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Gilded distortion

How the price of gold is affecting core inflation signals

Crisil insight

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Taking the sheen off core inflation

After a long time, there is good news on the inflation front.

Headline inflation based on the Consumer Price Index (CPI) fell to 2.8% in May after hitting a high of 7.4% in April 2023.

A decline in food inflation is pulling down headline retail inflation, but core inflation (headline excluding food and fuel) is edging up. Although remaining below the decadal trend, it has come in above 4% for four months in a row.

A persistent rise in core inflation can put pressure on headline inflation.

Typically, rising core inflation is indicative of strengthening domestic demand (and the resulting price pressure) in the economy.

But a deep dive into core inflation suggests that most of its recent rise is tied to global economic volatility rather than domestic factors.

Takeaways

Gold prices react to global, not domestic signals

Although gold carries a small weight in the headline CPI (1.1% of the total index), including it in the core CPI calculation distorts domestic price signals, particularly during times of global economic uncertainty. Rising core inflation is typically said to signal underlying domestic demand pressures on prices. However, as gold prices are largely influenced by global factors — especially safe-haven investment demand — these do not necessarily reflect domestic consumption trends.

Gold carries a higher weight in India's core inflation index than it does elsewhere

Prominent central banks also include gold in their core inflation index, but its weight is significantly lower than in India, limiting its impact on their core inflation measure. In India, a higher weight for gold is possibly due to its higher share in consumption compared with other countries.

Keeping out gold prevents misinterpretation of core CPI signals

During uncertain global times, such as the present, gold prices can skew the trajectory of core inflation and should be excluded from the analysis. For instance, if gold prices had followed their usual trend, core inflation would have been 3.4% in May instead of the reported 4.2%. Keeping out gold shows that the core CPI rose only 65 basis points (bps) over the 12 months ending May 2025 as against the 111 bps increase in the commonly used core measure.

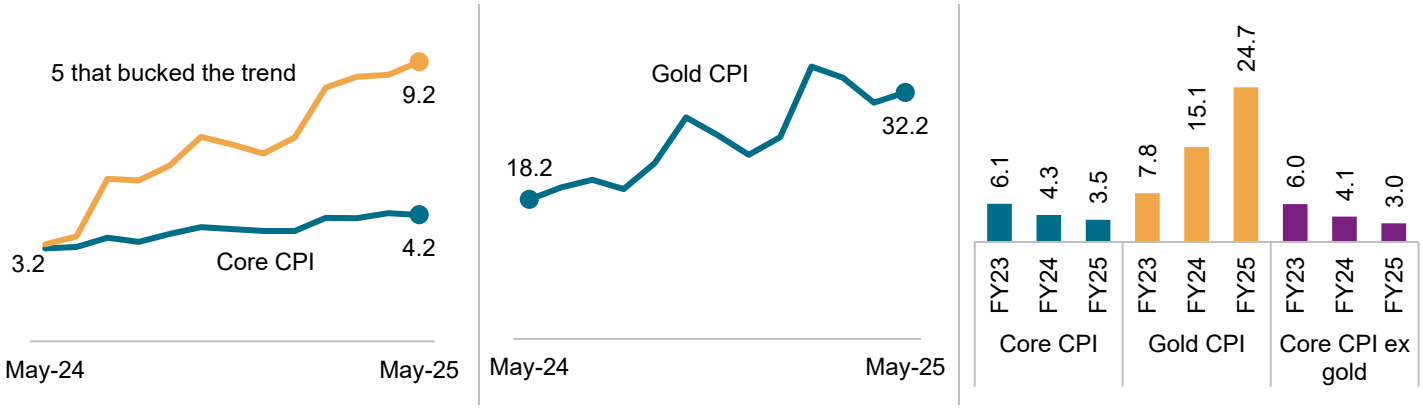
Between May 2024 and May 2025, core CPI inflation climbed 111 bps to 4.2%. While prices in most sub-categories within core inflation declined, **five bucked the trend and saw inflation rise: mobile tariffs, travel and transport, toiletries, silver, and gold**.

Among these, gold saw the sharpest increase in inflation. Global prices surged as heightened global economic uncertainty drove safe-haven investment demand for the metal across the world.

We find that inflation in gold, despite a lighter weight (2.3%) than other items in the core inflation index, contributed 17% of the rise in core inflation over the 12 months ending May 2025. During fiscal 2025, gold inflation climbed to 24.7% on average against 15.1% in fiscal 2024, while the other categories that bucked the trend recorded a combined inflation rate of only 2.4%.

