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STCI
Primary Dealer Ltd

Inflation – A view from the TOP

Key Points:

- ***The great debate: should RBI exclude food from the inflation target?***
- ***If exclusion-based measures are to be considered – CPI Ex-vegetables seems to be a viable option.***
- ***This would result in a better reading of the inflation target variable relative to the headline CPI.***

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The behavior of consumer price inflation in India is heavily dependent on the direction of food inflation, which in turn is highly susceptible to forces beyond policy control such as rainfall and other climatic exigencies like heatwaves. Due to adverse weather events such as erratic rainfall, heatwaves and low reservoir levels, food inflation has been on the rise since FY2021-22, increasing from 4.3 per cent in FY2021-22 to 6.7 per cent in FY2022-23, and averaging at above 7 per cent in FY2023-24. The multitude of factors affecting food inflation have made the assessment of the effects of food inflation on the headline CPI inflation complex and thus posed challenges for monetary policy formulation under the flexible inflation targeting (FIT) framework adopted since 2016 by RBI.

For some items such as cereals and pulses, the government has the capacity to control prices to an extent, on account of the stock held by it and also the power to impose trade tariffs and quotas as and when necessary, such as the export ban on non-basmati rice effective since July 2023. The responses via trade barriers have remained reactive rather than proactive. These impositions have resulted in a loss of credibility for Indian food exporters on the global market.

The great debate: should RBI exclude food?

There has been an ongoing debate around food inflation from the time RBI adopted flexible inflation targeting (FIT) as a monetary policy framework. Food inflation is considered to be beyond the ambit of monetary policy, as in theory monetary policy can affect aggregate demand more effectively as compared to aggregate supply. The realm of food falls under the government's purview with its various supply-side trade and market policies and measures. Monetary policy cannot influence it, at least not to a significant extent. That being the case, the argument is often for RBI to target core inflation i.e. CPI (excluding food and fuel). This argument has gathered momentum as the long elevation and persistence of food inflation has resulted in the divergence of the headline inflation from the nominal target of 4 per cent over the years since the COVID-19 pandemic.

Of the three major parts that the headline CPI is composed of, fuel has moderated due to liquefied petroleum gas (LPG) price cuts, while the non-food component has been declining in response to the tighter monetary policy and the global developments, especially a demand compression in China.

The RBI MPC, however, does not subscribe to this view. The RBI Governor indicated recently that formation of monetary policy should align with the context of the common people who form their inflation expectations based on the prices they face for their daily needs such as market prices of cereals, pulses and vegetables.

Composition of CPI-Combined: Food is the single most important driver of retail inflation (CPI-Combined) in India with a weight of ~46 per cent in the consumption basket. It is also the most volatile component apart from fuel. The other significant component in the consumption basket is the miscellaneous group which covers services and commodities utilised by households in the ordinary business of life, and are crucial to estimate the cost of living. This is in contrast to the wholesale price index, WPI, wherein the weight assigned to food inflation is only 15.3 per cent. Apart from this, fuel constitutes 6.8 per cent of the consumption basket.

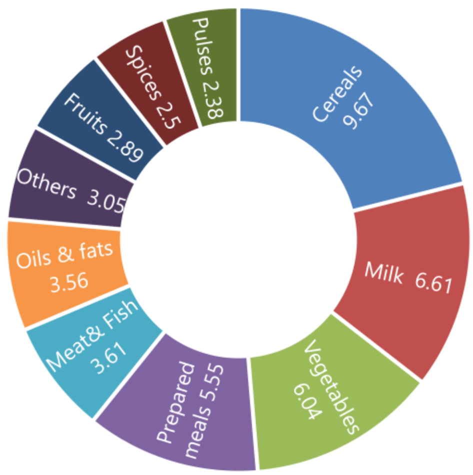
Chart 1: CPI Combined-Weighing scheme (%)

Source: MoSPI

Decomposing food inflation: The three major elements of food inflation in terms of weight are cereals and products, milk and products, and vegetables, which make up ~49 per cent of the food consumption basket for the Indian consumer as per the 2011-12 survey. Further, adding prepared meals covers ~60 per cent of the food basket.

Vegetables have a 13 per cent weight in the overall food consumption expenditure. These weights will undergo change based on the new household consumer expenditure survey conducted in 2023. However, the RBI has to contend with the extant composition for at least the next 2 years till the CPI weighing scheme is revised along with the new base year 2024. This is likely in FY2026-27 as per government reports, and the process to change the base year to 2024 has already been initiated.

