



THE DYNAMICS OF GOLD PRICES IN INDIA: INSIGHTS FROM MONETARISM AND KEYNESIAN SCHOOL OF THOUGHT

Kanchana Devi S

2nd MA Economics, Stella Maris College (Autonomous), Chennai 600 086

ABSTRACT

Gold plays a significant role in India's economy and culture, serving as a store of value and a hedge against economic instability. The study focused on long term impact of gold price with unemployment and with monetarist and Keynesian perspective. The study was based on quantitative analysis. The study results that there is a positive impact on gold price and disposable income and negative impact on unemployment and inflation considering both monetarist and Keynesian school of thought. It is also worthwhile for policymakers to consider these two aspects of developing more robust economic policies. Such a detailed understanding may be used by policymakers and investors to predict directions of gold price movement and prepare strategies for economic stability.

KEY WORDS: Gold price, Schools of thought, Macro variables.

INTRODUCTION

Gold has always been an important component of the economic and cultural profile of India. It has always acted as a store of value, a symbol of wealth, and a very important part of the general stability of the macro economy. Changes in its prices carry huge implications for the household, investors, policymakers, and the economy at large. The interplay between global and domestic factors such as inflation, exchange rates, monetary policies, and economic growth makes the study of gold prices a critical component in understanding the macroeconomic framework of India. This chapter introduces theoretical underpinnings of dynamics in gold prices drawing insights from the Monetarism and Keynesian schools of thought, but placing it within the Indian context.

In a Monetarist school of thought, the prices for gold are normally understood to be in the light of money supply and inflation. When the money supply increases more quickly than the goods and services, the value of that money declines; in simpler words, there arises the phenomenon of inflation. From this perspective, gold with its real character would come in as a hedge on inflation. Historically, India has seen great inflation due to the enlargement of money and at times like these, the gold price has risen. The same relationship also presents the status of gold as a popular form of investment in times when people lose confidence in the fiat currency. Monetarists emphasize the need to check inflation and maintain stable monetary growth to reduce the volatility in the price of gold, which may destabilize the savings and investment pattern in the economy.

The Keynesian school gives a demand-side view of gold prices through relating them to macroeconomic conditions, such as income, consumer behavior, and overall economic conditions in the world. As observed by Keynesians, "gold is a liquid asset," and it is always in high demand during slumps in the

economy or other global financial crisis. To understand this better, one may refer to cultural and traditional aspects in India, also leading to this demand of gold. For example, in periods of festivals or marriages, demand for gold increases highly, since it doesn't replace any other object as gold is a synonym for a source of income and stability. Another reason Keynesians advance to support their argument is that government fiscal policies in terms of taxation and subsidies indirectly influence the prices of gold by affecting disposable income and investment decisions.

Global forces have increasingly influenced Indian gold price dynamics over the last several decades. The integration of global financial markets has even further made gold prices sensitive to broader determinants such as strength in the U.S. dollar, global interest rates, and geopolitical events. Perhaps most famously, there is an inverse relationship between the dollar's strength and gold prices, wherein a weaker dollar decreases prices for buyers using other currencies and increases demand and price. This international aspect meets both Monetarist and Keynesian theories as it depicts the subtle interaction between the world monetary trend and domestic factors.

In addition to these international and global trends, the dynamics of gold prices have also been significantly influenced by the macroeconomic policies of India. Decisions of Reserve Bank of India regarding interest rates and foreign exchange reserve have a direct bearing upon gold price. For instance, high interest rates decrease the opportunity cost of holding gold. Low interest rates increase investments in gold as an alternative investment. Fiscal policies that limit the import of gold to reduce the deficit in the current account indirectly influence the demand and price of gold. Import duties, for example, raise the price of gold in the domestic market; however, it provides room for informal channels to fetch gold in the country.



The price dynamics of gold at the intersection of India's broader macro framework also raises issues related to economic inequality and distribution of wealth. As gold is a capital-intensive asset, its ownership gets concentrated in the hands of the better-off sections, thereby causing unequal accumulation of wealth. It also plays a very critical role as the source of financial security especially among the middle and lower classes who are often unable to gain access to formal banking facilities. Moving beyond the structures of the Monetarism and Keynesian schools of thought, there can be multi-disciplinary approaches which could do greater justice to these subtle points.

