THE GEMS & JEWELLERY INDUSTRY

Contributing to “Make in India”

A study on the gems & jewellery industry and its potential to contribute to the government’s “Make in India” initiative
About this Report

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- Corporate Governance
- Sustainability
- Economics
- Public Policy

Research Team at TARI

Research Conceptualisation
Kaushik Dutta
Kshama V Kaushik

Principal Researchers and Authors
Rosanna M. Vetticad
Vitul Gupta
Avni Jain

Research Support
Jyoti Khetarpal
Mihir Bhattacharya
Saumya Sah
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About ASSOCHAM

The knowledge architect of corporate India

ASSOCHAM initiated its endeavour of value creation for Indian industry in 1920. Having in its fold more than 400 Chambers and Trade Associations, and serving more than 4,50,000 members from all over India. It has witnessed upswings as well as upheavals of Indian Economy, and contributed significantly by playing a catalytic role in shaping up the Trade, Commerce and Industrial environment of the country.

Today, ASSOCHAM has emerged as the fountainhead of Knowledge for Indian industry, which is all set to redefine the dynamics of growth and development in the technology driven cyber age of 'Knowledge Based Economy'. ASSOCHAM is seen as a forceful, proactive, forward looking institution equipping itself to meet the aspirations of corporate India in the new world of business. ASSOCHAM is working towards creating conducive environment of India business to compete globally.

Vision

Empower Indian enterprise by inculcating knowledge that will be the catalyst of growth in the barrier less technology driven global market and help them upscale, align and emerge as formidable player in respective business segments.

Mission

As a representative organ of Corporate India, ASSOCHAM articulates the genuine, legitimate needs and interests of its members. Its mission is to impact the policy and legislative environment so as to foster balanced economic, industrial and social development. We believe education, IT, BT, Health, Corporate Social responsibility and environment to be the critical success factors.

Members-Our Strength

ASSOCHAM represents the interests of more than 4,00,000 direct and indirect members across the country. Through its heterogeneous membership, ASSOCHAM combines the entrepreneurial spirit and business acumen of owners with management skills and expertise of professionals to set itself apart as a Chamber with a difference. Currently, ASSOCHAM has more than 100 National Councils covering the entire gamut of economic activities in India.

Insight into 'New Business Models'

ASSOCHAM has been a significant contributory factor in the emergence of new-age Indian Corporates, characterized by a new mindset and global ambition for dominating the international business. The Chamber has addressed itself to the key areas like India as Investment Destination, Achieving International Competitiveness, Promoting International Trade, Corporate Strategies for Enhancing Stakeholders Value, Government Policies in sustaining India's Development, Infrastructure Development for enhancing India’s Competitiveness, Building Indian MNCs, Role of Financial Sector the Catalyst for India’s Transformation.

D. S. Rawat

Secretary General
d.s.rawat@assocham.com
Key Message

In continuation with our endeavour to contribute to the national debate on a manufacturing-led growth model that the government has embarked upon, we are undertaking industry specific studies. These studies seek to answer questions relating to the potential of specific industries to revive manufacturing, the challenges they might face in the process and how those could be addressed.

This report deals with the gems and jewellery industry. 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.

I thank all the industry experts who have given their valuable inputs for making this study possible. I also thank Thought Arbitrage Research Institute for an excellent job of carrying out this study. I am sure it will be useful for the industry and policy makers.

Rana Kapoor

President, ASSOCHAM
Preface

This report is ASSOCHAM’s contribution to the national debate on the manufacturing-led growth model that the government has embarked upon through its ‘Make in India’ and other initiatives.

Different sectors have varying roles to play in contributing to this national effort and ASSOCHAM is pleased to present this sector report of the Gems and Jewellery sector. It offers new insights into how we can achieve high and sustainable growth in incomes and jobs to meet the demands of our young and growing population.

I thank the industry experts who have given their perspectives and helped in analyzing the factors involved in development of this sector.

My special thanks to Thought Arbitrage Research Institute for bringing out this excellent study.

D.S.Rawat

Secretary General, ASSOCHAM
Foreword

The home and world business communities are upbeat about India’s growth prospects and falling inflation and rising GDP numbers are only reinforcing this optimism. The government's policy interventions and programmes, such as the ‘Make in India’ initiative are also huge contributing factors that are sending the right signals of intent to domestic and international industry and policy makers – that India means business.

The manufacturing sector of any economy is one of the key drivers of its employment and growth. The ‘Make in India’ initiative launched in 2014, is aimed at boosting the manufacturing sector by facilitating investment, fostering innovation, enhancing skill development and protection of intellectual property rights. While referring to this initiative, the President of India, speaking at a SCOPE conference in November 2014, said – “We have one of the largest markets in the world and there is no dearth of demand for competitively priced, quality products. We should aim not only at catering to our huge domestic demand but also towards high quality product development and greater access to foreign markets.”

This report, one of a series, by Thought Arbitrage Research Institute (TARI) has been commissioned by ASSOCHAM to provide a focussed analysis on Gems and Jewellery industry which is covered under the ‘Make in India’ programme.

For the success of the ‘Make in India’ programme such an analysis would go a long way in helping government and industry associations formulate policies and draft a road map for the growth of the industry and the economy. Insights and perspectives from industry experts and bodies have further added value to this report.

The gems and jewellery industry is one of the fastest growing sectors of the economy and is highly export oriented and labour intensive. Given the rapid changes in tastes and disposable incomes, increased competition and enabling government policies, and the impact that these would have on employment and the exchequer, this report focusses on the gems and jewellery industry.

I thank the dedicated team of researchers at TARI for putting together this report. I also thank all the industry experts and reviewers who have provided their invaluable insights and comments on this report. Last but not the least I thank ASSOCHAM for the patience and guidance through this process.

The perspectives provided in this report, I hope, will have an impact on the “Make in India” initiative contributing to sustainable growth and development.

Kshama V Kaushik

Director, Thought Arbitrage Research Institute
The Gem & Jewellery Industry

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Executive Summary

The manufacturing sector is one of the key drivers of employment and growth of an economy. The 'Make in India' initiative launched in 2014, is aimed at boosting manufacturing by facilitating investment, fostering innovation, enhancing skill development and protection of intellectual property rights.

The gems and jewellery industry is one of the fastest-growing sectors in the Indian economy. It is highly export-oriented and labour intensive, thus contributing greatly to the exchequer in terms of foreign exchange, and to employment. Given these facts, this study will focus on the gems and jewellery industry and:

- Analyse its potential to contribute to the government’s “Make in India” initiative; and
- Assess what impact the growth of this sector is likely to have on the economy as a whole.

This study will therefore provide a detailed analysis of the following:

- Why should India focus on the gems and jewellery industry?
- How can the industry improve its manufacturing base – what are the enablers necessary to support growth?
- What is the multiplier effect of the growth of this sector?
- What are the challenges faced by the industry?
- What is the way forward?

Such an analysis would be essential for the success of the ‘Make in India’ initiative as it would help government and industry associations to formulate policies and draft a road map for its overall growth.

Growth Drivers & Quadrant Scenario Modelling

**Growth Drivers:**
The drivers of growth in the gems and jewellery industry analysed in the study are listed below:
The demand for jewellery in India is unique and to some extent inelastic to price. Part of the relative inelasticity of gold demand to price is explained by its religious and cultural significance, which is purchased for ornamentation and gifting purposes, both of which are deeply ingrained in the Indian cultural psychology. Growing domestic demand is a factor of:
- Growing spending power;
- Role of jewellery in weddings; and
- Gold as an investment

India processes diamonds at the cheapest rates in the world, which makes it the most competitive globally - per carat diamond processing cost in India being 1$10 (2011). In-born artisanal skills passed down from generation to generation and an abundance of an informally trained skilled workforce makes labour cheap due to the inherent competition.

Better designs, new ranges and innovative marketing are the factors contributing to the growth of the organised sector. Modern ways of segmentation, targeting consumer segments with specific designs and exclusive ranges and new usage styles attract a new set of consumers and create new markets. Thus it is very important to sustain momentum in this direction and focus on consumer research & innovation in design.

The ‘Gold Tourism’ circuit proposed by the World Gold Council to boost the production and sales of handcrafted jewellery made in India is a huge opportunity for the industry. Such jewellery is a favourite among tourists and fetches a better price than machine made jewellery. This move is expected to generate immense employment opportunities in the sector.

Government rules and policy interventions are pivotal to the growth of the industry. The Indian Government is taking all possible initiatives for this industry. These include the proposed Gold Monetisation Scheme, development of special economic zones, etc.

**Quadrant Scenario Model:**
Using the Quadrant Scenario Development Tool the growth drivers identified were segregated based on their relative importance and arranged in different quadrants on a matrix of relative importance and time continuum. Admittedly, arranging the drivers in various quadrants is a somewhat subjective exercise and is prone to different interpretations by different readers.
*Enabling Government Policies: Different policies are expected to have differing importance over time, and have therefore been shown in three quadrants. This section of the main report enumerates why each driver has been placed in their respective quadrants.

The Multiplier Effect

This study has estimated the multiplier effect of the gems and jewellery industry for all the variables of interest. The results tabulated below, show why it is a sector for policy makers to focus on.

<table>
<thead>
<tr>
<th>Multiplier</th>
<th>Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>2.68</td>
</tr>
<tr>
<td>Value Added / Income</td>
<td>4.22</td>
</tr>
<tr>
<td>Employment</td>
<td>5.20</td>
</tr>
<tr>
<td>Tax</td>
<td>3.10</td>
</tr>
</tbody>
</table>

The output multiplier shows that increase in demand of the gems and jewellery sector can lead to an increase in overall output of the economy by approximately 3 times. This shows the strong backward linkages of the sector with others i.e. ancillary industries.

The production process is closely associated with employment, value addition and taxes. In terms of all these variables, the gems and jewellery industry and its future looks promising. Rise in employment across the economy because of a rise of ₹ 1 of demand is more than 5 times the rise in employment within the sector.

Similarly, rising demand can lead to:

- increase in value addition of the economy by more than 4 times the value addition within the sector; and
- increase in indirect tax collections in the economy by 3 times that of the tax collections from the sector.

The gems and jewellery industry is one of the fastest growing in India. It is clearly capable of driving up GDP, increasing employment, gross value added and indirect tax collections. Its growth may well be seen as one of the panaceas to the problems of the economy.

The estimates of the multiplier effect in this study show that the industry has great potential and how it's linkages with other industries can facilitate achievement of the government's "Make in India" initiative to revive Indian manufacturing, overall economic growth and prosperity.

Challenges Faced by the Industry

The industry faces certain fundamental and regulatory challenges which limit achievement of its full potential. These challenges analysed in the study are:
Indigenous availability of raw material plays a crucial role in the growth of any industry. However, the Indian gems and jewellery industry is almost completely dependent on imported raw materials such as gold, diamond and other precious and semi-precious stones, with India importing almost 90% of its requirements. Limited recycling and inefficient mining of gold are the main reasons for low domestic supply of gold.

Like other industries, the gems and jewellery industry is also facing many challenges related to labour. These are mainly shortage of skilled labour, poor working conditions and pay. Manual methods of cutting, polishing, manufacturing and designing of gems and jewellery are steadily being substituted with high-end automation using machines and software. Use of laser machines, operating computers and understanding modern techniques require systematic and practical training.

Considering the low wages in this industry, it is no surprise that young workers are not attracted towards it.

Inadequate working conditions and limited compliance with health and safety standards have also led to low interest in the industry. Unorganised players and small scale enterprises which form a large segment of the industry, are not known to use cutting edge technology and high quality materials in their manufacturing processes.

In the last few years the rupee has been highly volatile against the dollar. A stable currency is necessary for developing countries, for smooth economic development and foreign inflows. Hence, it is important for the gems and jewellery industry as well, particularly considering its dependence on imports and exports. It will also help boost exports and maintain cost competitiveness in the international market.

The industry is highly affected by changing consumer tastes and preferences. In times of such rapid changes, it has to face the challenge head on and must be attentive to and receptive towards important trends, developments and new risks.

As per industry experts, consumer behaviour in India is a major factor for lower value addition as Indians prefer pure gold jewellery in which there is a limited scope for value addition due to less artistic work and innovation in designs. Gemstones studded jewellery which would naturally add more value to the product is not as sought after. Limited domestic brands, limited gold recycling and inefficient mining are other reasons for a low GVA. To increase value addition, gemstone studded gold jewellery and more value added products may be promoted.
Relative to the international market, value addition, particularly in the gold segment of the industry is low in India.

- Considering the industry is predominantly dependent on imports and contributes a large share in the county's total imports, the government and RBI impose various restrictions on it, to reduce the current account deficit (CAD) and curtail domestic demand. Given the significance of the industry to the economy, it is important to assess the potential impact of regulations on employment, exports, and value addition.