Chart 2: Composition of the food basket

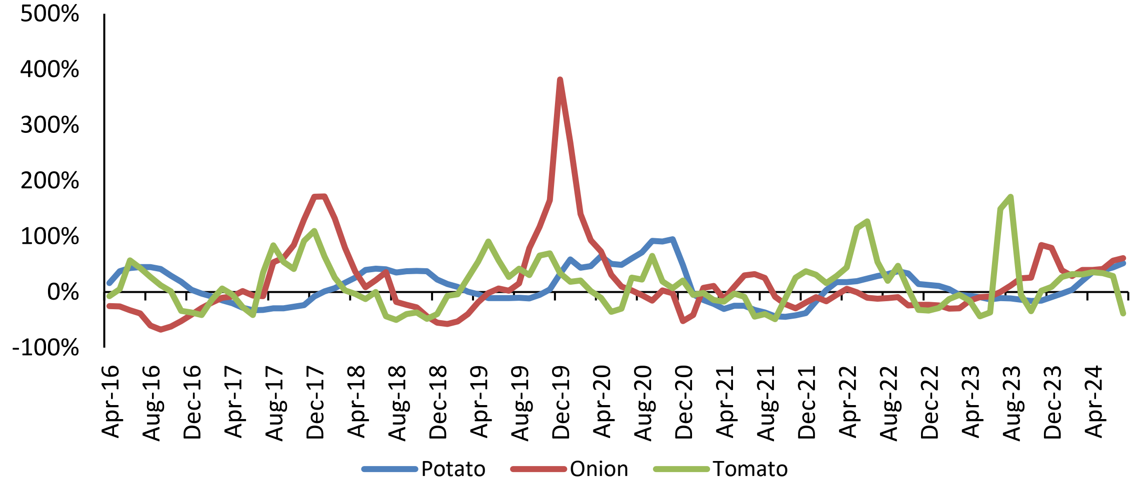


Source:MoSPI

Vegetables in India - a TOP look: India is the second largest producer of fruits and vegetables in the world, after China, with a share of 10.6 per cent of global production in fruits and 8.6 per cent in vegetables as per by the Food and Agriculture Organization (FAO). Despite India being one of the largest vegetable producers, especially in tomato, onion and potato (TOP), vegetable prices have been volatile in the past decade, as compared to other food items like milk, cereals, pulses and spices. This along with the lack of India's export competitiveness in the global markets point to an acute infrastructure gap in the supply chain management of vegetables and fresh produce. The lack of adequate and modern packaging, convenient cold storage facilities are some of the measures the union government is looking to correct, with productivity and resilience in agriculture remaining the top priority for a "Viksit Bharat" as stated in the Union Budget FY2024-25.

Trend in TOP prices: Within the vegetable basket, the sub-indices of the TOP items are of importance since they enjoy higher weights as compared to their counterparts in both CPI and WPI. The daily retail prices converted into monthly averages of the tomato, onion and potato prices present a picture of volatility. Onion prices in particular have been vulnerable to climatic conditions and the episode in December 2019, which witnessed onion prices surging by ~380 per cent, overshadows other similar events in the recent past.

Chart 3: Tomato, Onion, Potato Price Trend (YoY %)