This paper attempts to look through the dynamics of the gold price in India using Monetarist and Keynesian thought lenses with unique considerations of cultural, social, and economic factors shaping India's gold market. Among the drivers of gold price volatilities are inflation, monetary policy, income levels, and extraneous global factors; these need to be analysed to assess their consequences for stability and growth in the economy. This research integrates insights from theory with empirical evidence to hopefully provide a comprehensive understanding of gold's role in India's macroeconomic framework, offering valued policy recommendations for enhancing its economic resilience and efficiency.

OBJECTIVES

- To analyse the long term trends in gold prices in India and with unemployment rate.
- To evaluate the interplay between monetary factor and demand side factor in determining gold price fluctuations.

REVIEW OF LITERATURE

Sheikh U, et.al. (2020) has investigated the asymmetrical relationship between oil prices, gold prices, and exchange rate and stock prices during global financial crisis 2008 which highlights the. The study used nonlinear autoregressive distributed lag (NARDL) model to examine the asymmetric effects of exchange rate, gold price, oil prices on stock prices. The asymmetric effects were analysed for three time periods: pre-crisis, post – crisis and the entire sample period. The study finds that in the long run before and after the global financial crisis, investors reacted differently to gold and oil prices, and macroeconomic fluctuations. After the global financial crisis and in the long run, investors had a positive impact on gold prices, oil prices and exchange rate. But in short run before global financial crisis they had both positive and negative impact on gold, oil prices and exchange rate.

Pachiyappan S, et.al. (2022) have provided the background on the importance of gold in the Indian economy and examines the influence of macroeconomic factors in gold price volatility. The study focus on the factors influencing the fluctuations in gold prices. The quantitative method was used by the study and analysed by descriptive statistics, correlation analysis, and ordinary least squares, regression and stationary testing using the Phillips-Perron test. The study results that the exchange rate, wholesale price index, unemployment and BSE SENSEX have a positive influence on gold prices, while long term

interest rate has a negative influence. 1 percent change in macroeconomic variables leads to changes in gold prices ranging from 0.793 percent to 0.943 percent, except for long term interest rate which has a 0.929 percent of negative impact. Gold can act as a hedge against financial market instability, as it has an inverse relationship with stock market valuation.

Li Y, et.al. (2023) have examined the protective nature of gold during times of oil price volatility of COVID- 19 pandemic. The study analysed the dynamic interactions and interdependences between gold and oil prices by vector aggressive (VAR) model, BEKK-GARCH model to estimate the time varying conditional correlations and volatility spill overs between the variables. The study finds gold act as a hedge against oil price volatility, providing security and asset preservation for investors. Gold's role as a diversification tool and safe asset is particularly important during the COVID – 19 pandemic and periods of high oil price volatility and gold's protective qualities during volatile oil prices can inform investment decisions and risk management strategies.

Febri I, et.al. (2024) have analysed the relationship between gold price, political stability, exchange rate and inflation in Indonesia. The study used the quantitative research method analysed by vector correction model examined the one way relationship and long term Cointegration between the macroeconomic variables. The study finds that there is unidirectional causality relationship between exchange rate and gold price, inflation and political stability, inflation and exchange rate. In long run, there is a cointegration equilibrium between gold prices, political stability, exchange rate and inflation. Political stability has a negative and significant effect on gold prices in the long run, while exchange rate and inflation have positive and significant effect on gold price.

Thombare P, et.al. (2024) have analysed the relationship between gold price and stock market price in India. The study used Jarque – Bera test to assess normality of the data, augmented dickey – fuller test to assess the stationarity of the time series, johansen Cointegration test to assess the long term relationship between gold price and stock market price. The study results there is no short-term causal relationship between gold prices and stock market prices in India. There is a long term equilibrium relationship and mutual movement between gold prices and stock market prices and it is stable and validated.