The Way Forward

The significant areas that need immediate attention for the industry to achieve its full potential are presented in the chart below:

Authors' representation

To fulfil the aims of the National Manufacturing Policy and the 'Make in India' initiative, the potential of the gems and jewellery industry cannot be ignored. With a share of 29% in global jewellery consumption and changing demographics it has great potential to boost Indian manufacturing and contribute in a big way to GVA and employment. However, sustaining this potential needs planned and systematic efforts by the government and industry bodies. Barriers, stifling growth need to be removed and policy initiatives to boost growth encouraged and introduced.

This study has shown, that while a number of challenges may exist in the industry, it has a number of strengths which could contribute in a large way to the growth of the industry and the economy as a whole. The multiplier effect demonstrates, that increasing demand for gems and jewellery has a vital and positive impact on output, employment, value addition and indirect tax collections. These numbers themselves should point at the potential the industry holds. For systematic growth all these aspects need to considered, the challenges identified, met, and the growth drivers exploited and nurtured. Coordinated efforts would give the necessary boost to the industry, lead it through to a new growth path, increasing its contribution to GDP, and take it into a new phase in the international markets. Achieving the goals of the country’s “Make in India” initiative will then, not be a distant dream!
Aims & Objectives of this Study

The manufacturing sector is one of the key drivers of employment and growth of an economy. The Government of India’s ‘Make in India’ initiative launched in 2014, is aimed at boosting manufacturing by facilitating investment, fostering innovation, enhancing skill development and protection of IPR. It identifies 25 sectors for special attention. The key objectives of the initiative are:

- To increase the share of manufacturing in GDP from 16% to 25%
- To increase quantum and proportion of exports of manufactured goods
- To reverse jobless growth syndrome by increasing employment in formal sector
- To increase the taxes collected from gainful economic activity
- To increase the efficiency and viability of SME businesses

The gems and jewellery industry is one of the fastest-growing sectors in the Indian economy. It is a highly export orientated and labour intensive industry, thus contributing greatly to the exchequer in terms of foreign exchange, and to employment. Gold jewellery forms a large portion of the Indian jewellery market, the balance comprising fabricated studded jewellery that includes diamond and gemstone studded jewellery. A predominant portion of the gold jewellery manufactured in India is consumed in the domestic market. India is also the world’s largest cutting and polishing centre for diamonds. Increasing per capita income and the status symbol attached to jewellery are also likely to contribute to the growth of the industry.

Given these facts, this study will focus on the gems and jewellery industry and:

- Analyse its potential to contribute to the government’s “Make in India” initiative; and
- Assess what impact the growth of this sector is likely to have on the economy as a whole.

Such an analysis would be essential for the success of the ‘Make in India’ initiative as it would help government and industry associations to formulate policies and draft a road map for the overall growth of this industry.

This study will provide detailed analysis of the following:

- Why should India focus on the gems and jewellery industry?
- How can the industry improve its manufacturing base – what are the enablers necessary to support growth?
- What is the multiplier effect of the growth of this sector?
- What are the challenges faced by the industry?
- What is the way forward?
The Gems & Jewellery Industry: Introduction

Precious gems and jewellery form an integral part of various customs across the world. Jewellery has been looked upon as a security in terms of wealth and savings, and as an item of prestige since time immemorial. The industry includes mining of gold, diamonds and other precious metals and stones, and polishing and manufacturing of jewellery. Russia, Belgium, Africa, Canada and Australia are the major diamond mining countries whilst China, Australia, USA and Russia are known for gold mining. India, China and USA are the major consumers of gold as well as diamonds.

India has one of the earliest known sources of diamonds on earth. World famous diamonds such as the Koh-i-noor, the Orlof, the Great Mogul, Sancy Hope, Floretine, Nassak, Regent, Pitli, Nizam etc were products of India.\(^1\) Jewellery is an integral part of Indian festivals and social occasions like marriages and births. Indian jewellery is said to be unique in its design and workmanship and traditional jewellery varies from region to region.

An Industry Overview

The Indian gems and jewellery industry is one the largest in the world with a share of 29% in global jewellery consumption. India is the largest diamond processing centre in the world and has the biggest consumer pool of gold. This industry plays a significant role in the Indian economy. Its market size is about 6%-7% of the country’s GDP and it plays an important role in maintaining the current account deficit and export-led growth of the economy. It is the second highest contributor to the country’s commodity exports with a share of 13%, after petroleum products (20%) in 2012-13.\(^2\)

Indian gems and jewellery is largely export oriented holding 46% share of the market size, the balance being 54% being domestic demand. After the global economic slow-down though, its share in total exports has seen a declining trend. However, recently published data by the Ministry of Commerce shows that exports of jewellery of gold and other precious metal have increased by 40.7% in 2014-15. Export trends of the last five years are presented in the following table:

<table>
<thead>
<tr>
<th>Year</th>
<th>Gems and Jewellery Exports (in million US$)</th>
<th>% of total Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009-10</td>
<td>29,442</td>
<td>16.47%</td>
</tr>
<tr>
<td>2010-11</td>
<td>43,048</td>
<td>17.14%</td>
</tr>
<tr>
<td>2011-12</td>
<td>43,211</td>
<td>14.12%</td>
</tr>
<tr>
<td>2012-13</td>
<td>39,137</td>
<td>13.03%</td>
</tr>
<tr>
<td>2013-14(P)</td>
<td>34,993</td>
<td>11.19%</td>
</tr>
</tbody>
</table>

Source: Author’s representation, GJEPC and Ministry of Commerce

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2 Ministry of Commerce, Annual report 2013-14
The Gem & Jewellery Industry  

Contribution to ‘Make in India’

The industry recorded a total market size of ₹463,000 crores during F.Y. 2012-13, with domestic consumption standing at ₹251,000 crores and export turnover at ₹212,800 crores.

![Market Size 2012-13](chart.png)


Demand in this industry can be divided into two categories - investment demand and consumption demand. Jewellery is considered as an investment option as it almost always has a good realisable value. For investment purposes Indians buy gold coins, bars and jewellery. A FICCI study says that during the period 2005-12 investment demand for gold bars and coins increased by a CAGR of 43% and that of jewellery by 22%. Consumption demand increased by a CAGR of 23% during the same period.³

Earlier this industry was highly fragmented and run by small unorganised players. In the past few years though, some organised players have emerged in the industry. They follow certain globally accepted standards and believe in better services to customers. The industry is also adopting new and innovative marketing and trading tactics in keeping with the times and changing technology, such as online trading, e-retailing etc. E-retailers offer better pricing options, greater variety, international patterns, third-party lab certification of all their products and easy payment schemes to gain a larger customer base. They are also expanding their reach in remote areas. However, buyers are still cautious of the quality and finish of such jewellery and approach this avenue cautiously.

To promote this industry government has approved about 22 special economic zones for gems and jewellery. Gemstones and jewellery clusters have also been developed to promote the industry. Mumbai is the hub of the industry as it receives a majority of the country’s gold and rough diamond imports. It has a considerable number of modern, semi-automatic factories and laser-cutting units and is also the largest manufacturer and wholesale market of machine made jewellery. Most of the

diamond processing is undertaken in Gujarat (primarily in Surat, Ahmedabad and Bhuj) and in Rajasthan (Jaipur), with Gujarat contributing 80% of the total diamonds processed in India.

Segments
The gems and jewellery industry has a wide range of segments. It can be categorised into gold jewellery, diamond and other studded jewellery (mainly silver, pearls and colour stones).

**Diamond**
India is the world leader in diamond processing both in terms of quantity and value. It is the largest processing hub of diamonds in the world. This dominant position has been achieved through progressive liberalisation of government policies, entrepreneurship and skilled labour. India leads in the business of cutting and polishing diamonds also due to its price competitiveness and willingness to work at lower margins. As per a Ministry of Commerce and Industry report of the task group for the diamond sector, 14 out of 15 diamonds set in jewellery globally are processed in India. However, China, through government intervention and aid, is emerging as a major competitor. Dubai is also emerging as global diamond trading centre.

Imports of rough diamonds come mainly from UK, Israel, UAE and Russia. After cutting, polishing and processing, they are exported to USA, Belgium, UK, Israel and other countries. As per import-export data published by the Gems and Jewellery Export Promotion Council, diamonds account for about 60% and 75% in total gems and jewellery exports and imports respectively. Export of cut and polished diamond reached US$28,221 million in 2010-11. Thereafter it decreased and after a dip it increased to US$19,643 million in 2013-14.

**Gold Jewellery**
Gold is a symbol of prosperity and appeals to both the young and old across social strata. It has a unique position in the minds of Indians and is considered a source of social security for large sections. Indians also attach a high emotional value to gold which is considered a status symbol as well.

Gold contributes a large amount in total domestic jewellery consumption. At 29% of global gold consumption, India is the largest consumer of gold in the world. This segment is predominantly dependent on imports. As per the World Gold Council, India imports 90% gold to meet its domestic demand.
Gold is in demand for both investment and consumption purposes. As per a survey conducted by the FICCI, about 76% people consider it a safe investment. Gold jewellery accounts for about 80%-85% of total domestic consumption, and is mainly used as ceremonial and bridal wear. India exported gold jewellery worth US$8 billion in 2013-14 and estimated to reach US$40 billion by 2020 according to the World Gold Council.

Others
Silver jewellery, pearls, gemstones and synthetic stones are also important for the industry. These cumulatively contribute 7% of total gems and jewellery exports. Indian domestic consumption of silver, imitation and stones jewellery accounts for about 4%-7%. These types of jewellery are primarily used for consumption rather than investment.

Employment
India has many natural advantages to emerge as a global gems and jewellery hub. There is considerable scope of value addition in terms of domestic capacity building, quality management and professionalisation.

The industry is highly labour intensive and India presently has the largest and the best artisan force for designing and crafting in the world. It employed a labour force of about 46.4 lakhs in 2013 directly and indirectly and is expected to employ approximately 82.3 lakh people by 2022 as per the Ministry of Skill Development and Entrepreneurship (MSDE), thus adding 35.9 lakh new jobs. The level of qualifications range from secondary school education to post graduate level. However the industry is paradoxically facing a shortage of skilled labour. The requirement for persons having minimum qualifications is expected to increase to 65% in 2022 from 59% in 2013.

In this predominantly unorganised sector, there is little or no stress on health and hygiene factors and even less focus on training. More than two-thirds of the workforce is employed in the processing and manufacturing part of the value chain. Employment in this industry is concentrated in Rajasthan, Gujarat, West Bengal, Maharashtra, Tamil Nadu and Kerala. Every state has its own specialisation, for instance, Jaipur and Amritsar are famous for Kundan-Jadau jewellery with Minakari work while Delhi-NCR is known for silver jewellery. Surat is known for its diamond processing. Surat is also home to the world’s leading diamond institute, the Indian Diamond Institute (IDI).

Stone processing and jewellery manufacturing units typically hire labour from economically weaker sections of society, either uneducated or with minimal education. This is largely due to the low entry barrier for jobs in such units. Recently, employment of women in the industry has also increased due to the increasing importance of wax work where speed and delicate handwork, characteristic of women, is a requirement.

Given the potential for growth, the scope of employment in this industry is very high. Currently, it ranks sixth among all the manufacturing industries in the country in terms of employment. It has a ‘revealed comparative advantage’ score of 3.33, which means that the industry holds a strong
position in world trade. Due to these factors, which can contribute in a big way to boosting manufacturing in India, the industry was selected for analysis for the current study.

As the statistics suggest, this industry has a huge potential to contribute to India’s dream of becoming the manufacturing hub of the world. It is set to grow at a rapid pace, largely due to growing global demand, and increasing affluence and changing demographics in India. At the domestic level, the role of jewellery is not likely to diminish in the near future, considering its importance as an investment and as a luxury item for consumption at social functions. New and different kinds of jewellery and changing tastes are also attracting consumers for daily-wear jewellery. Given its employment potential, contribution to exports, foreign exchange and GDP, the government would do well to focus on this industry too, to revive manufacturing in the country. Data will further show how the growth of this industry has a multiplier effect on the economy.

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5 Make In India - The Next Leap, 2015 (a report by ASSOCHAM and TARI), quoted from “World Bank- World Integrated Trade Solutions (WITS)”
Section II
Growth Drivers & Quadrant Scenario Modelling

Growth Drivers
The growth drivers of an industry are factors that induce growth of that sector in an efficient and sustainable manner. This study has identified various growth drivers of the gems and jewellery industry and has also analysed them using the Quadrant Scenario Modelling Tool introduced by A. F. Th. van der Heijden in 2005.

The drivers of growth in the gems and jewellery industry are listed below:

These growth drivers are discussed below in detail.

Growing Domestic Demand
The demand for jewellery in India is unique and to some extent inelastic to price. Part of the relative inelasticity of gold demand to price is explained by the religious and cultural significance of gold, where gold is purchased for ornamentation and for gifting purposes, both of which are deeply ingrained in the Indian cultural psychology. Jewellery demand in India is found to be highly correlated to GDP/capita and not as much to other consumption drivers like private financial consumption expenditure, gross domestic saving and number of high income households. This implies that irrespective of the price, individuals tend to buy based on the total price of a piece of jewellery; if the price is higher they would proportionately reduce the (grammage, carats) they

purchase. An increasing trend in GDP/capita reflects increase in domestic consumption of jewellery.