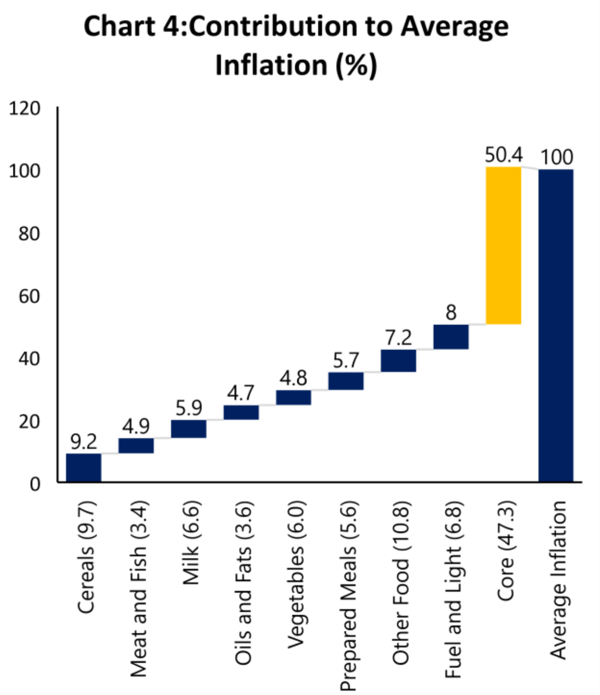


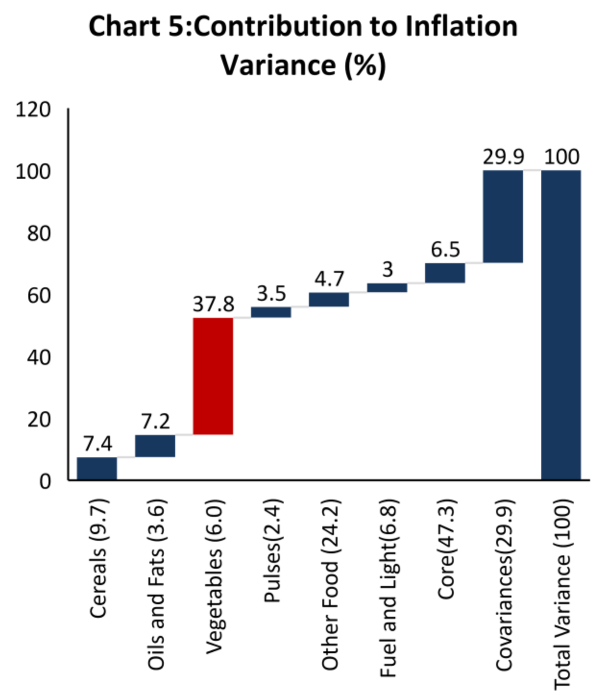
Source: Department of Consumer Affairs , STCIPD Research

Excessive volatility in food prices and particularly in vegetables is an unnecessary burden on the poor who spend a major part of their incomes on food. Food price volatility is thus a policymaker's nightmare and it becomes a policy priority to eliminate it. Unlike cereals and pulses which have the twin advantage of having a longer shelf life and good storage facilities made available by the central and state governments, vegetables face the twin disadvantages of a much shorter life span and inadequate facilities like cold storage to preserve them for a longer duration.

Why is price stability in vegetables important? Apart from the volatility and its effects on inflation expectations of the households, price stability in vegetables is also crucial for the policymakers in the central bank as excessive volatility in these prices, especially that of the TOP basket, have effects on wages of daily workers and many types of industrial workers as the dearness allowance of government salaries gets linked to the prices of onion and potato through the headline CPI inflation number. While price surges in onion and potato are more destructive and sporadic, surges in tomato prices are following a similar seasonal pattern in recent years largely due to the shorter storage life of tomatoes compared to the other two vegetables.

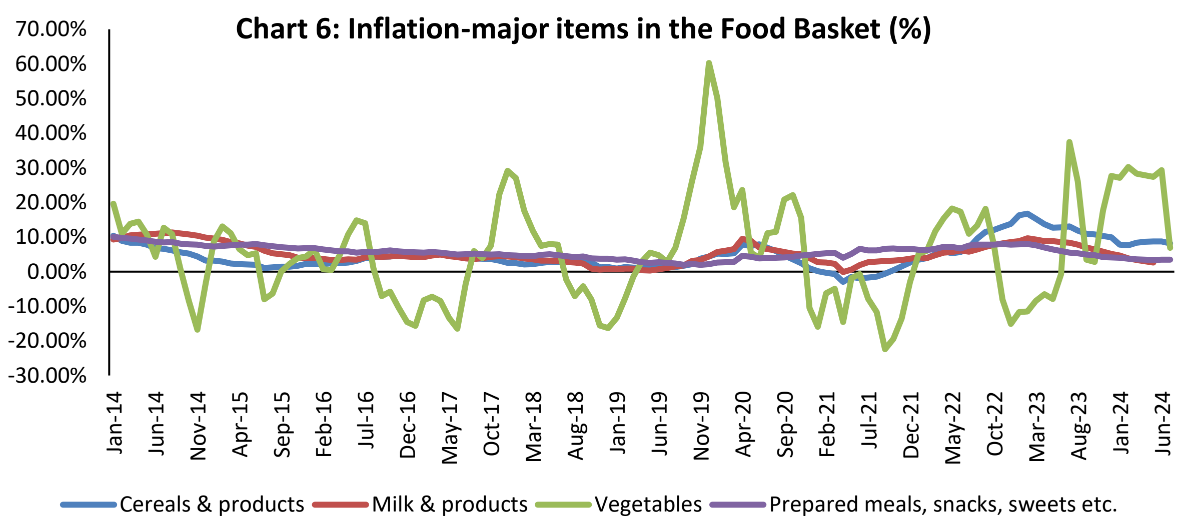
The long-term solution to controlling and smoothening out the vagaries of vegetable inflation is to create the necessary infrastructure around vegetable producing areas, such as good quality transport facilities and cold storages near railway stations and airports, which will help farmers hedge their risks and manage the stock better. *Ad hoc* policy changes taken periodically can also be reduced. Maintaining stocks of important vegetables which shall further help in assuring policy credibility to India in a competitive global market.





