

Chapter– 5

STATISTICS: GOLD RATES IN INDIA

Ch.Id:-ASU/GRF/EB/RAPOET/2022/Ch-05

DOI: <https://doi.org/10.52458/9789391842765.2022.eb.grf.asu.ch-05>

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In this chapter firstly, introduction to statistics and the mean, median, mode and some other statistical tools are discussed. Several statistic techniques are used to analyse and help in interpreting the data obtained. The applications of the statistics are also being discussed and the application in the real life is also well explained with the help of an example of the India's death rate In which we have observed the data from 1998 to 2022(till now) and shown the changes and the data collected is interpreted using statistical tools.

Mathematical calculations and plays a role in all aspects of modern life. The use of mathematics often takes place in the background, as mathematicians work tirelessly to discover and apply the technologies that shape the world.

ANALYSIS OF DATA

This chart contains the average annual price for gold from 1964 – present.

Year	Price (24 karat per 10 gram)	Year	Price (24 karat per 10 gram)
1964	Rs.63.25	1993	Rs.4,540.00
1965	Rs.71.75	1994	Rs.4,598.00
1966	Rs.83.75	1995	Rs.4,680.00
1967	Rs.102.50	1996	Rs.5,160.00
1968	Rs.162.00	1997	Rs.4,725.00
1969	Rs.176.00	1998	Rs.4,045.00
1970	Rs.184.00	1999	Rs.4,234.00
1971	Rs.193.00	2000	Rs.4,400.00
1972	Rs.202.00	2001	Rs.4,300.00
1973	Rs.278.50	2002	Rs.4,990.00
1974	Rs.506.00	2003	Rs.5,600.00
1975	Rs.540.00	2004	Rs.5,850.00
1976	Rs.432.00	2005	Rs.7,000.00
1977	Rs.486.00	2007	Rs.10,800.00
1978	Rs.685.00	2008	Rs.12,500.00
1979	Rs.937.00	2009	Rs.14,500.00
1980	Rs.1,330.00	2010	Rs.18,500.00
1981	Rs.1,800.00	2011	Rs.24,400.00
1982	Rs.1,645.00	2012	Rs.31,050.00
1983	Rs.1,800.00	2013	Rs.29,600.00
1984	Rs.1,970.00	2014	Rs.28,064.50
1985	Rs.2,130.00	2015	Rs.26,343.50
1986	Rs.2,140.00	2016	Rs.28,623.50
1987	Rs.2,570.00	2017	Rs.29,667.50
1988	Rs.3,130.00	2018	Rs.31,438.00
1989	Rs.3,140.00	2019	Rs.35,220.00
1990	Rs.3,200.00	2020	Rs.48,651.00
1991	Rs.3,466.00	2021	Rs.48,720.00
1992	Rs.4,334.00	2022 (Till Today)	Rs.52,690.00

The data is taken from Bankbazaar.com

<https://www.bankbazaar.com/gold-rate/gold-rate-trend-in-india.html>

To begin with I have used the most common statistical tools- Mean, Mode, Median, kurtosis, skewness, range and Standard Deviation to analyse the data. The calculations are shown in the table below:

Below is the calculation of the Statistical tools:

Median	18500
Mean	20,714.16
N	25
Mode	no modal value
Standard deviation	15536.31335
Variance	241,377,032.51
Range	48,645
Mean deviation	0
Skewness	20714.16
Max	52690
Min	4045

Statistic:

A number collected to give information about something or the science of collecting and learning these numbers. Statistics are discipline that affects the collection, editing, analysis, interpretation, and presentation of information. In applying

mathematics to a scientific, industrial, or social problem, it is common, starting with the number of people or the mathematical model to be studied. Humans tend to belong to various groups of people or things such as "all people living in the middle of the world" or "all atoms that make up a crystal". Statistics cover all aspects of information, including organizing data collection according to the design of surveys and tests.

Data can be any set of information that describes a particular business. Statistical data can be divided into collected data and non-collected data. Mathematics can be the mathematical science and method of collecting, organizing and analysing information in a certain way in order to draw important conclusions from it. Generally, its research and analysis consist of 2 broad categories known as descriptive and non-descriptive statistics.

From this result of tools:

1. **Mean:** After calculating that mean. I can say that on an average the marketing trends is giving much economical support to the government or Country not only in India but for other countries as well. The calculation says on an average Between 2000 and 2020. Rupees 20,714.16 (Mean) is the average total of the fluctuation.
2. **Mode:** From the source it is not possible to study mode of the given data. So I cannot read the Central Tendency of the given source also cannot read the most frequent price fluctuation in the source data.
3. **Median:** After Calculating the median is the point at which there is an equal number of data points whose values lie above and below the **median** value. Thus, the median is truly the middle of the data set. The median is found to be Rupees 18,500.00. With this we got the centre of our source data set.
4. **Standard deviation:** After calculating the Standard deviation of the source set I understand the height of the fluctuation followed by the distribution. Standard deviations are important because the normal curve is determined by its mean and standard deviation. The mean tells you where the middle, highest part of the curve should go. The calculated S.D. is found to be 0.395326819 which is the height of fluctuation
5. **Kurtosis:** After the calculation kurtosis of the above data is equals to be -0.737142619 which more said as 0 that means it is Mesokurtic in nature or normal distribution.
6. **Skewness:** After the calculation of skewness, source set is 0.395326819.
7. **Range:** The range of a set of data is the result of subtracting the smallest value from largest value. It gives a rough idea of how the outcome of the data set

will be before you look at it. Since it only depends on two of the observations, it is most useful in representing the dispersion of small data sets. after calculation the range of the data set is equals to 48,645.00.

CONCLUSION

With an annual demand equivalent to about 25 percent of the total physical demand worldwide, India is one of the Largest Consumer of Gold. Traditionally, there is a surge in jewellery demand during the fest or marital events. All equal, gold demand is driven firstly by income i.e., gold demand is seen to rise with income levels.

Demand for gold in India is interacted with culture, tradition, the will for beauty, and the desire for financial protection. According to a study by the planet Gold Council commissioned by the globe Gold Council and Federation of Indian Chambers of Commerce and Industry (FICCI), Indian consumers view gold as both an investment and an adornment. From these points and the calculation analysis say that most part of Indian economy stands because of the gold marketing. 2001 gold price was lowest among the selected data chosen by me.

The price of gold showed a fluctuating trend through the year 2020 after opening the year on a positive note due to the COVID-19 pandemic. With the precious metal serving as a haven for investors, the demand for gold increased and so did its price. The equities market suffered during the pandemic but showed signs of recovery at the end of 2020 when the price of gold declined marginally.

It's important to note that the gold prices would fluctuate during the year and the amount mentioned below is a representation of the average price for that year. Except for a few lows between some years. The table indicates that the gold price trend has historically been on the rise, lending credit to the argument that gold is a safe investment over long periods.

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