RESEARCH METHODOLOGY

In this study, both correlation and regression analyses have been used to identify how gold prices interplay with the various factors of the economy. The period under study was from 2015 to 2024, which covers India. A correlation analysis has been used to establish whether there was a significant relationship between the inflation rates and the gold prices. The value of the correlation coefficient was calculated for determining whether the two variables were positively or negatively related. The regression analysis was used to find the influence of disposable income on the prices of gold. A basic linear model was developed taking disposable income as the independent



variable and gold price as the dependent variable. In this context, it determined the level of change of disposable income that would influence the gold prices. Beyond this, multiple linear regression analysis was done to investigate the joint effect of inflation and disposable income on gold prices. The model thereby considered both variables comprehensively, thus allowing an insight into more individual and collective influences of the entities on changes in price of gold. The secondary data obtained were drawn from different government economic reports and financial databases. All the regression models were estimated with the help of standard statistical software, and the results obtained have been analysed to conclude relative influence of monetary and demand-side factors on the prices of gold.

THEROTICAL FRAMEWORK

Both Monetarist and Keynesian schools of thought will be used as the theoretical framework for the dynamics of gold prices in India, both of which would complement each other in providing insight into the factors that might be driving price fluctuations. The Monetarist school of thought deals with the relationship between gold prices, money supply, and inflation. Due to increase in money supply, theory dictates this result comes under emergence for inflation after an increase that cannot be compensated by any increase in commodities. Since the value of the gold, as such, is held and due to lesser prevalence of the commodity, becomes the hedging element. In India, inflationary surges have tended to occur at or just preceding spiking gold prices, wherein gold absorbs all the loss in purchasing power during periods that it is spiking. This fits the Monetarist's argument where an expansion in money supply makes the fiat currency less attractive; it goes more readily into hard assets like gold. Policymakers and, in this case, especially the central banks like Reserve Bank of India play an important role. Holding money supply and interest rate at proper levels may keep inflation within limits which is said to raise the opportunity cost of holding gold and thereby curb speculative demand. For example, higher interest rates would discourage gold investments as they increase the return of other assets while expansionary monetary policy would encourage gold demand amidst uncertain economic conditions.

The Keynesian school introduces a complementary view, which views the dynamics of gold prices from the demand side and relates them to the level of income, behavior of consumers, and general conditions of the economy. Gold is said to be a liquid asset whose demand accumulates during periods of uncertainty or downturn in the economy, according to the Keynesians. These are more relevant in India because, besides its being a store of value, gold also symbolizes culture, forming a representation of wealth and safety. Seasonal and cultural demand, like festivals and marriages, greatly plays a role in demand for gold, making it rather volatile beyond the macro-trends visible in the market. The fiscal policies of the Government in terms of taxation and the import duties have been told by the Keynesians so that they can determine the price of gold. Thus, in order to reduce import of gold to reduce its current account deficits, would lead to an increase in its domestic price of gold thereby informal procurement channels may be pushed up. The disposable income level also is an important determinant of the consumption habits of gold. Normally, an increase in incomes tends to increase growth in demand when the economy is expanding while the downturns in economies tend to limit it.

The monetarist and the Keynesian views are complementary views when looking at the gold price dynamics in India. Monetarists are more concerned with monetary and supply-based influences whereas the opinion among Keynesians is income-sensitive, behavior-sensitive, as well as fiscal policy-sensitive; however, the gap between the two is bridged through various global influences like the dollar strength, international interest rates. For instance, if they devalue the dollar, they more agree with the Monetarist view that makes gold relatively cheaper but corresponds more to the Keynesian view in altering demand patterns across the globe. Altogether, the opinions present an integrated framework within which all of these elements in aggregate can be interpreted to decide gold prices in India. Such theoretical perceptions can be combined for better understanding by policymakers and researchers regarding multi-faceted roles of gold in the macroeconomic of India so that stronger strategies can be framed to control its economic as well as cultural significance.

