	0.20	1.37	1.34	0.31	0.95	1.92
'7102	Diamonds, whether or not worked, but not mounted or set (excl. unmounted stones for pick-up ...	84.81	80.59	86.70	106.14	112.44	120.02	111.75	97.62
'7103	Precious stones and semi-precious stones, whether or not worked or graded, but not strung, ...	33.40	27.15	26.72	31.16	32.57	39.47	116.67	61.65
'7104	Precious and semi-precious stones, synthetic or reconstructed, whether or not worked or graded ...	3.70	50.19	80.42	90.38	158.51	102.10	96.67	98.56
'7105	Dust and powder of natural or synthetic precious or semi-precious stones	2.19	1.01	0.31	0.02	0.23	0.00	0.00	2.06
'7106	Silver, incl. silver plated with gold or platinum, unwrought or in semi-manufactured forms, ...	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
'7107	Base metals clad with silver, not further worked than semi-manufactured	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
'7108	Gold, incl. gold plated with platinum, unwrought or not further worked than semi-manufactured ...	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
'7109	Base metals or silver, clad with gold, not further worked than semi-manufactured	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
'7110	Platinum, incl. palladium, rhodium, iridium, osmium and ruthenium, unwrought or in semi-manufactured ...	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
'7111	Base metals, silver or gold, clad with platinum, not further worked than semi-manufactured	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
'7112	Waste and scrap of precious metal or of metal clad with precious metal; other waste and scrap ...	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
'7113	Articles of jewellery and parts thereof, of precious metal or of metal clad with precious metal ...	32.39	33.73	38.93	14.38	22.18	60.82	35.95	58.80
'7114	Articles of goldsmiths' or silversmiths' wares and parts thereof, of precious metal or of metal ...	47.76	0.13	0.12	0.05	0.09	0.43	0.14	0.43
'7115	Articles of precious metal or of metal clad with precious metal, n.e.s.	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
'7116	Articles of natural or cultured pearls, precious or semi-precious stones "natural, synthetic ...	0.08	0.47	6.87	13.17	7.34	2.83	4.65	2.16
'7117	Imitation jewellery	0.92	0.35	0.34	0.29	0.30	0.12	0.05	0.07
'7118	Coin, incl. legal tender (excl. medals, jewellery made from coins, collectors' items of numismatic ...	0.00	0.01	0.37	17.71	0.01	0.00	0.01	0.01

authors calculation based on HS data from the International Trade Centre (ITC)

Table shows India's comparative advantage with Hong Kong. India has a comparative advantage in 7 products in gems and jewellery HS 4-digit classification. The products are pearls, natural or cultured (7101), diamonds, whether or not worked (7102), precious stones and semi-precious stones (7103), precious and semi-precious stones, synthetic or reconstructed (7104), dust and powder of natural or synthetic precious or semi-precious stones (7105), articles of

jewellery and parts thereof (7113) and articles of natural and cultured pearls (7116). India's highest comparative advantage lies in 4 products i.e, diamonds (7102), precious and semi-precious stones (7103), precious and semi-precious stones, synthetic or reconstructed (7104) and articles of jewellery and parts thereof (7113). India has a comparative disadvantage in 11 products they are, silver incl. silver plated with gold (7106), base metals clad with silver (7107), gold incl. gold plated with platinum (7108), base metals or silver (7109), platinum incl. palladium, rhodium (7110), base metals, silver or gold (7111), waste and scrap of precious metal (7112), articles of goldsmiths' wares (7114), articles of precious metal or of metal clad (7115), imitation jewellery (7117) and coin incl. legal tender (7118).

Table 4.6: RCA- India and UAE

code	Product label	2015	2016	2017	2018	2019	2020	2021	2022
'7101	Pearls, natural or cultured, whether or not worked or graded, but not strung, mounted or set, ...	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1
'7102	Diamonds, whether or not worked, but not mounted or set (excl. unmounted stones for pick-up ...	9.9	8.5	10.0	6.9	7.8	11.9	14.0	12.6
'7103	Precious stones and semi-precious stones, whether or not worked or graded, but not strung, ...	1.1	0.8	1.0	0.4	0.3	1.4	0.9	0.6
'7104	Precious and semi-precious stones, synthetic or reconstructed, whether or not worked or graded ...	8.0	9.9	24.9	21.8	9.4	20.0	22.2	27.1
'7105	Dust and powder of natural or synthetic precious or semi-precious stones	0.6	0.0	0.0	0.0	0.0	0.0	0.9	0.0
'7106	Silver, incl. silver plated with gold or platinum, unwrought or in semi-manufactured forms, ...	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0
'7107	Base metals clad with silver, not further worked than semi-manufactured	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
'7108	Gold, incl. gold plated with platinum, unwrought or not further worked than semi-manufactured ...	9.3	6.8	4.2	0.0	0.0	0.0	0.0	0.1
'7109	Base metals or silver, clad with gold, not further worked than semi-manufactured	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
'7110	Platinum, incl. palladium, rhodium, iridium, osmium and ruthenium, unwrought or in semi-manufactured ...	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
'7111	Base metals, silver or gold, clad with platinum, not further worked than semi-manufactured	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
'7112	Waste and scrap of precious metal or of metal clad with precious metal; other waste and scrap ...	15.1	9.2	11.5	4.2	0.1	0.1	0.2	0.2
'7113	Articles of jewellery and parts thereof, of precious metal or of metal clad with precious metal ...	21.3	31.1	31.1	46.2	44.9	30.7	22.1	19.9
'7114	Articles of goldsmiths' or silversmiths' wares and parts thereof, of precious metal or of metal ...	3.7	62.9	19.0	1.5	0.5	1.1	2.8	3.5
'7115	Articles of precious metal or of metal clad with precious metal, n.e.s.	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0