As has been stated earlier the Indian gems and jewellery industry is predominantly export oriented and major export destinations are developed countries. Data however shows that demand in jewellery has been sluggish in the developed countries post the recent economic slowdown. As per a KPMG-GJEPC report, in 2005 the developed countries (US, UK, Italy and Japan) contributed 48% to global jewellery demand. This is expected to decline to 35% in 2015. However domestic demand in emerging economies such as India and China is expected to rise, thanks to economic growth, increasing incomes and general improvements in infrastructure which is likely to increase trade in gems and jewellery sector.
Listed below are factors that will boost domestic demand for gems and jewellery:

**Growing Spending Power**

The earning and spending capacity of the population of any country drives growth. There is a great opportunity now to capitalise on the growing spending power of Indians as discretionary spending on items such as gems & jewellery will increase. Indian per capita income and disposable income are growing consistently. Annual disposable income has reached ₹ 66,280 billion in 2012-13 as compared to ₹ 23,712 billion in 2004-05 and is expected to grow by 8%-13% from current levels in the next 5 years. This shows the robust purchasing power of Indian consumers.

With this, India’s middle class population is also rapidly increasing. Whereas India’s middle income population in 2005 was only 4%, in 2025 it is expected to reach 32% of the total population, creating a sizeable urban middle class. Various studies on the expenditure behaviour of Indian consumers, predict that rising income levels with population increase will lead to an overall increase in consumer spending and shift in consumption basket of consumers from basic products to more aspirational ones. Gems and jewellery falls in the category of aspirational goods.

Increasing female labour force participation in the last few decades and resultant financial independence will also contribute a great deal to the increasing demand for gems and jewellery.

**Role of Jewellery in Weddings**

Weddings, universally considered as one of the most important events in an individual’s life are celebrated in India with pomp and show. Gifting jewellery and other precious metals is very

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7 http://dbie.rbi.org.in/dbie/dbie.rbi?site=publications
8 As per FICCI-Technopak study
9 http://www.mckinsey.com/insights/asia-pacific/the_bird_of_gold
traditional to Indian weddings. The demand for jewellery in this case is therefore completely price inelastic, that is, it is purchased irrespective of price fluctuations in the market.

Expenditure on weddings is financed through savings and loans, and is less dependent on the current income of the spender. On an average, the share of jewellery and other precious metals in total wedding expenditure is about 35%-40%. In India more than 300 million people will be in age bracket of 25-29 in the period 2011-2022 and about 150 million weddings\(^{10}\) are expected to take place during this period. This suggests that in the near future there is bound to be an increase in demand for wedding jewellery.

**Gold as an Investment Option**

There are two types of demand that drive the Indian gems and jewellery industry, - investment oriented demand and consumption oriented demand. The demand for gold coins, gold bars and some amount of jewellery are considered investment oriented demand. After the recent economic slowdown investors have shifted their preference from interest bearing securities and shares towards gold. The demand for gold coins and bars reached 27% of total jewellery demand in 2012 compared to only 13% in 2006.\(^{11}\) This demand is expected to grow further in the future.

![Investment Demand of Gold Bars and Coins](image)


Also, due to the limited reach of the banking system in rural areas and small towns, the population has fewer investment and financial credit options available to them. Jewellery thus becomes an alternate for obtaining loans from local money lenders and as a means of investing their savings.

Since gold, as a good investment option, is gaining popularity, an increasing trend of investment in jewellery will naturally increase demand.

Cost Competitiveness
India is reaping the benefits of being a global diamond processing hub. It processes diamonds at the cheapest rates in the world, which makes it the most competitive globally. As per the Diamond Processing Exchange, Botswana, the per carat diamond processing cost in India was $10 (2011), much lower than its peers. The chart below shows the cost of diamond processing in various countries:

As labour cost is a major component in production costs, India is obviously at an advantageous position globally. The highly fragmented and family-run industry has the benefit of in-born artisanal skills passed down from generation to generation and an abundance of an informally trained skilled workforce which makes labour cheap due to the inherent competition.

Family-run businesses in the unorganised sector also do not require large infrastructure and investment in fixed assets. Thus they are able to maintain lower processing/production costs due to lower indirect expenses.

Emerging Organised Players and Brands
The entry of organised players in the sector has given a lift to the industry in terms of better practices, better customer services, better after sales service and also better price command. Till a few years ago this industry was highly fragmented and characterised by a number of small units, run by a number of unorganised players, controlling about 90% of the market share. The emergence of the organised sector has seen the market share of the unorganised sector dwindling. The share of the organised sector is rapidly increasing and has more than doubled in the period 2008-2013.12

Major brands are looking for more opportunities to grow. As they are already well established in all the top tier cities and state capitals, they are now looking to expand base and extend to other cities

12 NSDC Report
and towns. As per a FICCI-Technopak study ‘Unlocking the Potential of India’s Gems and Jewellery Sector’ principal Indian brands are planning to expand their business in tier-2 and tier-3 cities.

Many foreign players are also exploring the potential of this industry in India. For instance, a London based colour gemstones mining and marketing firm, is planning to acquire colour gemstone mines in Odisha and Jharkhand, and participate in the exploration of the Kashmir sapphire mines in Jammu & Kashmir.\(^\text{13}\)

As per a study by Mckinsey, consumers prefer branded jewellery which is expected to capture 30% of the total market by 2020. Organised players in the industry will help to build trust and faith in Indian brands in the international market and increase their reach globally. They will also create fair competition among brands. This will lead to innovations in new designs, processes and new methods of marketing.

Better designs, new ranges and innovative marketing are the factors contributing to the growth of the organised sector. Modern ways of segmentation, targeting various consumer segments with specific designs and exclusive ranges and new usage styles attract a new set of consumers and create new markets. Thus it is very important to gain and sustain momentum in this direction and focus on consumer research & innovation in design.

**Gold Tourism**

The World Gold Council in its “Vision 2020” presented at the India International Bullion Summit 2014 has proposed the setting up of a ‘Gold Tourism’ circuit in the country to boost the production and sales of handcrafted jewellery made in India. Handcrafted Indian jewellery is a favourite among tourists and fetches a better price than machine made jewellery. This move is expected to generate immense employment opportunities in the sector.

Industry experts have suggested various ways of promoting the gold tourism circuit. Using Dubai as a model, where gold is a tourist attraction, it is proposed that Indian handcrafted jewellery can also be promoted in a similar manner. Handicraft hubs like Kolkata, Jaipur, Ahmedabad, Surat and Coimbatore can be developed as tourist destinations for handcrafted jewellery. Tourists can learn about various types of gems and jewellery, while jewellers and craftsmen can also showcase their skills and products, and sell them. Industry experts also suggest showcasing Indian temple treasures of old, unique and traditional designs, to promote Indian culture and art thereby giving an additional boost to the sector.

The imposition of tight curbs on gold imports into the country (including the 80:20 rule) resulted in shortage of gold for jewellers. Industry sources indicate that the country lost a large number of skilled craftsmen during the past one year as a result, to other areas of work for their livelihood. Implementation of the ‘Gold Tourism Circuit’ could help to bring them back into the industry.

**Government Policies**

Government rules and policy interventions play a vital role in the growth of the gems and jewellery industry. The Indian Government is taking every possible initiative to boost this industry. This section sets out some of the policy initiatives that can drive growth in the industry.

\(^{13}\) [http://www.ibef.org/industry/gems-jewellery-india.aspx](http://www.ibef.org/industry/gems-jewellery-india.aspx)
Gold Monetisation Scheme
The government has proposed a Gold Monetisation Scheme in budget 2015-16 with the objective of mobilising gold held by households and institutions in the country. This is expected to provide a fillip to the gems and jewellery sector by making gold available as a raw material on loan from banks and also to reduce reliance on gold imports.14

Development of Special Economic Zones
The government plans to set up a special zone with tax benefits for diamond import and trading in Mumbai, to try and develop the country’s financial capital as a competitor to Antwerp and Dubai, which are currently trading hubs for the precious stone.

Foreign Trade Policy (FTP)
With a view to promoting the gems and jewellery sector including handcrafted jewellery, the government has taken a number of steps such as providing financial assistance for participation in international fairs, organising buyer-seller meets etc. under the Market Development Assistance (MDA) and Market Access Initiative (MAI) schemes of the Department of Commerce. The government has also announced a number of measures in the Foreign Trade Policy (FTP) 2015-2022 to promote export of gems and jewellery products.

Foreign Direct Investment
The government allows 100% FDI in mining of gold, silver, diamonds and precious ores through the automatic route. FDI in single brand retail is allowed up to 49% and beyond this limit government permission is required. 51% FDI has also been allowed in multi-brand retail through government approval. These measures are expected to encourage entry of foreign jewellery brands, to boost the sector and encourage competition.

Other Policies and Initiatives

India has signed a Memorandum of Understanding (MoU) with Russia to source data on diamond trade between the two countries. India is the top global processor of diamonds, while Russia is the largest rough diamond producer.

In another significant development, the Gems and Jewellery Skill Council of India is planning to train over four million persons by 2022 as the sector is facing a shortage of skilled manpower. The council aims to train and skill 4.07 million people by 2022. It will tie-up with existing training institutes including the Gemological Institute of America (GIA) and Indian Gemological Institute (IGI) and also plans to set up new institutes in major diamond cutting and processing centres.15

15 http://www.ibef.org/industry/gems-jewellery-india.aspx
Quadrant Scenario Model
This section uses the Quadrant Scenario Development Tool (used by economists worldwide) to segregate the growth drivers identified for this industry based on their relative importance. The drivers are arranged in different quadrants on a matrix of relative importance and time continuum.

The top right quadrant (1) shows drivers that are most important but come into play in the long run. The bottom right quadrant (4) shows drivers of relatively lesser importance which also come into play in the long run. On the other hand, the top left quadrant (2) refers to more important drivers that come into play in the short run and those in the bottom left quadrant (3) are less important but also come into play in the short run.

*Government policies* has been identified as a growth driver for this industry. However for the purpose of the quadrant representation, the various policy measures undertaken have been placed in different quadrants based on their relative importance in the long run or short run. The government policies include:

- Gold monetisation scheme
- Development of special economic zone
- Foreign trade policy
- Foreign direct investment
- Other policies and initiative
The Gem & Jewellery Industry  

Contribution to ‘Make in India’

Admittedly, arranging the drivers in various quadrants is a somewhat subjective exercise and is prone to different interpretations by different readers. The following discussion enumerates why each driver has been placed in this study in their respective quadrants.

**Short Run Growth Drivers**

The following growth drivers have been identified as those having an impact in the short run:

<table>
<thead>
<tr>
<th>MORE IMPORTANT IN THE SHORT RUN</th>
<th>LESS IMPORTANT IN THE SHORT RUN</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Foreign trade policy</td>
<td>• Cost competitiveness</td>
</tr>
<tr>
<td></td>
<td>• Foreign direct investment</td>
</tr>
<tr>
<td></td>
<td>• Other policies and initiatives</td>
</tr>
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</table>

_Growth Drivers More Important in the Short Run_

In the short run, the Foreign Trade Policy (2015-20) in conjunction with the National Manufacturing Policy (2011) and the Make in India initiative are likely to play a key role in the growth of the industry. It is thus placed in the 2nd quadrant as a growth driver more important in the short run.

With the government focusing on increasing the share of manufacturing in India to 25% of the GDP by 2022, the National Manufacturing Policy and Make in India initiative are expected to give a fillip to the sector. In its bid to attract investment to the gems and jewellery sector, several measures have been taken as part of the FTP, such as sponsoring participation in international fairs etc.

Considering gems and jewellery constitutes a large proportion of India’s merchandise exports, the trade policy is very important for its growth. There are many factors that affect trade which are volatile in nature. Since these policies are likely to have an immediate impact on the industry, it is considered more important in the short run.

_Growth Drivers Less Important in the Short Run_
In the short run, cost competitiveness and foreign direct investment will positively impact the industry. Both these are therefore placed in the 3rd quadrant as they have lower importance in the short run.

Cost is always considered an important factor for the growth of any industry. India is the most competitive in diamond processing because of availability of cheap labour as against its peers. Currently, labour in the industry is unskilled or semi-skilled. Once they obtain formal/vocational training, labour will be more productive and expensive. Cost competitiveness is thus likely to be less important in the short run.

FDI in mining, single brand and multi brand retail are policies that are already in place and showing an impact currently. Thus they are likely to be less important in the short run.

Trade relations take time to build and are not the only factor which decide the course of trade. Price sensitivity, exchange rate fluctuations, market sentiments, etc., are some other factors that play a significant role. While steps like MoUs with trading partners (like Russia, referred to earlier) facilitate growth, they have limited impact in the short run due to the other factors that come into play. Therefore it is considered a growth driver less important in the short run.