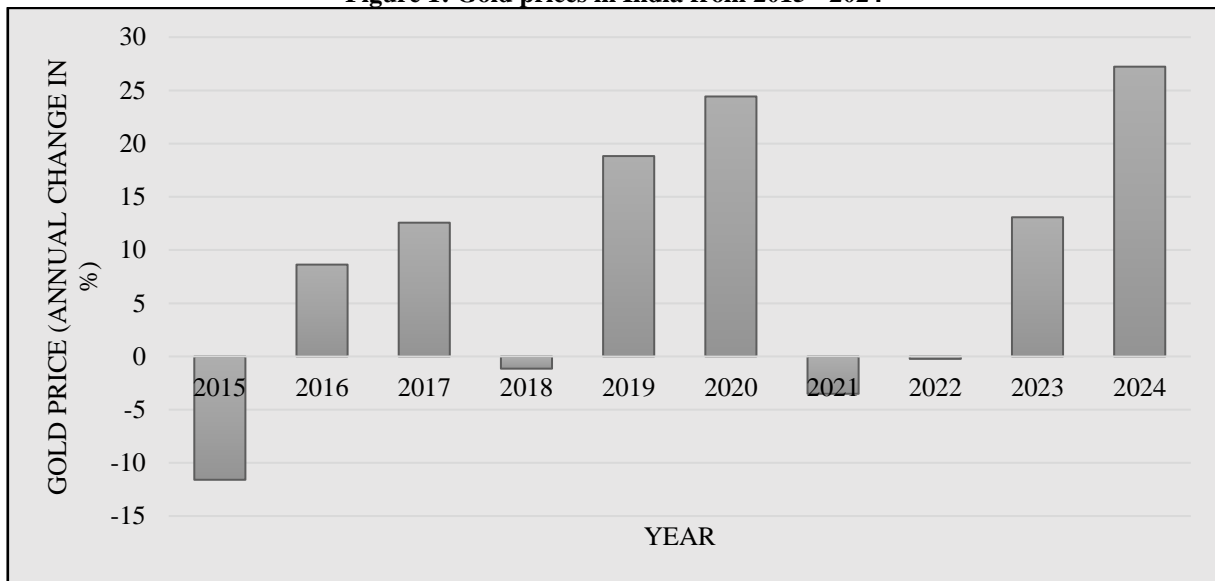
ANALYSIS

YEAR	INFLATION RATE	DISPOSABLE INCOME (in millions)	UNEMPLOYMENT RATE (%)	GOLD PRICE (annual change in %)
2015	4.91	140	7.89	-11.59
2016	4.95	156	7.80	8.63
2017	3.33	173	7.72	12.57
2018	3.94	192	7.65	-1.15
2019	3.73	205	6.51	18.83
2020	6.62	201	7.86	24.43
2021	5.13	236	6.38	-3.51
2022	6.70	273	4.82	-0.23
2023	4.38	296	4.17	13.08
2024	3.65	317	3.2	27.23

Source: Computed from the secondary data by the researcher, 2024



Figure 1: Gold prices in India from 2015 - 2024



Source: Computed from the secondary data by the researcher, 2024

Figure 1 shows the year-to-year change in gold price in India from 2015 to 2024. The pattern shows giant swings, indicating volatile market conditions, global economic uncertainty over the years. For 2015, there was a fall of -11.59 percent indicating weak gold demand. However, it countered 2016 with an appreciation of 8.63 percent perhaps indicating heightened market volatility and safe-haven demand. The positive direction persisted in 2017 with a 12.57 percent rise, as investors remained upbeat about gold during geopolitical tensions. A -1.15 percent fall in 2018 represents a generally stable or improving world economy, which may have lessened the requirement for gold. A rise of 18.83 percent in 2019 represents investors coming back to gold, perhaps due to trade tensions

and economic instability. This trend was highest in 2020, recording a 24.43 percent growth, during the COVID – 19 pandemic, which drove investors towards gold as a safe-haven asset amid the crisis. In the post-pandemic period, 2021 recorded a small dip of -3.51 percent reflecting partial recovery in global markets and profit. The trend continued in 2022 with a small dip of -0.23, reflecting relative price stability. The price again in 2023 with a 13.08 percent increase, maybe due to fears of inflation, geopolitical tensions, or deceleration in global economies. In 2024, gold prices increased by 27.23 percent, the highest in the decade, maybe due to economic uncertainty, inflationary pressures or increased central bank purchases.