Our note argues that **similar to food and fuel categories, which are excluded from the core inflation index, gold too may be kept out while assessing the true impact of domestic demand pressures on prices, particularly during periods of high global economic uncertainty**[1] **when gold prices tend to spike**.

CPI inflation rate (%, y-o-y)



Source: National Statistical Office (NSO), CEIC, Crisil

Two reasons why core inflation excluding gold is a good indicator

Gold exhibits high inflation volatility, even higher than food and fuel items, which are commonly kept out of core inflation to prevent distortion.

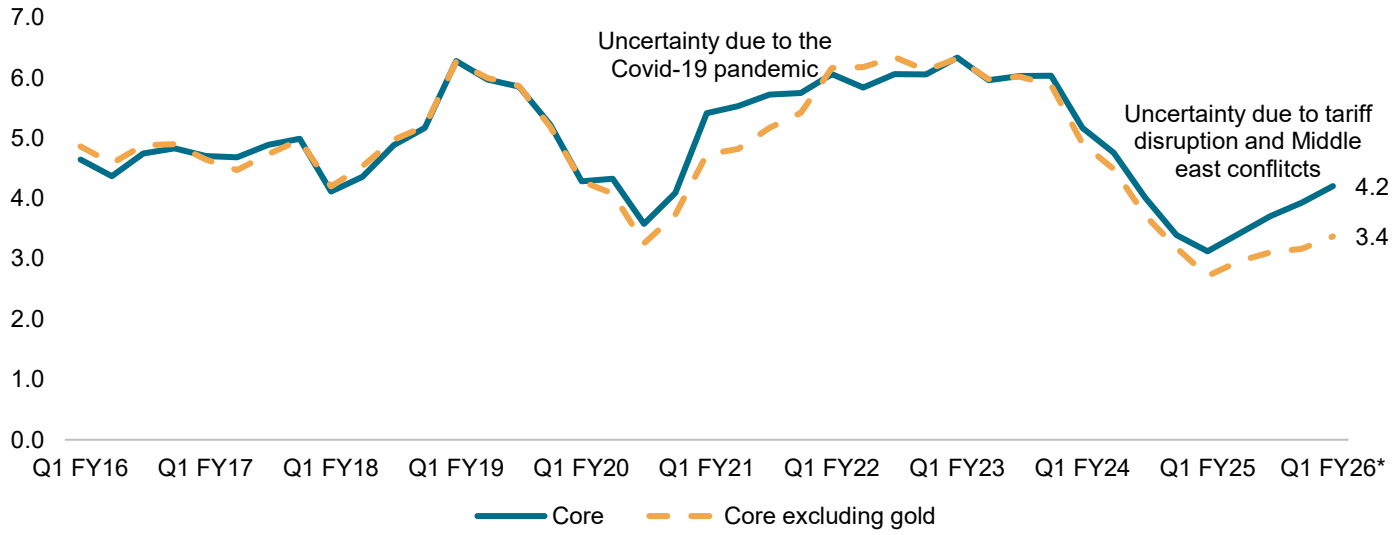
Although jewellery demand from Indian households is high, it is the global investment demand for gold that is increasingly driving up the metal's prices. This includes demand from global central banks, exchange traded funds (ETFs), and bar and coin demand for investment. Data from the World Gold Council[2] shows that in 2024, global gold investment demand grew 25%, driving up prices. In the January-March 2025 quarter, investment demand surged 170% on-year while gold ETF investment revived as well. Meanwhile, global household demand for jewellery declined 9% on-year in 2024 and 19% on-year in the January-March quarter.

The gap between core inflation and core inflation excluding gold has widened significantly in the recent period. It doubled to 56 bps in fiscal 2025 from 26 bps in fiscal 2024, further widening to 86 bps in May 2025.

This indicates that during periods of global uncertainty, it may be useful to de-emphasise the role of gold prices by excluding it from the analysis of core inflation.

[1] In a contrary case, during August-November 2021, core inflation excluding gold was higher than core inflation owing to a sharp fall in gold prices
[2] Gold Demand Trends: Full Year 2024 | World Gold Council and Gold Demand Trends: Q1 2025 | World Gold Council

A widening gap between core inflation and core inflation excluding gold



Note: Q1 FY26 is the average of April-May data
Source: NSO, CEIC, Crisil

Tracking core inflation – the RBI and other central banks

Core inflation is a measure that indicates the underlying trend in price level changes in the economy by stripping out those components of the CPI that are volatile and prone to short-term fluctuations. It is, hence, sticky and generally does not move sharply on-month.

