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A CASE ANALYSIS ON DEMAND AND SUPPLY OF GOLD IN INDIA

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ABSTRACT

Demand for gold is widespread observable fact around the world, in which India's share alone comes to around 25%. Hutti gold mine company located in Karnataka is the only company in India which produces gold by mining and processing the gold ore. Over the past 5 years; Indians have recycled an average of 105 tons of gold per annum.

In October 2008, demand for gold increased; celebrations like Diwali and Akshaya Tritiya was the main factor for this vast increase in demand. Imports of gold started falling from December 2008 by 83%, followed by 91% in January 2009.In march 2009 imports were ZERO. In 2005, demand went up and the price also went up. Indian people tend to invest in gold because of culture and belief, so the demand always remains elastic. In 2004, Indians enjoyed a rapid increase in income, which made the Indians to consume more and more gold even though the price was increasing. Certain non-price factors like income of the consumer, prices of related goods, consumers taste and preferences, population and expected future price of the good also effects of the increase in the price of gold.

Later on in the year 2009, platinum, which is a substitute good for gold started declining from Rs.35000 to Rs.22000 which made the people of India to purchase platinum as a substitute good for gold.

STATEMENT OF THE PROBLEM

Indian consumers are ready to pay any price for gold. Cultural and religious traditions involving wearing of jewellery play a major role in influencing Indian gold demand, this fondness for gold is acting against "The law of demand" because of this the price does not determine demand as gold comes under luxury goods and people think of it as more of a status symbol and a valuable investment.

GOLD CONSUMPTION IN INDIA

India is the largest consumer of Gold stands 2nd in consumption next to China. The big difference between China and India. Around 52% of the gold in the world market is used for Jewellery (Out of which 78% is used for making jewels in India) followed by 18% as Individual holdings such as ETF's (Exchange Traded Funds) and Unaccounted. Another 18% held as reserves by the Federal/Central Bank and remaining 12% is used for Industrial Purpose such as components in electronic devices like cell phones, televisions and GPS units. The other uses of gold are dentistry, medicines, aerospace engineering (to lubricate mechanical parts, conduct electricity and an inner coating of space vehicles which protect infrared radiation and heat). It is also used to make Medals and the making of crowns as it is considered as precious.

Though Gold is categorised under Luxury Goods, people tend to buy as much as they are willing and able to purchase occasions like Weddings and Festivals like Akshaya Tridhya. The change in trend and the introduction of new models also impacts increase in consumption.

In the ***Microeconomic perspective***, Gold is considered to be the wealth preserver due to its increase in value over a period of time. The trend precisely shows how it increased the wealth of the Individual and the economy.

In the ***Macroeconomic Perspective,*** Gold stands at 12% of our total imports next to Crude Oil and Capital Goods from the largest producers of Gold in this world. They are USA, China, Australia, Russia and South Africa. We pay them in their respective currencies are in US Dollars amounting to 6000 crores per year. To pay in US dollars we are forced to sell our INR at cheaper rate to the buyer

which dents our currency value negatively leads to price rise especially in Fuels.

The next reason is that the nature of Gold is unproductive as it stays idle in bank lockers, most of the time, whereas Capital Goods, Foreign Portfolio Investments, Crude Oil and many items we import helps in productivity leads to employment, consumption and exports as finished goods to other countries which has a positive impact on the economy.

The Role of Government: Due to the above mentioned reasons, the Government is forced to interfere in the import of Gold by way of restricting in quantity, increase in import duty, checking illegal mining and stopping illegal entry of unaccounted Gold into the economy. Their actions are taken to make our economy stable and to withstand the unprecedented crisis.

LAW OF DEMAND

The Law of Demand states that the Consumption of the commodity will decrease when the price increases and when the price decreases the demand for the commodity will increase, whereas all the other factors remain constant such as Income of the consumer, Technology, Trend, Manufacturing and Government restrictions in usage (Say's Law).

Year	Demand for Gold (Tons)	Price Rate (10 gms)
2011	990	25000
2012	870	32000
2013	980	29600
2014	800	29190
2015	1000	29633

Source: World Gold Council forecast 2015 & www.smaulgld.com

The introduction of "The Gold (Control) Act, 1968 is repeal of the original act introduced in the year 1962 by the then Hon'ble Finance Minister of India Shri. Morarji Desai came out with various measures like recalling all the Gold loans offered by the bank, banning of forward trading in Gold, launch of Gold Bond Schemes with Tax immunity in the 1965 to the very recent, the introduction of the Gold Monetisation Scheme in the year 2015 to effectively utilise the available idle gold in the country for the economic growth played immense role in pricing and consumption. The pattern of the consumption of Gold, changes in regulations, availability of gold reserve shows that the Law of Demand not being followed. The pricing and demand shows that the people are having the desire and ability to purchase more and more Gold even though the prices increases year to year.

DEMAND FUNCTION

As per the definition, it is "The representation of the factors which determines the quantity demanded of a commodity with respect to its price and other factors" widely called as Demand Function.