**Long Run Growth Drivers**

The following growth drivers have been identified as those having an impact in the long run:

**MORE IMPORTANT IN THE LONG RUN**

- Growing domestic demand
- Emerging organised players
- Gold monetisation scheme
- Development of SEZ

**LESS IMPORTANT IN THE LONG RUN**

- Gold tourism

*Growth Drivers More Important in the Long Run*

From the long run perspective, growing domestic demand, emergence of organised players and brands, the gold monetisation scheme and the proposal of creation of a special economic zone and related tax benefits, will occupy the top right quadrant (1st quadrant).

Increasing urbanisation, middle class population and women’s participation in the economy, along with growing spending power are all factors driving demand. Demand from these segments will
however grow over a period of time. Accordingly, increasing growing domestic demand has been identified as a growth driver that is more important in the long run.

Organised players contribute to an industry's value addition. Indigenous manufacturing of international brands is thus beneficial for an economy. The newly emerging organised brands in India are looking for new markets in tier-2 and tier-3 cities. To build faith and trust in small cities takes time and the impact of brand value can be seen in the long run. Therefore emergence of organised players has been placed in the top right quadrant representing growth drivers that will have more of an impact in the long run.

The Gold Monetisation Scheme, if successful will reduce the country's dependence on imports for procuring raw material and might bring down surging gold prices. The scheme comes with tax exemptions which not only makes it attractive but also lucrative as compared to other investment options. As government initiatives usually come with bureaucratic controls and are often subject to change, the immediate potential to drive growth is diminished. As a result, this scheme is expected to be more important in the long run.

The same logic holds true for the SEZ in Mumbai. Firstly, the proposal is still in its initial stages. Secondly, one cannot estimate beforehand when it will be effective and when the SEZ will become a hub for the sale of precious stones. Though these factors do not reduce the importance of the growth driver, the benefit that industry might witness from it can only be seen in the long run.

_Growth Drivers Less Important in the Long Run_

Gold Tourism is an idea that has been proposed by the World Gold Council and has not yet been adopted/approved by the government. It currently requires tremendous government invention and support. Since policy formulation and subsequent implementation take time to fructify, industry will derive benefits only in the long run. However since it is still only in the concept stage, this growth driver is considered less important in the long run.
Section III
The Multiplier Effect

What is the Multiplier Effect?

The multiplier effect is simply the measure of how one factor changes in response to other factors. In other words, an initial change in economic activity has a sort of ripple effect on the local economy. This effect, is known as the multiplier effect. Evaluating multipliers, is an important tool in economic analysis and they are used extensively to assess the impact of a change in one economic indicator on various other economic indicators.

Multipliers “connect the initial effect of a change in demand—due to purchases made by households or government or due to foreign trade, but not part of an industrial production process—to the total effect of that change on the regional economy. The total effect is reported here in terms of jobs, but it also could be measured in terms of output, sales, income or value added. Total effect has three main parts: direct, indirect, and induced effects.”

Hence, an increase in demand has three effects, that add up to the ‘total effect’:

1) Direct effect;
2) Indirect effect; and
3) Induced effect.

**Direct Effect:** The direct effect can be explained as the impact that an increase in final demand for a particular product/sector has, on the output of that product/industry, as producers react to meet the increased demand.

**Indirect Effect:** The resultant increase in demand of their suppliers, etc. down the supply chain is referred to as the indirect effect.

**Induced Effect:** The direct and indirect effects lead to an increase in the level of household income throughout the economy as a result of increased employment. A proportion of this increased income will be re-spent on final goods and services. This is described as the induced effect.

16 https://labor.ny.gov/stats/PDFs/enys0405.pdf
How is the Multiplier Effect Measured?

**Literature Review**

Calculation of input-output (I-O) multipliers can be traced back to Nobel Prize winning economist Wassily Leontief (1941). He developed the input-output model, a quantitative economic technique that represents the interdependencies between different branches of a national economy or different regional economies.17

The I-O model is a set of national-level multipliers that could be used to estimate the economy wide effect that an initial change in final demand has on an economy.18 The US Bureau of Economic Analysis (BEA) has produced regional I-O multipliers that show the inter-industry purchases resulting from changes in final demand. The RIMS II model (Regional Input-Output Modelling System) developed by the BEA is created by adjusting national I-O relationships with regional data. When using RIMS II, there are four measures of changes in total economic activity that can be estimated—gross output, value added, earnings, and employment.19

The “System of National Accounts” (SNA) of the UN is the internationally accepted and agreed source of measuring economic activity. The Statistics Division of the Economic and Social Department of the UN is responsible for preparing and updating national accounts and detailed input-output tables, which can be used by its members and public for the purpose of analysis.

**Measuring the Multiplier Effect**

Literature review shows that two types of models have been developed to measure the multiplier effect. They are:

1) **Type I Multiplier** - Type I multipliers involve the assessment of the direct and indirect impact of the increasing demand of a sector.

   \[ \text{Type I} = f(\text{Direct} + \text{Indirect}) \]

2) **Type II Multiplier** – In addition to assessment of the direct and indirect effects, Type II multipliers also make an assessment of the induced effect arising because of increasing demand of a sector.

   \[ \text{Type II} = f(\text{Direct} + \text{Indirect} + \text{Induced}) \]

Direct, indirect and induced effects have already been explained earlier.

Increase in demand of a product has a direct impact on output of the sector followed by employment, income/gross value added and taxes collected across the economy. Depending upon the variable of interest, there are several kinds of multipliers that may be evaluated, namely: output, employment, income/gross value added and tax.

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19 ibid
20 Some studies use income and gross value added multiplier interchangeably.
For the purpose of this study, Type I multiplier will be calculated. Availability of data in the Indian context, with regard to compensation of employees for estimating the induced effect needs to be explored further.

A basic study of supply side economics tells us that in the absence of capacity constraints, a rise in demand leads to rise in output, which in turn increases employment, since, to produce more, manufacturers would need to employ more factors of production. Labour is among the primary factors of production in any economy.

A rise in demand in the short run usually leads to a rise in the price of the product. Even when supply increases in response to an increase in demand, the product will be sold at a higher price, as supply continues to be short of demand. Considered at the macro-economic level, when the overall price level/CPI moves up, there is a need to increase wages/compensation to employees too. This phenomenon is commonly known as Wage-Price Spiral. Hence, with increase in demand, income/compensation to employees also rises.

Lastly, increase in output also leads to increase in indirect tax collection. As indirect taxes are levied on products and services, a study from the supply side is done to analyse only the effect of indirect taxes and not direct taxes. Direct taxes are levied on individuals and entities and are therefore not relevant in this context.

**Types of Multipliers**

As discussed above, a rise in the demand of a sector has an impact on economy wide output, employment, income / gross value added and tax. The multiplier effect can therefore be calculated for these categories.
These multipliers are explained below:

1) **Output Multiplier**
   The output multiplier shows how the output of the economy changes when the demand of a sector changes by 1 unit of measure (in the present study - ₹ 1).

2) **Income/Gross Value Added Multiplier**
   The gross value added multiplier is the ratio of total effect (direct and indirect) on the gross value added because of a ₹ 1 change in demand of a sector, to the direct change in gross value added because of a ₹ 1 change in demand of that sector.

3) **Employment Multiplier**
   The employment multiplier can be defined as the ratio of total (direct and indirect) change in employment as a result of a ₹ 1 change in demand of a sector, to the direct change in employment in response to a ₹ 1 Rupee change in demand of that sector.

4) **Tax Multiplier**
   The tax multiplier can be defined as the ratio of total (direct and indirect) change in indirect taxes as a result of a ₹ 1 change in demand of a sector, to the direct change in indirect taxes in response to the same.

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21 An alternative definition of the value added/income multiplier is total change in the value added/income because of a change in the demand of the sector. This definition has been used in studies by NCAER including - ‘Estimating Jobs in the Wind Energy Sector Using Input-Output Analysis for Gujarat State, India’

22 An alternative definition of the employment multiplier is total change in employment because of a change in the demand of the sector. This definition has been used in studies done by NCAER (including ‘Estimating Jobs in the Wind Energy Sector Using Input-Output Analysis for Gujarat State, India’) and UNCTAD → http://unctad.org/en/PublicationsLibrary/webditctnccd2009d1_en.pdf
The Gem & Jewellery Industry  Contributing to ‘Make in India’

\[
\text{Multiplier}_i = \frac{\text{Total Effect/Linkage (Direct + Indirect)}}{\text{Direct Effect/Linkage}}
\]

Where \( i \) = output / gross value added / employment / tax

The Multiplier Effect and the Gems and Jewellery Industry

The production process involves combining various inputs to obtain an output and a final product. Technological advancements have made this process more complex. The final product of one industry is not just an end use product now. With the passage of time, the final product of one sector is being used as an input in some other sector. For example, in agriculture, a soil leveler, a product of the manufacturing sector, is used for the purpose of levelling the soil.

The GDP contribution of the gems & jewellery industry, which is the focus of this study, is around 7-8%.\(^{23}\) It is the second largest exporter in the country after petroleum (2012-13).\(^{24}\) The government’s focus on reviving Indian manufacturing, coupled with the gold monetization policy and the reviving world economy, the industry is expected to see a boom.

As stated earlier, when the demand for the final product of one industry increases, the related output, employment, income and taxes also tend to increase. This is usually described as direct effect. To increase production though, input requirements, which may be the final product of some other industry/sector, will also increase. This is described as indirect effect/ backward linkage.

The gems and jewellery industry uses inputs from several ancillary industries, such as making machines, other metals and metalloids, packaging materials etc. When the demand for gems and jewellery industry rises, the demand for the products of these ancillary industries will also go up.

With increased demand, employment and income also rise which leads to rise in spending power and hence, consumption. This will lead to increase in the demand of the other sectors. This is known as induced effect.

Methodology of Estimation & Data Sources

For the purpose of calculating the multiplier, a scientific and widely used method involving the “Input-Output Table”, established by Leontief, is being used. The input-output table basically shows the transactions taking place between consumers and producers. It is prepared in a manner so as to give a user an idea of:

- The demand for inputs from a particular sector; and
- The demand of the sector, for immediate and final consumption, simultaneously.

In simpler words, the Input-Output (I-O) table helps to analyse the demand of any product for intermediate consumption & final use, thus, allowing for the study of inter-sector linkages. As the I-O table is in matrix form, the entries in the rows and columns of the matrix have different interpretations. These are:

1) The sum of the entries in a particular shows inputs purchased by the industries/sectors representing that column.

\(^{23}\) FICCI
\(^{24}\) Ministry of Commerce, Annual report 2013-14
2) The sum of each row indicates the sales made by the sector to other sectors for immediate consumption and final use.

### Input-Output Table: Representation

<table>
<thead>
<tr>
<th>Intermediate Uses</th>
<th>Final Uses</th>
<th>Gross Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2, 3...j...n</td>
<td>Consumption Expenditure</td>
<td>Capital Formation</td>
</tr>
<tr>
<td>1</td>
<td>x11 x12.....x1n</td>
<td>c1</td>
</tr>
<tr>
<td>2</td>
<td>x21 x22.....x2n</td>
<td>c2</td>
</tr>
<tr>
<td>j</td>
<td>xj1 xj2.....xjn</td>
<td>cj</td>
</tr>
<tr>
<td>n</td>
<td>xn1 xn2.....xnn</td>
<td>cn</td>
</tr>
</tbody>
</table>

Where:
- x11...x1n show the demand of the sector/industry 1 from other sectors/industries for **intermediate consumption**;
- c1, f1, e1 represent **final demand** of the industry/sector for consumption, investment and net exports.
- Final demand is represented by y1 – the aggregate of c1, f1 and e1.

On adding the following:
1) Intermediate demand- x11, x12...x1n; and
2) Final Demand- y1;

**We get total/gross output- X1**

The above matrix represents the following set of n balance equations:

\[
X_i = x_{i1} + x_{i2} + ... + x_{in} + y_i, \quad i = 1, 2, ..., n, \quad y_i \text{ is final use}
\]

In order to calculate the multiplier, the inverse of the Leontief Matrix needs to be calculated. The first requirement for which is an I-O Coefficient Matrix. In order to obtain input-output coefficient matrix, each entry in a column of the matrix is divided by the sum total of that column.

For e.g.- consider aij denotes the I-O coefficient which represents how much input sector j is taking from sector i per unit output of sector j. This relationship is presented below:
In the matrix notation, this can be represented as

\[ X = AX + Y \]

Where:
- \( A \) is the input-output coefficient matrix;
- \( (I-A) \) is the Leontief Matrix;
- \((I-A)^{-1}\) is the inverse of the Leontief Matrix;
- \( X \) is the total/gross output; and
- \( Y \) is the final demand of \( X \).

The diagonal of the Leontief Matrix \((I-A)\) gives the net output for each sector with positive coefficients while the rest of the matrix gives the input requirements with negative coefficients. The inverted Leontief matrix \((I-A)^{-1}\) shows how direct and indirect requirements change with change in final demand by one unit.

Once, the inverted Leontief matrix is estimated, it is easier to calculate multipliers, which is explained in detail in the next section.