While central banks across the globe typically target headline inflation, they also track core inflation as it signals the trajectory of headline inflation. Most of the key central banks use exclusion-based methods to track core inflation.

A Reserve Bank of India (RBI) paper from February 2024[3] tested multiple core inflation measures for seven "desirable properties" for a core inflation indicator: ease of communication, equality of means, lower variance, predictability, co-integration, unbiasedness, and attractor conditions (refer to Annex 1). The RBI tracks several of these measures in its monetary policy report.

RBI's exclusion-based measures for tracking core inflation

- CPI excluding food and fuel
- CPI excluding food, fuel, petrol and diesel
- **CPI excluding food, fuel, petrol, diesel, gold and silver**
- **CPI excluding food, fuel, petrol, diesel, gold, silver and housing**

Of the measures tested in the paper, four exclusion-based measures meet six of the seven conditions, making those suitable to gauge core inflation (refer to Annex 2 and 3). Two of the measures exclude gold and silver: CPI excluding food, fuel, petrol, diesel, gold and silver; and CPI excluding food, fuel, petrol, diesel, gold, silver and housing.

The only criterion not satisfied by these measures is predictability, i.e., these are not good predictors of future headline inflation.

[3] George A.T., Bhatia S., John J. and Das P, (2024). 'Headline and Core Inflation Dynamics: Have the Recent Shocks Changed the Core Inflation Properties?', RBI Bulletin February 2024

How do other central banks treat gold prices?

Prominent central banks, such as the US Federal Reserve, Bank of England, European Central Bank and Bank of Japan, also include gold (in the form of jewellery) in their core inflation calculation. However, it has a significantly lower weight than in India's index, limiting its impact on their core inflation measures.

Country	Category	Weight in CPI^ (%)	Weight (%) in core inflation measure tracked by the central bank
India	**Gold**	**1.1**	**2.3**
United Kingdom	Jewellery	0.6	0.8
European Union	Jewellery	0.3	0.5
United States*	Jewellery	0.5	0.5
Japan	Rings	0.04	0.04

** Data for the US is for personal consumption expenditure (PCE) weights as the US Federal Reserve's preferred core inflation measure is the PCE deflator*

^ Latest weights

Source: NSO, US Bureau of Economic Analysis, UK Office for National Statistics, Eurostat, The Statistics Bureau of Japan, Crisil

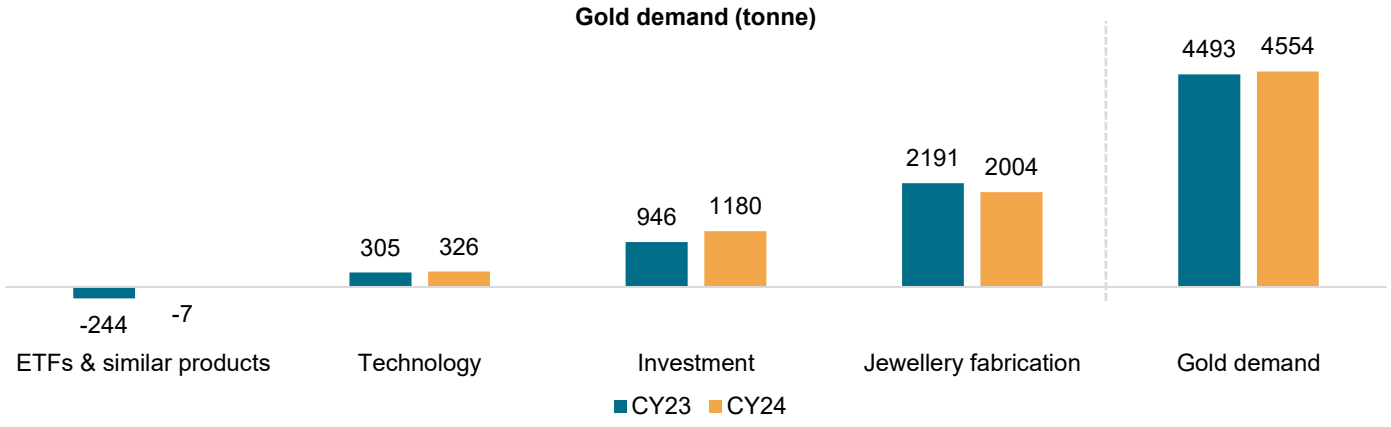
Two reasons that justify the exclusion of gold from the core index during global uncertainty

1. Global investment demand, not jewellery demand, is driving up gold prices

In fiscal 2025, global uncertainty spiked, driven by tariff-related uncertainties and geopolitical tensions. The World Uncertainty Index touched its highest reading since the Covid-19 pandemic in the final quarter of fiscal 2025 because of the anticipation of US tariff hikes.