In this case, the demand for Gold is not dependent only on price, but also other factors influence the demand. The Idle Gold will be of no use other than cost involved in preserving the same in lockers. In spite of higher costs of maintenance such as re-making charges, wastages and locker charges.

The recent introduction of the Gold Monetisation Scheme, Sovereign Gold Bond Scheme and Indian Gold Coin Scheme can be related to Demand Function as the factors other than the price impacted reduction in Imports, use of idle gold for economic activities such as employment, making of Gold Coins in India at International Standard (equal to Guinea Gold) and some returns for the owners in terms of interest for their gold deposits. These schemes were launched on Nov 05, 2015 to Nov 30, 2015 able to mobilise Gold worth Rs. 250 Crore.

The mathematical expression of the Demand Function of Gold for the economic activity is,**Qd (**Quantity Demanded**) = F (Price, Non-Price factors such as Income, Import Duties, Cost of Carry, Making Charges, Wastages.....))**

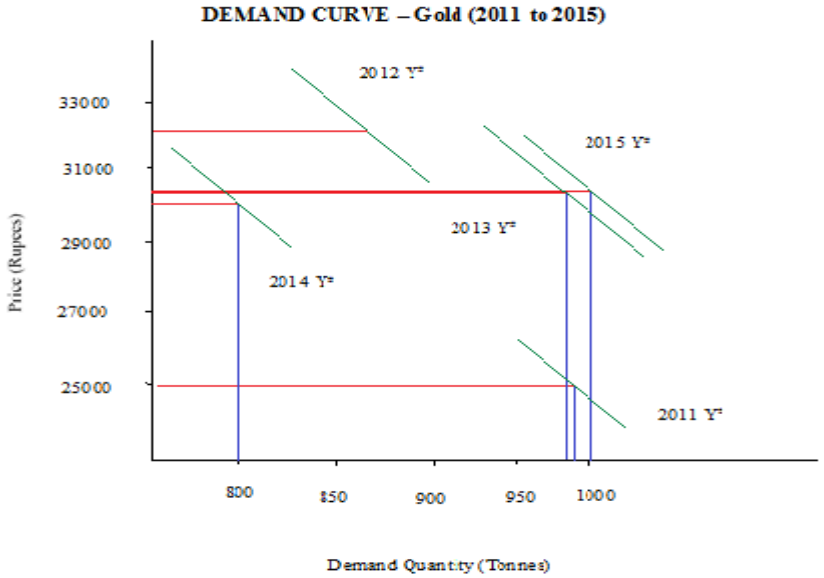
The outcome of the Demand Function is that the Demand increases when the Price Decreases where as in Indian context, the Demand and Price increases simultaneously.

DEMAND CURVE

The demand curve is the graphical representation of "How the demand for a particular commodity varies with the changes in its rice". The demand curve indicates the movement in price and quantity demanded from time to time. The demand curve may vary from time to time due to Shift and due to the Movement in the curve. The Shift in the demand curve refers to change in quantity demanded when the price remains the same whereas, Movement denotes change in demand and price of the commodity from one point to another. This can also be referred as a change in the quantity demanded for the commodity is caused only by a change in price and no other factors have an influence in the quantity demanded.

The demand curve of the commodity, Gold shows that the price and demand varies time to time. It may be incorrect to infer that the price alone influences the demand. There are various

other factors such as inflation, occasions, government policies, tastes and preferences had also influenced the change in price and demand for gold in India. The below Demand Curve shows that the demand for gold moved towards the right side for the periods 2012 – 13 and 2014 – 15 and vice versa during the periods 2011-12 and 2013-14. This clearly shows that price along with other factors influence demand for gold in Indian market.