**Data Sources**

In India, the Central Statistics Office (CSO), of the Ministry of Statistics & Program Implementation, prepares the input-output table which is updated, every five years. NSSO's report on employment and unemployment for the year 2007-08,\(^{25}\) has been used for obtaining employment data.

The 2007-08 NSSO employment survey was based on the NIC-04 two-digit industry code classification. Gems and jewellery is however covered under three & four digit industry code classifications. Division 36: “Manufacture of Furniture; Manufacturing N.E.C,” includes both furniture and jewellery. For the year 2007-08 the report gives combined data for the division and not for the sub groups. The 2009-10 survey on the other hand used the NIC-04 four digit industry code classification. It contains data at a disaggregated level i.e. sub groups of division 36- namely 361-furniture and 369- manufacturing n.e.c. which included gems & jewellery. Thus to obtain employment figures for the year 2007-08, the proportion of labour employed in the gems and jewellery industry in 2009-10 to the total labour employed in the entire group/division in that year, was applied to 2007-08. It is assumed that labour requirement/employed does not change drastically in one year (i.e. between 2007-08 and 2009-10).

<table>
<thead>
<tr>
<th>NIC-04 Codes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>36</td>
<td>Manufacture of furniture; manufacturing n.e.c</td>
</tr>
</tbody>
</table>

\(^{25}\) In order to make the data comparable across the factors, employment data for the year 2007-08 has been used although it was a thin sample of the NSSO survey.

\(^{26}\) Report titled “Employment and Unemployment Situation in India,2007-08”
The Gem & Jewellery Industry

**Contributing to ‘Make in India’**

<table>
<thead>
<tr>
<th>NIC-04 Codes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>361</td>
<td>Manufacture of furniture</td>
</tr>
<tr>
<td>369</td>
<td>Manufacturing n.e.c</td>
</tr>
<tr>
<td>3691</td>
<td>Manufacture of jewellery and related articles</td>
</tr>
<tr>
<td>36911</td>
<td>Manufacture of gold jewellery: gold, silver and other precious metal jewellery; precious and semi-precious stone jewellery; gold and silver articles including presentation coins but not the coin used as a legal tender</td>
</tr>
<tr>
<td>36912</td>
<td>Diamond cutting and polishing and other gem cutting and polishing</td>
</tr>
<tr>
<td>36913</td>
<td>Minting of currency coins</td>
</tr>
<tr>
<td>36919</td>
<td>Manufacture of other jewelry and other articles, n.e.c.</td>
</tr>
</tbody>
</table>

*Source: NIC, 2004*

The latest available input-output table is for the year 2007-08. Considering the structure of the economy does not change significantly in a span of 5-7 years, we can safely use the estimates derived from the latest available table.

The CSO matrix however is a “commodity X commodity” matrix for 130 commodities. To simplify the analysis, for this study eight broad industries were identified based on economic activity. The entries in the input-output table were then aggregated on the basis of the economic activities so identified and NIC-2004 codes, to convert the 130 X 130 commodity X commodity matrix, into an 8 X 8, industry X industry matrix.

The eight sectors identified are:

a) Agriculture & Allied Activities  
b) Mining  
c) Manufacturing  
d) Gems & Jewellery  
e) Construction  
f) Electricity, Gas and Water Supply  
g) Services  
h) Public Administration  

### Aggregation of 130 Commodities into Eight Sectors

<table>
<thead>
<tr>
<th>Sectors</th>
<th>Commodities in IOT-2007-08 matrix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture &amp; Allied Activities</td>
<td>1-26</td>
</tr>
<tr>
<td>Mining</td>
<td>27-25</td>
</tr>
<tr>
<td>Gems &amp; Jewellery</td>
<td>103</td>
</tr>
<tr>
<td>Other Manufacturing</td>
<td>36-102 &amp; 104-105</td>
</tr>
<tr>
<td>Construction</td>
<td>106</td>
</tr>
</tbody>
</table>
Measurement & Results

As discussed in the previous section, multiplier estimation requires estimation of the inverted Leontief Matrix, which is derived using the input-output coefficient matrix.

An input-output coefficient matrix is estimated using the input-output table, which summarises the supply-side transactions that are taking place in the economy. The input-output coefficient can be interpreted as the input requirement of a particular sector from other sectors, to produce one unit of output of that sector.

Such a matrix can be obtained by dividing column entries by total output of the sector, where column entries show the input requirement of a sector.

Total output is the sum total of total input, gross value added and net indirect taxes. Hence the sum of input coefficient, indirect tax coefficient and income coefficient should be one.
## Input-Output Coefficient Matrix

<table>
<thead>
<tr>
<th></th>
<th>Agriculture &amp; Allied Services</th>
<th>Mining</th>
<th>Gems &amp; Jewellery</th>
<th>Other Manufacturing</th>
<th>Construction</th>
<th>Electricity &amp; Water Supply</th>
<th>Services</th>
<th>Public Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture &amp; Allied Services</td>
<td>0.19</td>
<td>0</td>
<td>0</td>
<td>0.07</td>
<td>0.02</td>
<td>0.001</td>
<td>0.02</td>
<td>0</td>
</tr>
<tr>
<td>Mining</td>
<td>0</td>
<td>0.01</td>
<td>0.07</td>
<td>0.12</td>
<td>0.01</td>
<td>0.10</td>
<td>0.0003</td>
<td>0</td>
</tr>
<tr>
<td>Gems &amp; Jewellery</td>
<td>0</td>
<td>0</td>
<td>0.32</td>
<td>0.0006</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0001</td>
</tr>
<tr>
<td>Other Manufacturing</td>
<td>0.06</td>
<td>0.10</td>
<td>0.1</td>
<td>0.36</td>
<td>0.29</td>
<td>0.14</td>
<td>0.12</td>
<td>0</td>
</tr>
<tr>
<td>Construction</td>
<td>0.01</td>
<td>0.02</td>
<td>0.01</td>
<td>0.01</td>
<td>0.12</td>
<td>0.02</td>
<td>0.01</td>
<td>0</td>
</tr>
<tr>
<td>Electricity &amp; Water Supply</td>
<td>0.01</td>
<td>0.02</td>
<td>0.002</td>
<td>0.02</td>
<td>0.01</td>
<td>0.15</td>
<td>0.02</td>
<td>0</td>
</tr>
<tr>
<td>Services</td>
<td>0.08</td>
<td>0.08</td>
<td>0.25</td>
<td>0.17</td>
<td>0.16</td>
<td>0.15</td>
<td>0.15</td>
<td>0</td>
</tr>
<tr>
<td>Public Administration</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Net Indirect Taxes</td>
<td>-0.04</td>
<td>0.02</td>
<td>0.02</td>
<td>0.03</td>
<td>0.03</td>
<td>0.01</td>
<td>0.02</td>
<td>0</td>
</tr>
<tr>
<td>Gross Value Added</td>
<td>0.68</td>
<td>0.75</td>
<td>0.22</td>
<td>0.20</td>
<td>0.35</td>
<td>0.41</td>
<td>0.67</td>
<td>1</td>
</tr>
<tr>
<td><strong>Sum</strong></td>
<td><strong>1</strong></td>
<td><strong>1</strong></td>
<td><strong>1</strong></td>
<td><strong>1</strong></td>
<td><strong>1</strong></td>
<td><strong>1</strong></td>
<td><strong>1</strong></td>
<td><strong>1</strong></td>
</tr>
</tbody>
</table>
Once, the input-output coefficient matrix is obtained, the Leontief Matrix is obtained by subtracting the input-output coefficient matrix from an identity matrix of the same order. The diagonal of the Leontief Matrix gives the net output for each sector with positive coefficients while the rest of the matrix gives the input requirements with negative coefficients. Matrix thus obtained, ‘Leontief Matrix’ is then inverted to estimate the multipliers.

### Inverted Leontief Matrix

<table>
<thead>
<tr>
<th></th>
<th>Agriculture &amp; Allied Services</th>
<th>Mining</th>
<th>Gems &amp; Jewellery</th>
<th>Other Manufacturing</th>
<th>Construction</th>
<th>Electricity &amp; Water Supply</th>
<th>Services</th>
<th>Public Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture &amp; Allied</td>
<td>1.26</td>
<td>0.02</td>
<td>0.05</td>
<td>0.16</td>
<td>0.10</td>
<td>0.05</td>
<td>0.06</td>
<td>0</td>
</tr>
<tr>
<td>Allied Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mining</td>
<td>0.02</td>
<td>1.04</td>
<td>0.16</td>
<td>0.22</td>
<td>0.10</td>
<td>0.17</td>
<td>0.04</td>
<td>0</td>
</tr>
<tr>
<td>Gems &amp; Jewellery</td>
<td>0.0002</td>
<td>0.0002</td>
<td>1.48</td>
<td>0.002</td>
<td>0.0006</td>
<td>0.0004</td>
<td>0.0005</td>
<td>0</td>
</tr>
<tr>
<td>Other Manufacturing</td>
<td>0.16</td>
<td>0.22</td>
<td>0.39</td>
<td>1.72</td>
<td>0.63</td>
<td>0.38</td>
<td>0.26</td>
<td>0</td>
</tr>
<tr>
<td>Construction</td>
<td>0.01</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>1.15</td>
<td>0.04</td>
<td>0.02</td>
<td>0</td>
</tr>
<tr>
<td>Electricity &amp; Water Supply</td>
<td>0.02</td>
<td>0.03</td>
<td>0.03</td>
<td>0.05</td>
<td>0.04</td>
<td>1.20</td>
<td>0.03</td>
<td>0</td>
</tr>
<tr>
<td>Services</td>
<td>0.16</td>
<td>0.16</td>
<td>0.54</td>
<td>0.41</td>
<td>0.37</td>
<td>0.31</td>
<td>1.25</td>
<td>0</td>
</tr>
<tr>
<td>Public Administration</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
Output Multiplier

The sum of the gems and jewellery column of the 8 X 8 matrix gives the value of the output multiplier.

<table>
<thead>
<tr>
<th>Output Multiplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture &amp; Allied Services</td>
</tr>
<tr>
<td>Mining</td>
</tr>
<tr>
<td>Gems &amp; Jewellery</td>
</tr>
<tr>
<td>Other Manufacturing</td>
</tr>
<tr>
<td>Construction</td>
</tr>
<tr>
<td>Electricity &amp; Water Supply</td>
</tr>
<tr>
<td>Services</td>
</tr>
<tr>
<td>Public Administration</td>
</tr>
</tbody>
</table>

The study has estimated the output multiplier of the gems and jewellery industry to be 2.68. This means, an increase of ₹ 1 in final demand in the gems and jewellery industry will lead to an increase of the overall output of the economy roughly by two and half times.

Value Added Multiplier

The value added multiplier (as discussed earlier) has two types of linkages- direct and indirect. In order to calculate the value added multiplier, the value added coefficient must first be calculated, which is also an estimate of direct effect. It is the ratio of gross value added, to the total output of the sector, both of which are reported in the CSO-I-O table.

The total effect is the sum of the product of the value added coefficients of various sectors and the entries in the gems and jewellery column of the inverted Leontief Matrix.

<table>
<thead>
<tr>
<th>Linkage- Value Addition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Added Linkage</td>
</tr>
<tr>
<td>Agriculture &amp; Allied Services</td>
</tr>
<tr>
<td>Mining</td>
</tr>
<tr>
<td>Gems &amp; Jewellery</td>
</tr>
<tr>
<td>Other Manufacturing</td>
</tr>
</tbody>
</table>
The Gem & Jewellery Industry Contributing to ‘Make in India’

<table>
<thead>
<tr>
<th></th>
<th>Value Added Multiplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture &amp; Allied Services</td>
<td>1.51</td>
</tr>
<tr>
<td>Mining</td>
<td>1.29</td>
</tr>
<tr>
<td>Gems &amp; Jewellery</td>
<td>4.22</td>
</tr>
<tr>
<td>Other Manufacturing</td>
<td>4.56</td>
</tr>
<tr>
<td>Construction</td>
<td>2.69</td>
</tr>
<tr>
<td>Electricity &amp; Water Supply</td>
<td>2.32</td>
</tr>
<tr>
<td>Public Administration</td>
<td>1.47</td>
</tr>
</tbody>
</table>

The study has estimated the value added multiplier of the gems and jewellery industry to be 4.22. This means, value added in the economy because of rise in demand of the gems and jewellery industry is 4.22 times of the value added in the industry itself.

Employment Multiplier

Like the value added multiplier the employment multiplier has two types of linkages – direct and indirect. In order to calculate the employment multiplier, the employment coefficient must first be calculated, which is also an estimate of direct effect. It is the ratio of employment to the total output of the sector.

The total effect is the sum of the product of the employment coefficients of various sectors and the entries in the gems and jewellery column of the inverted Leontief Matrix.