As a result, demand for gold as a safe-haven investment surged. According to the World Gold Council, investment demand for gold soared 170% on-year to 551 tonne in the March 2025 quarter from 204.4 tonne in the March 2024 quarter. This led to a surge in global prices of gold.

Investment demand for gold surges

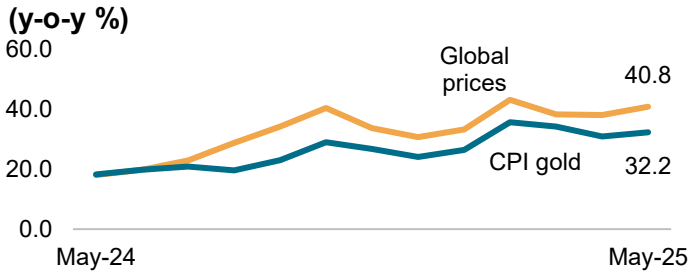


Source: World Gold Council

Gold prices in India closely track global prices. In fiscal 2025, global gold prices rose 30%, while gold inflation in India rose to over 24% on average from 15% in fiscal 2024.

In fact, monthly data from fiscal 2016 to fiscal 2025 on global and domestic gold inflation records a correlation coefficient of 0.91.

Tracking the rise in global and domestic prices of the safe-haven metal

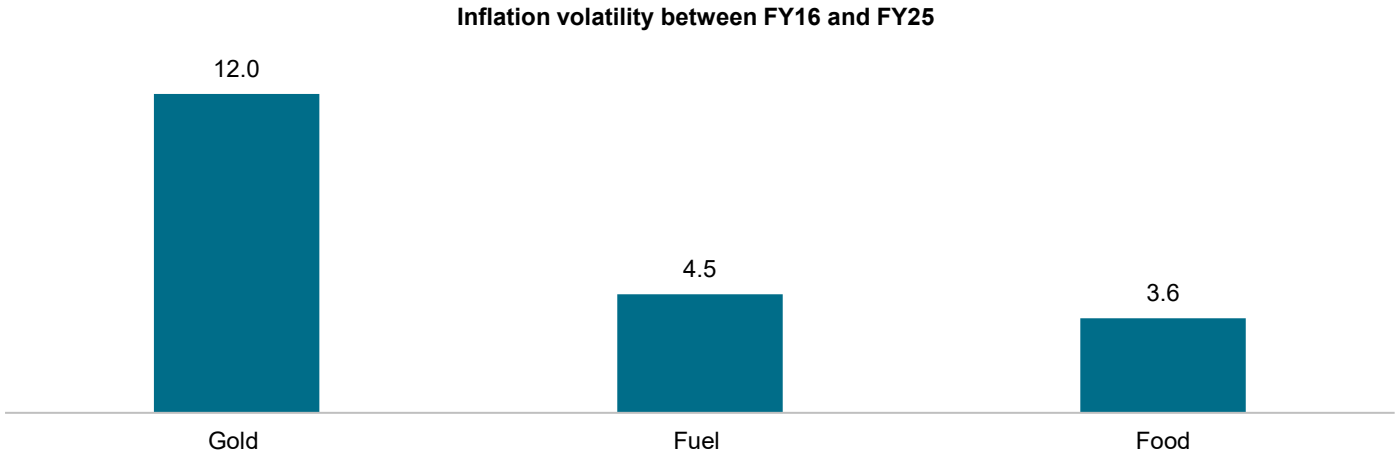


Source: World Bank Pink Sheet, NSO, CEIC, Crisil

2. Inflation volatility is higher in gold

One of the conditions for computing core inflation is its ability to filter out the noise in headline inflation caused by volatile components or transitory price movements that could distort signals on general price levels in the economy. Food and fuel, accordingly, are excluded from the RBI's core measure. However, we find that gold has exhibited higher volatility than food and fuel over the past decade.

Gold has higher inflation volatility than food and fuel over the past 10 years



Note: Inflation volatility is measured by standard deviation of monthly inflation rates
Source: NSO, CEIC, Crisil

A different way of looking at core during uncertain times

The significant influence of global rather than domestic factors on gold prices in India warrants the exclusion of gold from the core inflation measure — particularly during periods of heightened global economic uncertainty.

Additionally, the high volatility in gold inflation — exceeding that of food and fuel — underscores how temporary fluctuations in gold prices can distort core inflation readings.