Source: Patra et al. RBI Bulletin, January 2024.

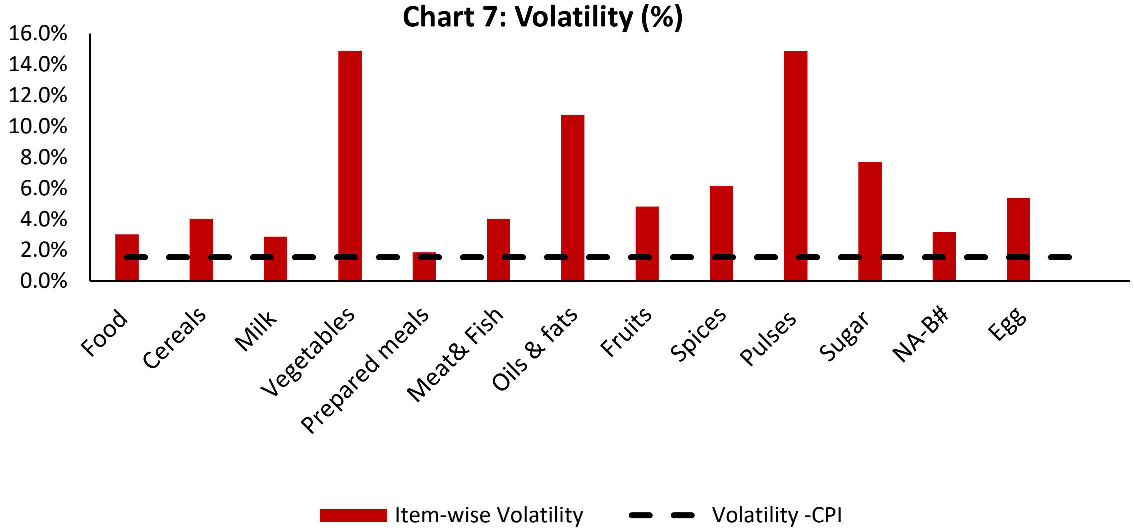
Contribution of vegetable inflation to volatility in CPI: In terms of contribution to the headline volatility, vegetables contribute ~38 per cent to inflation variance computed by the RBI from 2016 to 2023. There are multiple factors affecting the prices apart from demand and supply of these vegetables such as the natural seasonality of horticultural crops, the lack of proper cold storage facilities in appropriate geographies, the short shelf life of most vegetables, climatic conditions, erratic rainfall, heatwaves, hailstorms, affectation by pests etc.



Source: MoSPI

Volatility and persistence: Volatility of the vegetables and pulses is the highest in the CPI series at 15 per cent, if computed from the base year 2011-12 till date, while that of food is around 3 per cent. The average volatility of retail inflation is 2 per cent. Although vegetables and pulses exhibit similar levels of volatility of ~15 per cent since 2011-12, the impact is quite different due to the weights of these items. In terms of contribution to headline volatility, vegetables contributed almost 90 per cent while pulses contributed only 35 per cent since the beginning of the CPI series. Other items such as cereals, oils and fats and milk contributed less than 40 per cent during the period. Vegetables as a group have been, on more than one occasion, the reason for spikes in headline inflation, as the vegetable index has a weight of 6 per cent in the CPI (Combined). A 1 per cent increase in the index will lead to a 6 basis points change in the headline index and ~13 basis points on the food and beverages index.