<table>
<thead>
<tr>
<th>Employment Linkage</th>
<th>Direct Linkage</th>
<th>Total Linkage (Direct + Indirect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture &amp; Allied Services</td>
<td>1.81</td>
<td>2.31</td>
</tr>
<tr>
<td>Mining</td>
<td>0.09</td>
<td>0.18</td>
</tr>
</tbody>
</table>
The study has estimated the employment multiplier of the gems and jewellery industry to be 5.20. This means, employment generated in the economy because of rise in demand of the gems and jewellery industry is 5.20 times of the employment created in the industry itself.

Tax Multiplier

As discussed earlier, rise in production leads increase in collection of indirect taxes also.

Like the other multipliers, the tax multiplier also has two types of linkages – direct and indirect. In order to calculate the tax multiplier, the tax coefficient must first be calculated, which is also an estimate of direct effect. It is the ratio of indirect taxes to the total output of the sector, both of which are reported in the CSO-I-O table.
The Gem & Jewellery Industry  

Contributing to ‘Make in India’

The total effect is the sum of the product of the tax coefficients of various sectors and the entries in the gems and jewellery column of the inverted Leontief Matrix.

<table>
<thead>
<tr>
<th>Tax Linkage</th>
<th>Direct Linkage</th>
<th>Total Linkage (Direct+ Indirect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture &amp; Allied Services</td>
<td>-0.03</td>
<td>-0.02</td>
</tr>
<tr>
<td>Mining</td>
<td>0.02</td>
<td>0.03</td>
</tr>
<tr>
<td>Gems &amp; Jewellery</td>
<td>0.02</td>
<td>0.05</td>
</tr>
<tr>
<td>Other Manufacturing</td>
<td>0.03</td>
<td>0.07</td>
</tr>
<tr>
<td>Construction</td>
<td>0.03</td>
<td>0.07</td>
</tr>
<tr>
<td>Electricity &amp; Water Supply</td>
<td>0.01</td>
<td>0.04</td>
</tr>
<tr>
<td>Services</td>
<td>0.02</td>
<td>0.03</td>
</tr>
<tr>
<td>Public Administration</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

The following table provides the results of the employment multiplier.

<table>
<thead>
<tr>
<th>Tax Multiplier</th>
<th>Tax Multiplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture &amp; Allied Services</td>
<td>0.87</td>
</tr>
<tr>
<td>Mining</td>
<td>1.67</td>
</tr>
<tr>
<td>Gems &amp; Jewellery</td>
<td>3.10</td>
</tr>
<tr>
<td>Other Manufacturing</td>
<td>2.03</td>
</tr>
<tr>
<td>Construction</td>
<td>1.97</td>
</tr>
<tr>
<td>Electricity &amp; Water Supply</td>
<td>2.80</td>
</tr>
<tr>
<td>Services</td>
<td>1.69</td>
</tr>
<tr>
<td>Public Administration</td>
<td>-</td>
</tr>
</tbody>
</table>

The study has estimated the tax multiplier of the gems and jewellery industry to be 3.10. This means, rise in indirect tax collections generated in the economy because of rise in demand of the gems and jewellery industry is approximately triple the rise in indirect tax collections from the industry itself.
Conclusion

The manufacturing sector is important for an economy from the point of view of self-reliance, sustainability, job generation and inclusive growth. In order to take advantage of declining dependency ratio and assuring jobs to the growing work force in India, the government launched the National Manufacturing Policy in 2011 with two major objectives:

1) To increase the share of the manufacturing sector in GDP to 25%
2) Creation of additional 100 million jobs in the sector by 2022.

This policy plans to give promote and strengthen employment intensive industries. The gems and jewellery industry has thus been identified as a priority sector and one with growth potential. As the numbers show, the choice is not surprising, given the strong backward and forward linkages it has with manufacturing. These linkages suggest a potentially large multiplier effect, which in turn indicates the sector’s ability to revive manufacturing.

This study has estimated the multiplier effect of the gems and jewellery industry for all the variables of interest. The results tabulated below, show why it has been identified as a priority sector by policy makers.

<table>
<thead>
<tr>
<th>Multipliers: TARI Estimates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiplier</td>
</tr>
<tr>
<td>Output</td>
</tr>
<tr>
<td>Value Added / Income</td>
</tr>
<tr>
<td>Employment</td>
</tr>
<tr>
<td>Tax</td>
</tr>
</tbody>
</table>

The output multiplier shows that increase in demand of the gems and jewellery sector can lead to an increase in overall output of the economy by approximately 3 times. This shows the strong backward linkages of the sector with others i.e. ancillary industries.

The production process is closely associated with employment, value addition and taxes. In terms of all these variables, the gems and jewellery industry and its future looks promising. Rise in employment across the economy because of a rise of ₹ 1 of demand is more than 5 times the rise in employment within the sector. Similarly, rising demand can lead to:

- increase in value addition of the economy by more than four times the value addition within the sector; and
- increase in indirect tax collections in the economy by three times that of the tax collections from the sector.

Value addition/income generation is a variable of high interest. A higher value addition to output ratio indicates:

- High final usage of the industry’s product and a lower immediate consumption; and
- Higher investment flows to the industry.

Value addition/income generation is particularly expected in:

- The jewellery making equipment segment, etc; and
- The services sector i.e. trade, transport, banking and financial services.
The gems and jewellery industry is one of the fastest growing in India. It is clearly capable of driving up GDP, increasing employment, gross value added and indirect tax collections. Its growth may well be seen as one of the panaceas to the problems of the economy.

The estimates of the multiplier effect in this study show that the industry has great potential and how it's linkages with other industries can facilitate achievement of the government's “Make in India” initiative to revive Indian manufacturing, overall economic growth and prosperity.
Section IV

Challenges Faced by the Indian Gems & Jewellery Industry

The gems and jewellery industry plays a significant role in the growth of the economy given it is a large contributor to foreign exchange earnings, employment generation and value addition. Gems and jewellery play a dual role in the hands of a consumer – some consider its acquisition as an investment, others acquire it purely for their aesthetic value to be worn as an accessory, i.e. for consumption. Distinguishing demand between investment and consumption is a great challenge faced by the industry.

Fundamental and regulatory challenges exist that do not allow the industry to achieve its full potential. Some of these challenges are:

- Over-Dependence on Imports
- Labour Related Issues
- Changing Tastes & Technology
- Exchange Rate Fluctuations
- Lower Value Addition
- Policies & Regulations

These challenges are discussed in detail in the following pages.
The Gem & Jewellery Industry Contributing to ‘Make in India’

Over-Dependence on Imports

Indigenous availability of raw material plays a crucial role in the growth of any industry. However, the Indian gems and jewellery industry is almost completely dependent on imported raw materials such as gold, diamond and other precious and semi-precious stones, with India importing almost 90% of its requirements.

Gold and silver together with pearls, precious and semi-precious stones, contribute about 12.7% of India’s total imports second only to imports of petroleum products (36.7%). As per data published by the Gems and Jewellery Export Promotion Council, during F.Y. 2013-14, rough diamonds and gold accounted for about 73% and 25% respectively of total gems and jewellery raw material imports.

During F.Y. 2013-14 rough diamonds to the tune of ₹100,377 crores was imported by India. Imports are mainly from Belgium, UK, Israel and the UAE. These rough diamonds are cut, polished and exported. India imported gold bars of ₹33,552 crores during 2013-14 from Switzerland, South Africa, the UAE and Australia etc.

Interestingly while India has the largest aboveground gold stock it continues to depend heavily on imports of gold to meet consumer demand. Aboveground gold stock includes mined gold available in the form of bars, coins and jewellery. The chart below shows the trends in supply of gold in the country:

![Proportion of Import vs Domestic Supply of Gold](image)


* Domestic Supply includes recycling and mining of gold

Domestic supply of gold includes recycled gold and mine production. In India domestic supply is only about 10% of total supply, in which mining contributes 0%-1% and recycling contributes 9%-10%. Limited recycling and inefficient mining of gold are the main reasons for low domestic supply of gold, both of which are described below.

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29 Ibid
Limited Recycling of Gold

The World Gold Council defines recycled gold as gold sold for cash by consumers or other supply chain players, such as jewellery manufacturers that sell old stock. The definition does not include exchanges of gold for gold. Recycled gold is a significant source of gold supply accounting for around 42% of global supply in 2013. Recycling or mobilising the existing aboveground stock of gold can significantly reduce the burden of the industry to meet gold demand. While India has the world’s largest aboveground stock of gold, there is very limited amount of recycling that takes place. A large part of the demand is either met through domestic production or through imports.

As per an A.T. Kearney-FICCI analysis, less than 1% of total aboveground stock in India is used for recycling and goes into domestic supply. As per the GFMS Gold Survey 2014, India’s supply of recycled gold is much lower than global average of 42% in 2013. The USA recycles gold to meet 51% of its demand, the highest among the top five global consumers of gold, followed by Turkey (32%) and Thailand (18%). China is the largest producer of gold and meets its demand primarily from mining. The following bar chart shows the share of recycled gold in total supply, among the top five global consumers of gold.

![Source: Authors’ representation, GFMS Gold Survey 2014](image)

The lower contribution of recycled gold stock of gold in total supply is due to its unique positioning in the minds of the Indian consumers, who are sentimentally attached to their gold ornaments. These ornaments are often passed on to future generations in the form of gifts at weddings and other occasions, hence the reluctance to part with them. In fact, the sale of family gold is seen as a social taboo and is considered only in case of acute financial crisis.

Increased use of recycled gold will also help in reducing gold prices and gold imports. Bringing more recycled gold into circulation will boost the domestic jewellery industry, the financial services industry, drive employment and bolster economic growth.

To bring recycled gold into circulation in India, government intervention is required. This would help to build the faith of buyers and sellers in recycled gold. The demand for a gold policy is also felt, for the purpose of price standardisation, increasing transparency and efficient utilisation of 'aboveground' stock of gold.

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30 GFMS Gold Survey, 2014
**Inefficient Mining**

The Indian jewellery industry is not exploiting the available gold resources efficiently. As per statistics published by the Indian Bureau of Mines, a multi-disciplinary government organisation, India’s available resources of diamonds on 1st April 2013 were 30,876 thousand carats with a life index of 74 years. Out of this (based on past five years data) India mines an average of 23 thousand carats of rough diamonds per year. With regard to gold ore resources India has around 480,188 thousand tonnes of resources with a life index of 227 years. Mining of gold stands at an average of only 535 thousand tonnes per year (based on past five years data).

A comparison of available resources, imports and production is presented below:

<table>
<thead>
<tr>
<th>Item</th>
<th>Available resource (on 1st Apr 2013)</th>
<th>Production (2013-14)</th>
<th>Import (2013-14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gold Ore (in '000 tonne)</td>
<td>480,188</td>
<td>421</td>
<td>-</td>
</tr>
<tr>
<td>Diamond (in '000 carat)</td>
<td>30,876</td>
<td>37.51</td>
<td>135.73</td>
</tr>
</tbody>
</table>

As the data above shows, domestic production falls very short of available resources- inefficient mining leads to potential revenue loss to government in the form of royalties and loss to the economy in the form of employment generation and GVA contribution.

In order to become self-sufficient and reduce dependence on imports, India has to efficiently exploit available natural resources, thereby reducing costs which will help to escalate net foreign earnings and growth of the industry.

**Labour Related Issues**

India has a great demographic dividend in terms of availability of work force. However, having a large work force by itself cannot be an advantage unless it is utilised efficiently and effectively. Like other industries, the gems and jewellery industry is also facing many challenges related to labour which are summarised as follows:

**Skill Development**

Then gems and jewellery industry is one of the major employment generating manufacturing industries in India. According to the Ministry of Skill Development and Entrepreneurship (MSDE), it ranked at 6th position in employment generation capacity among all manufacturing industries and employed 46 lakh people.

The industry is highly labour intensive; the several stages of manufacture include cutting, polishing and processing, which require a lot of attention to detail that comes primarily from experience and training. Manual methods of cutting, polishing, manufacturing and designing of gems and jewellery are steadily being substituted with high-end automation using machines and software. Use of laser machines for cutting and polishing stones and diamonds, operating computers and understanding modern techniques require systematic and practical training. According to a report published by the MSDE in 2015, about 18% of the gems and jewellery labour force i.e. 8.35 lakh people had received vocational training/diplomas in 2013. By 2022, the additional requirement of labour force at this level of qualification is projected to be 4 lakhs. The remaining labour requirement in 2022 is expected to be met by higher and lower levels of qualifications, viz. post-graduates (5%), graduates (11%), higher secondary education (4%) and education up to the secondary school level (65%). The same report however goes on to state

[31](http://www.nsdcindia.org/sites/default/files/files/Gems-Jewellery.pdf)
that, given the current levels of capacity creation, only 0.57 lakh people will be able to get vocational training/diplomas by 2022.

Availability of trainers is also a major challenge in skill development. Trainers are typically skilled workers with 10–15 years of experience in the sector. While they may be excellent workers themselves, they lack the ability to teach and impart knowledge in a productive manner. The limited supply of quality trainers implies difficulty in retaining them due to the high demand for such candidates.32

The National Skill Development Council (NSDC), a PPP of the Government of India, has recently set-up the Gems and Jewellery Skill Council, an autonomous body, with the objective of developing a curriculum as per global industry standards, for imparting training and creating National Occupational Standards (NOS) for every job role prevailing in the gems & jewellery industry. The council is working with 96 training partners and 4 assessment agencies33 to provide training and skill development as per industry requirements.