'7116	Articles of natural or cultured pearls, precious or semi-precious stones "natural, synthetic ...	0.0	0.0	0.3	0.2	1.3	0.2	0.3	0.3
'7117	Imitation jewellery	1.2	1.1	0.9	2.2	1.5	3.5	1.3	0.9
'7118	Coin, incl. legal tender (excl. medals, jewellery made from coins, collectors' items of numismatic ...	31.6	67.8	160.6	75.5	0.1	0.1	0.0	0.0

Authors calculation based on HS data from the International Trade Centre (ITC)

Table shows India's comparative advantage with UAE. India has a comparative advantage in 4 products of HS 4-digit classification in gems and jewellery. They are diamonds, whether or not worked (7102), precious and semi-precious stones, synthetic or reconstructed (7104), articles of jewellery and parts thereof (7113) and articles of goldsmiths' wares (7114). India has a comparative disadvantage in 14 commodities i.e pearls, natural or cultured (7101), precious and semi-precious stones (7103), dust and powder of natural or synthetic precious or semi-precious stones (7105), silver incl. silver plated with gold (7106), base metals clad with silver (7107), gold incl. gold plated with platinum (7108), base metals or silver (7109), platinum incl. palladium, rhodium (7110), base metals, silver or gold (7111), waste and scrap of precious metal (7112), articles of precious metal or of metal clad (7115), articles of natural and cultured pearls (7116), imitation jewellery (7117) and coin incl. legal tender (7118). UAE is the third largest importer of India's gems and jewellery, but India has a comparative advantage only in 4 products of the HS 4-digit classification and has a comparative disadvantage in 14 products.

4.3 Regression results

Regression analysis is conducted to get results on the second objective of the study i.e. factors affecting the gems and jewellery exports in India. For this study, one dependent and five dependent variables are taken. The dependent variable is gems and jewellery export and the independent variables are exchange rate, import of gold, price of gold, foreign investment and export of diamonds.

Table 4.7

Coefficients	Estimates	Standard errors	t- value	p-value
Ln (exchange)	0.24169	0.18772	1.288	0.2222
Ln (impold)	0.14718	0.16196	0.909	0.3814
Ln (golp)	-0.17167	0.20439	-0.84	0.4174
Ln (forein)	0.15569	0.08509	1.83	0.0922
Ln (expodia)	0.96022	0.16798	5.716	9.66e-05 ***

R-squared: 0.95

Adjusted R-squared: 0.9291

F-statistic: 45.56 on 5 and 12 DF, p-value: 2.157e-07

From Table 4.7 it can be noted that Log(exchange) has a coefficient of 0.24169. This indicates that all other things being equal, a one-unit rise in the natural logarithm of the exchange rate corresponds to an increase of around 0.24169 units in the dependent variable. A positive coefficient for log(exchange) suggests that an increase in the exchange rate is associated with an increase in the dependent variable. These coefficients represent the effects of the natural logarithm of variables named log impold (import of gold),log golp (price of gold), and log forein (foreign investment). We can't conclude that these factors significantly affect the dependent variable in the model because the coefficients are not statistically significant ($p > 0.05$). Log expodia (export of diamonds) has a coefficient of 0.96022. This indicates that, when all other variables are held constant, an increase of one unit in the natural logarithm of expodia corresponds to an increase of roughly 0.96022 units in the dependent variable. Furthermore, the extremely low p-value (9.66e-05) suggests that this variable is statistically significant and

significantly affects the model's dependent variable. R-squared value is 0.95, indicating that approximately 95% of the variability in the dependent variable is accounted for by the independent variables included in the regression model. A small p value indicates that the regression model is statiscally significant overall, meaning at least one independent variable is statiscally significant to the dependent variable.

Chapter 5

CONCLUSION

The study was conducted to analyse India's export competitiveness in gems and jewellery industry and to find out the factors affecting the industry. RCA between India and USA, it was noted that India has comparative advantage in 7 products out of 18 products under HS 4- digit classification. RCA between India and Hong Kong showed that India had comparative advantage in 7 products. RCA between India and UAE shows that India has comparative advantage only in 4 products. Based on the RCA between India and the 3 countries it shows that India is exporting less than half of the products under 4- digit HS classification. Regression results show that the export of diamonds significantly affect the gems and jewellery industry in India. From the study it was noted that diamond exports is one of the main product that is exported worldwide.

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