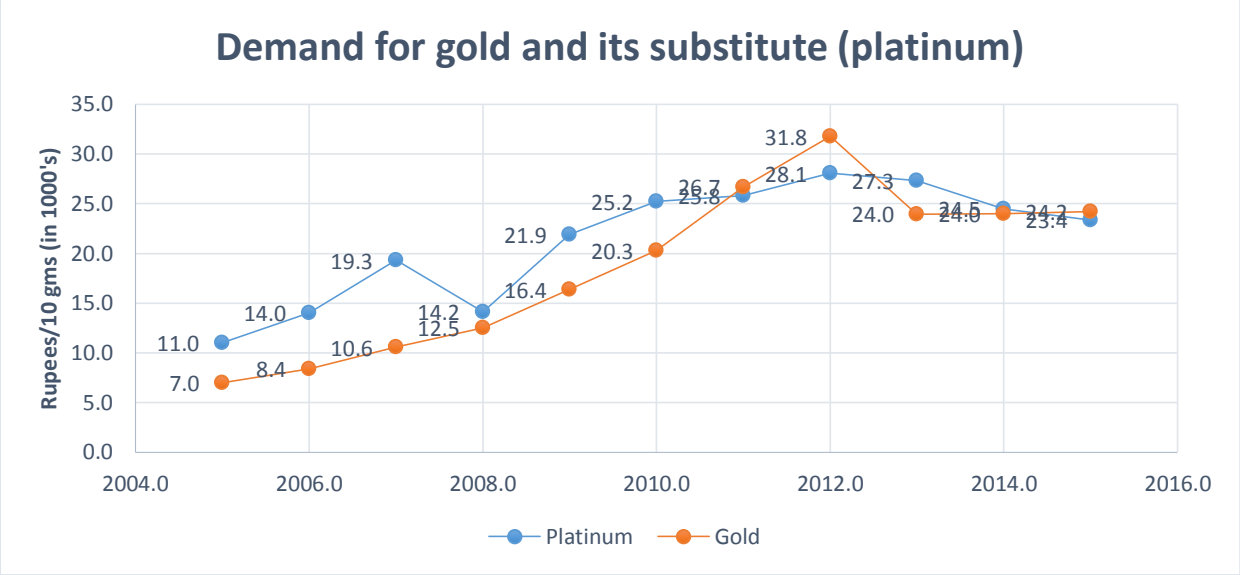
DEMAND SCHEDULE

The tabular representation of quantity demanded of a commodity at different price-levels at a given period of time. This helps in establishing the relationship between the price and quantity demanded for a particular commodity. Individual demand schedule denotes the quantities the individual is willing to buy at different price levels and Market demand schedule denotes the collection of individual consumers willing to buy the commodity at various price levels.

The study is about the aggregate demand for gold in Indian market and not about individual preferences. The Law of Demand table shows that there is a 20% increase in demand during the period 2014-15 though the average price per 10 grams of gold surge marginally and vice versa during 2013-14. However, the demand for the quantity of gold came down to a considerable amount in the year 2011-12 and considerable increase in demand during 2012-13. The demand increase during 2012-13 can be attributed to price decrease which accepts the Law of Demand theory and the rest of the periods does not follow the Law of Demand. The major policy change in the year 2012, the revision of Gold Customs Duty duly notified in "Notification No. 12/2012-Cus" by increasing rates up to 36.05% for the import of Gold more than 1 Kg of its value. This curbed imports and paved way to increase in demand for gold in Indian domestic market.

SUBSTITUTE EFFECT ON GOLD AND ITS DEMAND

The consumption of Gold in India is seen as the Savings and Prestige items such as Gold Coins and Gold Ornaments. Thus the Gold became an inevitable part of every Indian. The same has been challenged by the other precious metal Platinum (The Rich Man's Gold) as the Coins and Ornaments similar to Gold. The gold has some industrial uses whereas the platinum is replaced by Palladium for industrial purposes. The availability of Platinum comparing Gold is very small i.e., 6% or 130 tons being produced.



Source: www.blog.sanasecurities.com

The price per 10 gms of Platinum was comparatively higher than the gold in the last decade and became similar in the recent past, which shows that the demand for Gold remains intact though there are substitutes for it. This shows that the demand among Indian customers for Gold continuous to remain same comparing Platinum. There is no impact on Gold and its demand among Indian's because of the introduction of substitutes and price changes.

DEMAND FORCASTING

To forecast the demand for Gold in Indian market for the **year 2016**, the author employed "Linear Trend" equation method represented by **Y = a + b x**. To forecast the demand for the year following values are used,

Where, Y = Demand, x = Time period, a & b are constants.

For calculation of Y for any value of X, the author use,

$\sum Y = na + b\sum X$

$\sum XY = a\sum X + b\sum X^2$

Year	X	Y (in 100's)	X^2	Y^2	XY
2011	1	10	1	98	10
2012	2	9	4	76	17
2013	3	10	9	96	29
2014	4	8	16	64	32
2015	5	10	25	100	50
Total	∑=15	∑=46	∑=55	∑=434	∑=139

The values being substituted into the equations,

46 = 5a + 15b - Equation No.1

139 = 15a + 55b - Equation No. 2

To solve the above equations, the constant value 3 is used to multiply the equation 1, we arrived as the value **b = 0.1**

Substituting the value b = 0.1 in Equation No.1, we found the value of **a = 8.7**

Using the values of a & b in the equation Y = a + b (X), where "X" is the year 2016 = 6

2016 (to be forecasted) = 8.7 + (0.1) (6) = 9.3.

Inference: The derived Value 9.3 is converted into Quantity by multiplying with 100 = 9300 Tons

CONCLUSION

Gold is ingrained in Indian culture. The tradition of wearing Golden ornaments considered to be prestigious and auspicious for Indian as it deep rooted significance in Indian history. Once cannot imagine Indian marriages without Gold. The attachment with the gold among Indians is inseparable. Though the modern trends, introduction of new financial instruments and many more valuable substitutes for gold still

available, but not able to reach the place of gold in the minds of the Indians. As long as Indian traditions are being followed, it is not possible to separate Indians and Gold. Most of the middle class people save their small income with the objective of buying Gold, which gives them the satisfaction. The importance of Gold is not only realised by Individuals, the industries started looking at Gold as a metal for various uses especially in the space technology due to its features. The nature of gold i.e., non-productivity has changed due to its industrial uses and government policies in converting into productive metal for them as well as their citizens, by using is as a tool for economic development which paves way for employment, re-usable and easy liquidation. The demand for Gold will remain till the world remains.

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