The Gems and Jewellery Skill Council of India has also initiated a programme pan India, called Dakshagraam, to upgrade the current workforce with latest technology to improve their efficiency and reduce gold loss.

There needs to be wholesome change, with development of every skill set at every level including designing, marketing and management, apart from technical skills of workers. The Government and industry bodies could act as facilitators in broadening the outlook of the exporters /other players. This would help them (i.e. the exporters/other players) in familiarising themselves with the changing domestic and international scenario, where moving up the value chain and adoption of modern practices have become compelling imperatives.34

**Working and Payment Conditions**

Sustainable growth of any industry needs continuous supply of new talent with skills and ground-breaking ideas. The gems and jewellery industry is facing difficulties in wooing young workers. One of the major reasons for this is low wages. The typical age of workers in the industry is between 40–4535 years. The average salary in the gems and jewellery sector is ₹2.52 lakh per annum, lower than other manufacturing industries. Thus is it no surprise that young workers are not attracted towards this industry. The chart below, provides an industry-wise comparison of average salaries across the manufacturing sector:

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33 [http://www.gjsci.org/index.html](http://www.gjsci.org/index.html)
Inadequate working conditions and limited compliance with health and safety standards have also led to low interest in the industry. Unorganised players and small scale enterprises (units employing 20 workers), are not known to use cutting edge technology and high quality materials in their manufacturing processes. Excessive and prolonged exposure to lethal chemicals and gases can lead to ailments such as lung tissue damage, kidney damage, lung cancer, etc. Thus making the industry less attractive and not an employer of choice for the younger generations.

**Exchange Rate Fluctuations**

The Indian gems and jewellery industry is based on import led export growth. If the Marshall-Lerner Condition is satisfied, with a depreciating rupee, exports should increase and imports should decrease. The Marshall-Learner Condition refers to the condition that an exchange rate devaluation or depreciation will only cause a balance of trade improvement if the absolute sum of the long run export and import demand elasticities is equal to, or greater than 1. In case of the Indian gems and jewellery industry however, imports generally show an increasing trend with rupee depreciation. The data presented below substantiates this.

<table>
<thead>
<tr>
<th>Year</th>
<th>Export (₹ crore)</th>
<th>Import (₹ crore)</th>
<th>Exchange Rate (₹/$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-08</td>
<td>83,370.19</td>
<td>75,998.25</td>
<td>40.24</td>
</tr>
<tr>
<td>2008-09</td>
<td>1,13,251.48</td>
<td>1,03,762.29</td>
<td>45.92</td>
</tr>
<tr>
<td>2009-10</td>
<td>1,38,835.51</td>
<td>1,36,295.28</td>
<td>47.42</td>
</tr>
<tr>
<td>2010-11</td>
<td>1,95,788.23</td>
<td>1,93,224.40</td>
<td>45.58</td>
</tr>
<tr>
<td>2011-12</td>
<td>2,06,288.92</td>
<td>2,03,534.75</td>
<td>47.92</td>
</tr>
<tr>
<td>2012-13</td>
<td>2,12,803.83</td>
<td>2,04,252.44</td>
<td>54.41</td>
</tr>
<tr>
<td>2013-14</td>
<td>2,21,205.58</td>
<td>1,87,109.89</td>
<td>60.50</td>
</tr>
<tr>
<td>2014-15</td>
<td>2,21,185.53</td>
<td>1,92,074.99</td>
<td>61.15</td>
</tr>
</tbody>
</table>

Source: Authors’ representation, GJEPC

The rupee-dollar exchange rate determines the manufacturing competitiveness of this sector. India's price competitiveness makes it a global diamond processing hub. Depreciation in

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exchange rates increase import costs and can make India uncompetitive in global market. Consequently, the profitability of the sector will be under pressure, as raw materials constitute a significant part of the production cost of gems and jewellery.

In the last few years the rupee has been highly volatile against the dollar. In F.Y. 2012-13 and 2013-14, the change in average rupee-dollar exchange rate was 14% and 11% respectively. Uncertainties in exchange rate fluctuations can reduce the incentive for organisations to invest in export capacity. It also negatively impacts procurement and export planning.

A stable currency is necessary for developing countries, for smooth economic development and foreign inflows. Hence, it is important for the gems and jewellery industry as well. It will also help boost exports and maintain cost competitiveness in the international market.

Changing Tastes and Technology

The gems and jewellery industry is highly affected by changing consumer tastes and preferences. In times of such rapid changes, the industry has to face the challenge head on and must be attentive to and receptive towards important trends, developments and new risks.

This industry is primarily run by families and is highly fragmented and unorganised. About 90% of the players operate their business in the unorganised sector. These players primarily focus on traditional design and on indigenous technology. New and innovative technology is replacing manual methods of cutting and polishing of diamond and stones. However, its adoption is relatively low. Due to inadequate capital, unorganised and small players find it difficult to adopt new technologies and use advanced machinery. This results in higher costs of production, making them uncompetitive with players in the organised domestic market and with foreign players in the global market.

Currently China is India’s biggest competitor in diamond processing due to availability of cheap labour, infrastructure, technology and supportive government policies. Israel and Belgium are also emerging as diamond processing centres; these countries are technologically more sound and efficient than India. The diamond producing nations are also building infrastructure for diamond processing to gain economic advantages.37

Culturally, traditional jewellery is very important even if not a significant market size. In India each region has a unique form of jewellery. The traditional jewellery forms are dying out due to diminishing inherited skills, changing customer preferences and use of machinery.

According to the India Brand Equity Foundation (IBEF), this industry is witnessing changes in consumer preferences, largely due to westernisation of lifestyles which is responsible for changes in the buying habits of the consumer. Consumers are demanding new designs and varieties in jewellery, and branded jewellers are able to fulfil their changing demands better than the local unorganised players.38 As per a McKinsey study consumer demand is shifting from unbranded to branded jewellery globally. It has jumped to 20% of total demand in 2011 from 10% in 2003 and is expected to reach 30% by end of 2020. As unorganised players constitute a majority in the industry, India should focus on building their brand in the global market, so that they can meet the growing international demand of branded jewellery.

In order to fulfil these changing requirements and tastes of customers, innovations are essential. As the fragmented, family-owned players are proficient in traditional designs, there is a lack of

38 http://www.ibef.org/industry/gems-jewellery-india.aspx
design-led innovations and a gap in adoption and development of modern designs. This could be a key limiting factor in meeting export and domestic demand.

**Low Value Added**

Jewellery accounts for the largest proportion of gold consumption demand (64%) in India. Its demand covers all newly-made carat jewellery and gold watches, whether plain gold or combined with other materials. It excludes second-hand jewellery, other metals plated with gold, bars and coins used as jewellery and purchases funded by trading in existing jewellery.

Value addition is an important measure of assessing the performance of an industry in a country’s economy. It also acts as a significant incentive to attract players. Value addition comprises fabrication cost and mark-up added by manufacturers, processors and retailers. In India, gross value addition (GVA) in gold jewellery is one of the lowest among the top global jewellery consumers in the world. India’s GVA per 10 grams in 2012 was only US$ 87.78 as compared to China which had a GVA of US$448.19 per 10 gram. Only Turkey’s GVA is lower than India. However, jewellery demand of Turkey was only about 11% of Indian jewellery demand.

A country-wise comparison of gross value addition in gold jewellery is shown below:

<table>
<thead>
<tr>
<th>Country</th>
<th>Gold jewellery GVA per 10 gram</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russia</td>
<td>905.14</td>
</tr>
<tr>
<td>US</td>
<td>702.31</td>
</tr>
<tr>
<td>UAE</td>
<td>500.00</td>
</tr>
<tr>
<td>China</td>
<td>448.19</td>
</tr>
<tr>
<td>Vietnam</td>
<td>391.82</td>
</tr>
<tr>
<td>Indonesia</td>
<td>363.23</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>231.91</td>
</tr>
<tr>
<td>Egypt</td>
<td>231.74</td>
</tr>
<tr>
<td>India</td>
<td>87.77</td>
</tr>
<tr>
<td>Turkey</td>
<td>78.54</td>
</tr>
</tbody>
</table>


The gems and jewellery industry in India has a 4.89% share in total manufacturing value added.

As per industry experts, consumer behaviour in India is a major factor for lower value addition as Indians prefer pure gold jewellery in which there is a limited scope for value addition due to less artistic work and innovation in designs. Gemstones studded jewellery which would naturally add more value to the product is not as sought after. Demand for other gold articles such as watches, in which there is scope of value addition, is also limited. Limited domestic brands, limited gold recycling and inefficient mining are other reasons for a low GVA. To

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39 Make in India: The next Leap, ASSOCHAM and TARI, 2015
increase value addition, gemstone studded gold jewellery and more value added products may be promoted.

Thus, relative to the international market, value addition, particularly in the gold segment of the industry is low in India. However, the results of the multiplier effect estimates (4.22) in this study show the impact of demand in all segments of gems and jewellery on value addition across sectors of the entire economy. That is, value added in the economy because of a rise in demand of the gems and jewellery industry is 4.22 times of the value added in the industry itself.

**Policies and Regulations**

Government rules and policy interventions play a vital role in the any industry. Considering the gems and jewellery industry is predominantly dependent on imports and contributes a large share in the county’s total imports, the government and RBI impose various restrictions on it, to reduce the current account deficit (CAD) and curtail domestic demand. In recent years increase in import duty and the 80-20 rule have adversely impacted export of the industry. The 80-20 rule required at least one fifth, i.e., 20%, of every lot of gold imported to the country to be made exclusively available for the purpose of exports and the balance for domestic use. Fortunately the RBI withdrew this rule in Nov 2014.

The demand for gold in India is unique in nature. It remains strong and lasting, irrespective of micro-economic, fiscal and political circumstances. A research by the World Gold Council shows that successive attempts to curb demand for gold have proven ineffective. Restrictive import policies have had a limited effect on demand. Instead, they have led to increased smuggling.  

Gold smuggling increased significantly during the period April-Sept 2014, when the government imposed restriction on gold imports. During the same period smuggled gold valuing ₹ 632.52 crores (2,288.67 kgs) was seized by the authorities, whereas during the same period in 2013 seizures of smuggled gold were only ₹ 152.64 crores (522.29 kgs). Complicated tax structures are also a barrier to growth. As the industry is dependent on imported raw material, taxes are crucial to making it competitive in the global market. On an average custom duty, VAT and service tax collectively increase the value of a product by 20%-25%. Introducing GST would be helpful in reducing these complexities.

With regard to exports, the large amount of documentation required makes it a complex process. At present, for export of cut and polished diamonds, an exporter has to file about 30 document to the clearing house. This is time consuming and can result in delays of delivery of export consignments. Government needs to streamline this process as a part of its goal to improve the ‘ease of doing business’ in India.

For the gems and jewellery industry, dealing with associated enterprises outside the country is a means of risk management, as deals are based on trust and involve high value underlying assets. However, such deals are subject to transfer pricing provisions of the Income Tax Act, 1961. Transfer pricing compliance is difficult to prove in the industry as the relevant methods for transfer pricing such as Comparable Uncontrolled Price (CUP) method, Resale Price Method (RPM), Cost Plus Method etc. are not practical to apply to the industry due to involvement of different grades of stones and its uniqueness.

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40 Why India needs a gold policy, a study commissioned by World Gold Council
41 Provided by the Ministry of Finance India in response to a question in Lok Sabha - question no. 4548 dated 19.12.2014
India is the largest diamond processing hub in the world. However there is no special tax relief available to the industry, despite a long standing demand. Under section 10AA of the Income tax Act, 1961, only units established in SEZs are provided exemption from tax on export income. However, applicability of MAT and AMT provisions reverse the benefit under this section. Furthermore, as compared to other global centres of diamond trading, India does not have a presumptive taxation rule specific to this industry.

Given the significance of the industry to the economy, it is important to assess the potential impact of regulations on employment, exports, and value addition. For example, the recent regulatory measures to curb gold imports that are aimed at reducing the current account deficit can potentially have negative ramifications on employment. It is estimated that with every 100-ton reduction in domestic jewellery sales, roughly 2.5 lakh employees in jewellery manufacture and retail could potentially lose their jobs. Alternatively, there could be a rise in unofficial imports, which will lead to higher levels of cash transactions for gold purchase in the domestic market and a loss of tax earnings for the government.44

### Section V

**Industry Perspectives on the Gems and Jewellery Industry**

Discussions with industry experts have provided the following perspectives on the industry.