Table 1: Correlation analysis on gold price and unemployment rate

	GOLD PRICE	df	p-value
UNEMPLOYMENT RATE	-0.341	8	0.336

Source: Computed from the secondary data by the researcher, 2024

The correlation coefficient between the annual change of gold prices and the unemployment rate is -0.341, indicating an extremely negative correlation. Thus, when unemployment goes up, this means that the gold prices will tend to decline and vice versa. From Monetarist perspective the changes in gold price and unemployment rates can be explained by the changes in monetary supply and inflationary expectations. Monetarists believe that when an economy is in a phase of stability, i.e., low unemployment, then the central banks tend to make contractionary monetary policy to fight the high rate of inflation. Consequently, real interest rates would rise that would no longer be an incentive to hold gold that is a non-yielding asset. Therefore, in periods of stability, also, the gold prices decline. At a time when the level of unemployment is high, central banks can resort to the expansionary monetary policy wherein interest rates may be cut down or money supply may be increased. This will stimulate the inflationary expectations,

which makes investors run for gold that is the inflation hedge. But, on the contrary, the negative correlation in the present case appears to indicate that unemployment was unlikely strong enough to build adequate inflation pressures to sustain prices in the gold to higher prices. Instead, for instance, falling disposable incomes or illiquidity of investment cut demand for the gold.

From the Keynesian perspective, the unemployment-gold price relationship is influenced by aggregate demand and economic uncertainty. According to Keynesians, high unemployment is a symptom of low aggregate demand. This is often associated with economic downturns. In times of economic downturn, investors may increase their gold prices to protect their wealth in a safe haven. However, negative correlation suggests a different dynamic. Rising unemployment might coincide with low investment in gold due to constrained consumer and



investor finances. In low unemployment periods, aggregate demand tends to be strong in sustaining growth and hence leads to anticipation of growth in financial markets. Investors may hence reallocate capital from safer haven assets such as gold to

other investments that yield relatively higher returns, including equities. Therefore, a rise in gold prices results only due to anticipation of inflationary pressures associated with overheating economies.

Table 2: Multiple regression analysis of disposable income, inflation rate on gold prices in India

Multiple R	0.445277996
R Square	0.198272494
Adjusted R Square	-0.030792508
Standard error	12.953144
Observations	10

	df	SS	MS	F	Significance F
Regression	2	290.4585144	145.2293	0.865573	0.461417
Residual	7	1174.487576	167.7839		
Total	9	1464.94609			

	Coefficients	Standard error	T stat	P-value
Gold price	0.319818358	23.44774249	0.01364	0.989498
Inflation rate	-2.170651936	3.655437819	-0.59381	0.571318
Disposable income	0.08581566	0.072087675	1.190435	0.272676

Source: Computed from the secondary data by the researcher, 2024

The multiple linear regression results would thus indicate the way the interaction of inflation and disposable income affects the pricing of gold.

$$Y = 0.3198 - 2.17065X$$

Having set both inflation and disposable income at zero levels, the value of the intercept would then be 0.3198. The p-value tells that the intercept is statistically irrelevant and does not contribute substantially to the model at 0.5713. The coefficient for inflation is -2.17065, which means if there is an increase in inflation by 1 percent then the gold price will decrease by 2.17065 units, which is a negative relationship. However, with the p-value of 0.571, it reveals that in this model the effect of inflation on the gold price is not statistically significant.

$$Y = 0.3198 + 0.08581X$$

Coefficient for disposable income 0.08581, implying that a one-unit rise in disposable income leads to an increase of 0.08581 units in the price of gold. The relationship is statistically insignificant with a p-value of 0.2726, meaning that variations in disposable income have been vital in explaining the price changes of gold. The monetarists view inflation as a potent stimulant of economic activity, and in most cases, people held gold as an anti-inflationary hedge. Hence, theoretically, when high inflation reduces the purchasing power of fiat currencies, there should be an increase in demand for gold for the store of value. Though the regression analysis is negative about the inflation coefficient agreeing with the expectation, this coefficient is not statistically significant. This implies that other factors can act as moderators between inflation and gold prices. These factors could be monetary policy interventions, dynamics in international gold markets, or the introduction of other monetary variables such as money supply or exchange rates. An outcome of the regression of disposable income on gold prices, which has been quite consistent with the framework, is that emphasizing aggregate demand factors of the Keynesian school, particularly income and consumption, an increase in