Chart 7: Volatility (%)



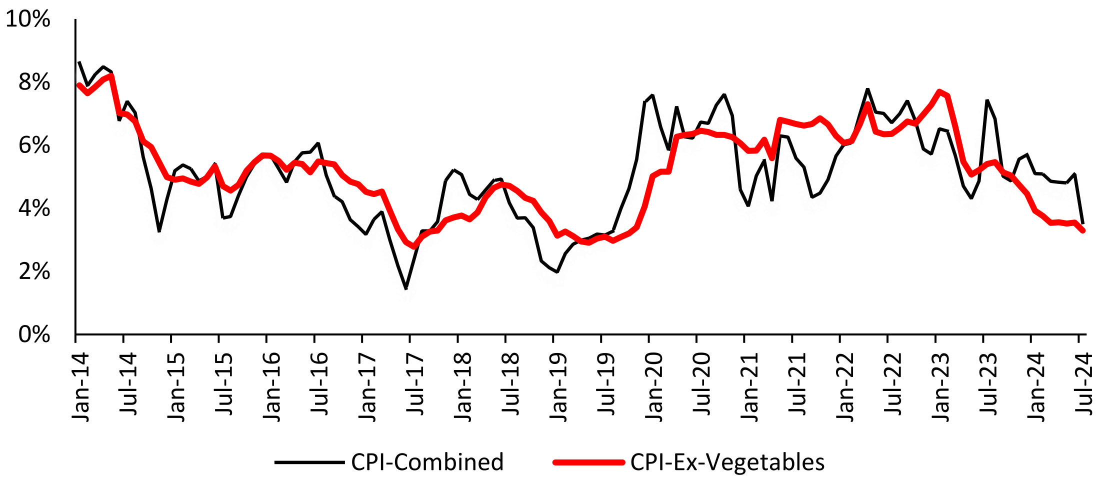
Source: MoSPI. STCI PD Research, # NA-B=Non-Alcoholic Beverages

A recent RBI study[1] indicates that food prices have at times exhibited volatility and persistence, leading to spill overs in the non-food segment and have exhibited cyclical sensitivity which are properties of core inflation. As compared to core inflation, vegetable inflation is also heavily affected by seasonal movements and shows less persistence.

CPI Ex-vegetables: In terms of monetary policy, the RBI can consider an index excluding vegetables as its monetary target retaining much of the food index weight as is. This has both negative and positive side effects, with the positive effect being a comparatively stable headline inflation with lesser volatility and seasonal effects. The negative effect will be prominent when the reaction to deflation in vegetables will also have to be foregone by monetary policy due to their exclusion from the targeting framework.

[1] Are Food Prices the 'True' Core of India's inflation? Patra et al, RBI Bulletin January 2024.

Chart 8: CPI & CPI Ex-Vegetables (% YoY)



Source: MoSPI,STCI PD Research

Removing vegetables from the headline inflation calculation results in the overall volatility being reduced by almost a percentage point from 2 per cent volatility to 1 per cent. Also, the aspects of inflation which are transient like vegetable prices, have led to mixed responses from the central bank leaving a grey area as to whether there are spillovers to the non-food component from these food price shocks and how the RBI responds to the same. Given this situation, it would probably be better to leave the vegetable price inflation altogether out of the targeting framework, and provide clarity to stakeholders about RBI's response function. Although RBI does not subscribe to such a view as mentioned earlier, vegetables could be excluded on the grounds of higher and frequent shocks and lack of persistence. This would also avoid the extreme scenario of targeting core inflation as the nominal anchor, where food inflation is entirely excluded from warranting any monetary policy responses.

Conclusion: The Union Budget for FY2024-25 presented in July 2024 has productivity and resilience in agriculture as its top priority in a list of nine agenda items, seen as necessary to transform India into a developed country. One of the major segments supporting productivity and resilience in agriculture is related to solving the problem of supply chains for vegetables. Supply management in vegetables has been an Achille's heel for the government, which in the absence of proper cold storage facilities, has had to tinker constantly with its tariffs to manage prices whenever there is a disruption. Deploying significant resources towards building a robust infrastructure in terms of cold storage of vegetables is a step in the right direction and will lead to stability in vegetable prices in the coming years. This subject remains primarily in the remit of public policy and RBI could, in consultation with the Union government consider targeting CPI Ex-vegetables to improve the clarity in reading inflation movements and responding optimally.

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