<table>
<thead>
<tr>
<th>The Industry’s Contribution to GDP and Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>The share of GDP of gems and jewellery industry has increased in recent years. As per a PwC Global Report direct GVA attributable to gold jewellery fabrication and consumption across the top 13 gold consuming countries is estimated at US$69.8 billion. As the industry is primarily labour intensive, associations are working around boosting employment. The employment in gems and jewellery industry is expected to increase to 20-30 million people till 2020 from the current figure of 5 million.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Efforts by Industry Associations</th>
</tr>
</thead>
<tbody>
<tr>
<td>There are several efforts being undertaken by associations, these include:</td>
</tr>
<tr>
<td>- Modernisation and online retail business is setting the sector towards getting more organised</td>
</tr>
<tr>
<td>- The government has proposed a gold monetisation scheme and has also proposed to produce gold coins with Ashok Chakra to bring back non-traded gold into market.</td>
</tr>
<tr>
<td>- Industry is moving towards organised sector</td>
</tr>
<tr>
<td>- Branding and marking is improving by adopting international standards like Hallmark etc.</td>
</tr>
<tr>
<td>- The industry is seeking support for a gold policy in India. The WGC has also launched a report with FICCI ‘Why India Needs Gold Policy?’ to address this.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The Industry’s Contribution to the ‘Make in India’ Initiative</th>
</tr>
</thead>
<tbody>
<tr>
<td>The gems and jewellery industry is moving slowly towards the ‘Make in India’ initiative. Innovation, creativity, new ways of marketing and transparency in gold jewellery will help to achieve the targets set by the ‘Make in India’ initiative.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Why India should Focus on the Gems and Jewellery Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>The gems and jewellery industry has a huge potential to grow specifically in the organised sector. Gold export is expected to reach US$40 billion in 2020 from the current US$8 billion. The industry is highly labour intensive and expected to create 5 million additional jobs across the gold value chain – manufacturing, retailing, assaying, recycling etc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Challenges Faced by the Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>One of the main challenges faced by the gems and jewellery industry is that it is highly unorganised and fragmented with only 15%-20% players being organised. Due to the largely unorganised nature of the industry, data collection is a problem because of which the accurate positioning of the industry is difficult to estimate.</td>
</tr>
<tr>
<td>The gems and jewellery industry is faced with the lack of a single dedicated association looking at domestic as well as exports in the industry. Each industry organisation like GJEPC, IBJA, WGC etc. has their own agenda and constituencies.</td>
</tr>
<tr>
<td>Low value addition in jewellery is a big challenge in India. Indians prefer to buy metal, not jewellery. Jewellery with value addition such as beads, stones and designer jewellery is usually</td>
</tr>
</tbody>
</table>
made out of 8 carat gold. However, as Indians prefer not to buy less than 20-22 carat gold jewellery, there is limited scope for value addition and innovation.

Limited reach of brands in India is also a challenge.
Under marketing of handicraft jewellery is another issue.

**Enablers Necessary to Support Growth**

Growth enablers include the following:

- Development of a gold exchange
- Gold monetisation scheme
- A national gold policy to strengthen the industry
- Improvements in hallmarking to for enhanced transparency and for building faith of the customers.

**Additional Information about Gems and Jewellery Industry**

The ‘Gold Tourism’ circuit will be useful to showcase handcrafted jewellery and promote the industry.
The importance of the gems and jewellery industry is increasing with the growing middle class population and their spending power. The industry is at a very significant point in its development. It is crucial for overall growth of the manufacturing sector. The goal of ensuring sustainable growth to enhance value, generate employment, and exports, requires the concerted efforts of all stakeholders including industry associations, government, and RBI.

In earlier sections of this report the growth drivers and challenges of the industry were identified. Suggestions have also been provided on how to tap the potential and meet the challenges. The significant areas that need immediate attention for the industry to achieve its full potential are presented in the chart below:

**Extending ‘Industry Status’ to the Sector**

The importance of the gems and jewellery industry in the Indian economy is undeniable. This leading export oriented industry deserves the same interest and consideration as other manufacturing sectors such as food processing, textiles, pharmaceuticals etc. Given its contribution and potential it deserves to be granted ‘industry status’ for which, constitution of a gems and jewellery ministry has been a long standing demand of trade bodies. Since there are many areas that need focus (eg: organising the fragmented industry, skill development, working conditions, policy initiatives including export related, etc.), to boost the growth of this industry, a single ministry or department attending only to the needs of this sector may be created. It will help the industry greatly, enabling it to easily benefit from various government schemes, which would also help to ease the financial issues faced by the industry. With many industry associations and trade facilitators currently working in different segments, it is not reaping the benefits of policies, as expected.
Enabling Growth of the Organised Sector

In the coming years, penetration of large retailers and brands will contribute greatly to the industry, providing the required impetus for growth. These players are leading the industry in opening up new opportunities of evolution and progress. The industry however is currently dominated by the MSME segment with most manufacturing units and retailers run like family businesses.

The organised segment provides variety in terms of products and design. This is likely to give a fillip to investments in the sector and bring down costs of operation, thus making India globally competitive. As stated earlier, organised players in the industry will help to build trust and faith in Indian brands in the international market and increase their global reach. Fair competition among brands will lead to innovations in new designs, processes and new methods of marketing. Effective use of technology, new marketing ideas and retailing will substantially contribute to further growth. Thus for branding to further contribute to the industry, initiatives need to be taken to promote Indian brands globally.

Organising the fragmented industry will strengthen the bargaining power of the industry as it seeks to grow domestically and gain a firm hold in the international market. It will also bring in transparency which is an imperative today, considering the extent of cash transactions involved in the purchase of raw materials and final end products.

Enhanced Designs, Product Quality and Standards

Consumers of gems and jewellery have evolved over time and the traditional ways of trading and manufacturing have failed to provide any meaningful results for brands and retailers. With globalisation, consumer preferences have rapidly changed and the demand for new and innovative designs has increased.

To keep up with changing domestic and international trends, enhance its reach and remain relevant globally, the gems and jewellery industry needs to constantly innovate and understand evolving consumer preferences about new designs and habits. For this, the industry needs to be engaged in constant research on changing tastes, methods of manufacturing – moving from traditional to modern mechanised methods and adopt new market techniques.

Both organised and unorganised players need to maintain global standards of production and build the faith of customers. Enhancement of product quality standards and incentives for adopting these standards will contribute greatly to gaining this trust. For this purpose, gold hallmarking, diamond certification, Pt950 certification for platinum, etc., although present in the Indian market, must be adopted as a best practise. Consumers also need to be made aware of these quality standards. Government may also be approached to make these certifications and standards mandatory.

The Indian Institute of Gems and Jewellery (IIGJ), a non-profit education initiative of the GJEPC, offers fully integrated and vocationally oriented programmes for jewellery designing and manufacturing to produce jewellery professionals with the skills that industry. The scale and reach of the institute needs to be augmented to meet the growing demand. For this industry captains need to come together and invest in setting up the institute or expanding existing ones.

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The Gem & Jewellery Industry Contributing to ‘Make in India’

Government support may also be sought to create national “centres of excellence” like National Institute of Technology with multiple campuses and courses.46

Skill Development and Improved Working Conditions

The high growth rate of the industry indicates the potentially high demand for skilled manpower in the future. In such a scenario the inherent skills in gold-smith families and on-the-job training may not be sufficient, especially when the need is to modernise so as to beat global competition.

The gems and jewellery industry needs systematic and collective investments in skill development through increased training and manpower development programs. Investment in the IIGJs referred to above, is a step in the right direction.

Investment in vocational training institutes will provide a path to increase awareness and attract the younger generation to the sector by providing better career opportunities. This would further enable the industry with access to a larger talent pool mitigating the effect of reducing inherited skills.

The Ministry of Skill Development and Entrepreneurship in its report ‘Human Resource and Skill Requirement in the Gems and Jewellery Sector’ suggests a skill development model in conjunction with industry and institutes. The suggestion includes:

- Institutes may focus on enrolment and basic classroom teaching, covering properties of metals and their use in the industry, health and safety in the workplace, process chain in relevant sub-sectors, etc.

- Industry can contribute by providing students with simulation training in their factories. Such an association between manufacturers from the industry and training institutes draws on the strengths of both partners.

- The youth are provided with a better perspective on the industry and workplace characteristics, bridging the gap in employee and employer expectations as well.

Industry associations also need to participate in policy making and highlight issues and requirements of all stakeholders. Educational bodies and various research institutions need to be a part of these initiatives related to innovation and capacity development.

Industry associations can also assist in spreading awareness in the market on formal employee training programmes. They may also focus on improving pay and working conditions. Manufacturing facilities should adopt safety measures on the shop floor. Workers should be provided safety kits with daily-use equipment such as goggles, gas masks, gloves, lab coats, etc. These steps can help reduce negative impacts on the health of workers, attract the growing young population to the workforce and retain the existing workforce, thereby resulting in low labour turnover, improved efficiency and productivity, and high output.

Enabling Policies

The role of the government is crucial for overall growth of this industry. Various challenges facing the industry require government support to combat. While some of these have already

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been addressed earlier in the study in the section on challenges, other, important issues, are described below.

**LABOUR LAWS**
Modernisation of labour laws has been the long-standing demand of all manufacturing industries. It is no different for gems and jewellery. It is an important step towards improving the ease of doing business in India, thereby attracting more foreign investments. This will enable Indian manufacturers to improve efficiencies, provide a better working environment and consumer services and also enhance exports without compromising on labour standards, thus propelling Indian towards becoming a global manufacturing hub.

**MORE EXPORT ORIENTED ECONOMIC ZONES**
Seeing the current growth trends, this industry requires more export oriented economic zones. Such zones would help to create the required infrastructure for even faster export growth. It will also provide a better platform to Indian players to face increasing and tough competition from countries like China and Turkey. These zones can also facilitate use of common technology intensive facilities to all players at par, even to small players.

**GOLD MONETISATION & ENCOURAGING GOLD RECYCLING**
The industry's huge dependence on imports makes it vulnerable to changes in import policies. The government therefore needs to implement the gold monetisation scheme
quickly to mobilise the gold held by households and temple trusts. It should focus on recycling gold available domestically through gold deposit schemes and similar schemes and allow banks to buy domestic gold. The AT Kearney-FICCI study estimates that recycling domestic gold will help to reduce reliance on imports of gold by approximately ₹60,000-65,000 crores by 2018 or 9-10% of import requirements (under usual business conditions). Gold monetisation schemes may be a revolutionary step towards bringing old gold into the economic cycle and reducing dependence on imports.

- **ESTABLISHMENT OF A GOLD BOARD**
  The establishment of a gold board has also been suggested, to manage imports, encourage exports and drive development of necessary infrastructure.

- **ACCESS TO BETTER FINANCING**
  The financial sector will need to work with the industry to ensure access to better financing, such as asset-based lending. The Gold Deposit Schemes should also be revitalised and should cover domestic jewellers, this would bring gold directly into the economy - benefiting the financial sector, the gold jewellery industry and reducing import levels.

- **ENABLING TAX PROVISIONS**
  Relaxation of certain taxation laws would be an important step in the smooth functioning of the jewellery business. Introducing a presumptive taxation rule for the diamond industry has also been recommended as a way of developing India into a global diamond processing hub.

- **SEGMENTING CONSUMPTION AND INVESTMENT DEMAND**
  Challenges, including regulatory challenges, across segments (i.e. consumption demand and investment demand) are different and unique in nature. Segregation of investment and consumption demand is therefore recommended to deal with each separately. While a large share of import feeds investment demand, import restriction-led initiatives affect consumption side of demand as well. It is often said that the consumption industry is over-regulated, while the investment industry is under-developed – segmentation will enable consumption demand and also help develop systems to cater to investment demand through better regulation.

- **PROMOTING GOLD TOURISM**
  The World Gold Council’s proposal for setting up a gold tourism circuit can be an important factor contributing to the growth of the industry. The idea may be vetted by the government and other authorities concerned, adopted quickly and promoted heavily as an important stimulus for industry growth.

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47 “All that glitters is Gold: India Jewellery Review 2013” a study by AT Kearney and FICCI
Conclusion
To fulfil the aims of the National Manufacturing Policy and the ‘Make in India’ initiative, the potential of the gems and jewellery industry cannot be ignored. With a share of 29% in global jewellery consumption and changing demographics it has great potential to boost Indian manufacturing and contribute in a big way to GVA and employment. However, sustaining this potential needs planned and systematic efforts by the government and industry bodies. Barriers, stifling growth need to be removed and policy initiatives to boost growth encouraged and introduced.

This study has shown, that while a number of challenges may exist in the industry, it has a number of strengths which could contribute in a large way to the growth of the industry and the economy as a whole. The multiplier effect demonstrates that increasing demand for gems and jewellery has a vital and positive impact on output, employment, value addition and indirect tax collections. These numbers themselves should point at the potential the industry holds. For systematic growth of the industry all these aspects need to considered, the challenges identified, met, and the growth drivers exploited and nurtured. Coordinated efforts would give the necessary boost to the industry, lead industry through to a new growth path, increasing its contribution to GDP and take the industry into a new phase in the international markets. Achieving the goals of the country’s “Make in India” initiative will then not be a distant dream!