While most central banks focus on headline inflation, core inflation remains a key indicator of underlying price pressures in the economy.

Annexure

Annex 1: Desirable properties for a core inflation indicator

Measure	Description
Ease of communication	The core inflation indicator should be easy to communicate and understand for the general public
Equality of means	The core inflation indicator should on average align with headline inflation
Lower variance	The variance of the core inflation indicator should be lower than headline inflation
Predictability	The core inflation indicator should be a good indicator of future movements in headline inflation by the right magnitude
Co-integration	The core inflation indicator and headline inflation should be co-integrated
Unbiasedness	The core inflation measure should be unbiased with respect to headline inflation
Attractor conditions	Headline inflation should converge to the core inflation measure in the long run

Source: George A.T., Bhatia S., John J. and Das P, (2024). 'Headline and Core Inflation Dynamics: Have the Recent Shocks Changed the Core Inflation Properties?', RBI Bulletin February 2024

Annex 2: Core inflation measures

Measure		Description
Fixed exclusion-based measures		
1.	CPI excluding food and fuel	Excludes food and fuel groups from CPI headline (weight 47.3%)
2.	CPI excluding food, fuel, petrol and diesel	Excludes petrol and diesel items in addition to food and fuel groups (weight 45.0%)
3.	CPI excluding food, fuel, petrol, diesel, gold and silver	Excludes gold, silver, petrol and diesel items in addition to food and fuel groups (weight 43.8%)
4.	CPI excluding food, fuel, petrol, diesel, gold, silver and housing	Excludes housing group, gold, silver, petrol and diesel items in addition to food and fuel groups (weight 33.7%)
Trimmed mean measures		
5.	Trimmed mean (5%)	Excludes 5%, 10% or 20% weight of CPI items whose inflation rates in a given month are in either tail of the distribution of price changes
6.	Trimmed mean (10%)	
7.	Trimmed mean (20%)	
8.	Median	Corresponds to the price change located at the 50th percentile (in terms of CPI item weights) of the distribution of inflation each month
9.	Bias-adjusted median	Corresponds to the price change located at the 50th percentile (in terms of CPI item weights) after adjusting for skewness of the distribution of inflation each month
Reweighted and trend measures		
10.	Historical standard deviation	Weighs each CPI component inversely proportional to its historical volatility
11.	Principal component	Using the first principal component as a core inflation indicator
12.	Hodrick-Prescott trend	Estimating trend using different filter-based data-smoothing techniques
13.	Christiano-Fitzgerald trend	
14.	Hamilton trend	

Source: George A.T., Bhatia S., John J. and Das P, (2024). 'Headline and Core Inflation Dynamics: Have the Recent Shocks Changed the Core Inflation Properties?', RBI Bulletin February 2024

Annex 3: Core inflation measures and how they fare on the properties

	Properties / Measures	Ease of communication	Equality of means	Lower variance	Predictability	Co-integration	Unbiasedness	Attractor conditions
		(1)	(2a)	(2b)	(3)	(4a1)	(4a2)	(4b)
Fixed exclusion-based measures								
1.	Excluding food and fuel	✓	✓	✓	x	✓	✓	✓
2.	Excluding food, fuel, petrol and diesel	✓	✓	✓	x	✓	✓	✓
3.	Excluding food, fuel, petrol, diesel, gold and silver	✓	✓	✓	x	✓	✓	✓
4.	Excluding food, fuel, petrol, diesel, gold, silver and housing	✓	✓	✓	x	✓	✓	✓
Trimmed mean measures								
5.	Trimmed mean (5%)	X	✓	✓	✓	✓	✓	✓
6.	Trimmed mean (10%)	X	✓	✓	x	✓	✓	x
7.	Trimmed mean (20%)	x	✓	✓	x	✓	✓	x
8.	Median	x	✓	x	x	✓	✓	x
9.	Bias-adjusted median	x	✓	x	x	✓	✓	x
Reweighted and trend measures								
10.	Historical standard deviation	x	✓	✓	x	✓	✓	✓
11.	Principal component	x	✓	x	✓	✓	✓	✓
12.	Hodrick-Prescott trend	x	✓	✓	✓	x	@	@
13.	Christiano-Fitzgerald trend	x	✓	x	✓	x	@	@
14.	Hamilton trend	x	✓	✓	✓	x	@	@

@ – did not estimate as there was no statistically significant evidence of co-integration
Source: George A.T., Bhatia S., John J. and Das P, (2024). 'Headline and Core Inflation Dynamics: Have the Recent Shocks Changed the Core Inflation Properties?', RBI Bulletin February 2024

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