disposable income leads consumers to spend more on luxuries that would include, among other things, ornamental gold and investment in gold. This evidence illustrates the roles of purchasing power and consumers' preferences in explaining gold price dynamics. The result serves to reinforce the Keynesian notion that it is demand side factors, which are best for explaining economies' behavior and particularly, in economies spending depends on discretionary allocation. Overall, the evidence strongly supports that there are high demand side influences on the gold price through disposable incomes to the point of supporting the Keynes position. The lesser strength between inflation and the gold price demands deeper probing of the monetarist variables to ensure the right effects are incorporated. Both theories, in any case, provide further insight into what may be influencing the price of gold and how, accordingly, the influences of both monetary and demand-side considerations must be kept in view when designing economic explanations and policies.

FINDINGS

The steady increase in the analysis of gold prices from 2015 to 2024 sharply accelerated since 2020. The price of gold increased gradually from 2015 to 2019 due to stable conditions in the rest of the economies, moderate inflation, and stable interest rates; therefore, underlines reason for investing in gold for the long term as supported by consumer and investor demand. However, in 2020, prices rose sharply which could be related to the economic uncertainty of the COVID-19 pandemic. Aggressive monetary policies, low interest rates, money supply growth, and inflationary expectations have been contributing factors. Furthermore, cultural and economic factors in India, especially the increase in disposable incomes, pandemic-induced savings, and seasonal demand, have helped prices soar.



The correlation between the gold price and unemployment rates resulted in a negative significant relationship of -0.341, showing that higher unemployment is usually associated with lower gold prices. From the Monetarist point of view, this reflects the effect of monetary policy: when unemployment is high, expansionary measures boost inflationary expectations, thereby increasing demand for gold as a hedge. However, declining disposable incomes and decreased investment liquidity could easily have dampened demand for gold despite high unemployment in this instance. The Keynesian analysis links the gold price-unemployment relationship to the aggregate demand. High unemployment reveals weak demand, which thus reduces investor capacity to invest in gold, while low unemployment strengthens demand and shifts investment toward higher-yielding assets.

The regression analysis shows inflationary effects and disposable incomes about gold prices. Inflation, which had shown a negative relationship to gold price (coefficient = 0.3198), weren't statistically insignificant because the p-value was 0.571. In terms of disposable income, there is a highly positive and statically significant effect (coefficient = 0.0858, p-value = 0.2726). This accords with the Keynesian principle that an increase in income will raise discretionary spending, which will also encompass expenditure on gold. The mild effect of inflation suggests some dampening influences, possibly in terms of monetary policy, exchange rates, or global market trends. Thus, gold price dynamics are monetary and demand-side. As disposable income was a critical determinant of the above result, interplay between inflation and others needs further analysis. It is also worthwhile for policymakers to consider these two aspects of developing more robust economic policies.

CONCLUSION

The study of the dynamics of gold prices in India through Monetarist and Keynesian lenses of economic theory since it shows how monetary and demand-side factors work themselves out in the interaction between the two variables. Indeed, Monetarist terminology says much of the inflationary relationship as explained between inflation and gold prices with reference to inflationary expectations and money supply. There exists a weak positive correlation with inflation and gold prices in the sense that although there does exist an influence of inflation on the change in prices of gold, variables like interest rates, money supply, and global conditions are more significant influences on this correlation. The monetarists argue that since the money supply is regulated by the central banks so as to control inflation and monitor the growth rate of monetary variables, then asset prices would be affected, which includes the effect on gold. The Keynesian approach focuses on the aggregate demand role that determines the outcome in the economy. This is in line with the high and statistically significant correlation between disposable income and gold

prices in the study. With higher disposable incomes, people have more purchasing power, which tends to increase demand for gold both as a commodity and a store of value. This underlines demand-side factors and their possible influence on the price of gold, especially in such an economy where the consumer culture is a crucial element in leading the economic activities. Both of these schools of thought provide complementary insights into the dynamics of gold prices. While inflationary and monetary policy variables are indeed important, it is factors on the demand side of the equation-the more crucial one-being that of disposable income-that affect the movement of gold price in India. Such a detailed understanding may be used by policymakers and investors to predict directions of gold price movement and prepare strategies for economic stability.

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