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An analysis of drivers of inflation in India over the past decade

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Abstract

Inflation affects purchasing power, investment, and economic growth, making it an essential component in determining the overall trajectory of the economy. This study focuses on India's inflation dynamics over the past decade through trend analysis, emphasizing components of inflation and evaluating interest rate adjustments from time to time. It focuses on food inflation, which is found to be the main cause of headline inflation and is greatly impacted by the erratic prices of pulses, grains, and vegetables. Furthermore, assessing the policy interventions implemented by the Reserve Bank of India (RBI), specifically alterations in interest rates, throughout inflation levels.

Keywords: *Inflation, Drivers of inflation, monetary policy*

1. Introduction

Economies across the world are concerned about inflation and its trajectory, given its importance as a macroeconomic indicator linking purchasing power, investment, and economic growth. An economy's degree of inflation is an essential indicator of the business cycle, the path of a country's growth, and the relative value of its currencies. A spike in inflation indicates a break from a stable macroeconomic equilibrium, which can be caused by several events, including increases in aggregate demand, rising production costs, or supply chain disruptions (e.g., unfavorable weather occurrences or changes in the price of oil globally). On the other hand, as exhibited by pandemics, meager inflation might signal economic stagnation. Thus, inflation has a widespread impact on the macroeconomic structure of the economy and the microeconomic processes of individual decision-makers. off late inflation trajectory across the globe shows high volatility, especially among Emerging Market Economies (EMEs). In India, inflation stayed volatile breaching the Reserve Bank of India's (RBI) comfort zone of 6 percent sometimes. The food component has been responsible for this swing. RBI has consistently raised concerns about the untamed inflationary tendency of the country and maintained the policy rate intact at 6.5 percent since May 2022. Therefore, the present study examines the inflation trajectory of India over a decade and the factors contributing to the volatile swing. The present study investigates component-wise inflation and quantifies how much it contributes to the headline inflation in the country. It also examines RBI's policy interventions in terms of changes in interest rates during various episodes.

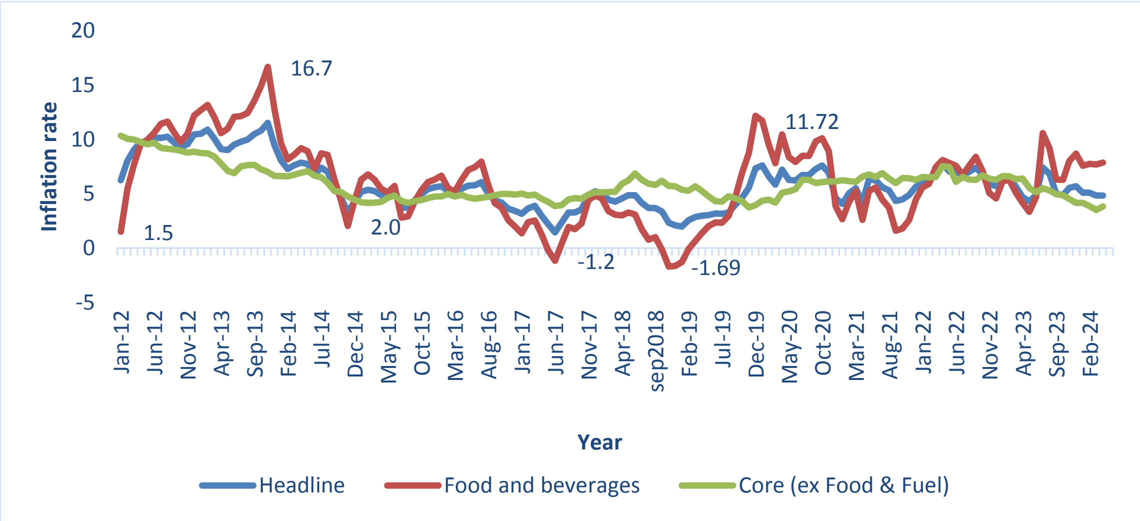
The RBI targets inflation largely through monetary policy, which involves interest rate adjustments along with ongoing fiscal policy interventions. In Post independence era, there was a broad range in the inflation rate during the 1950s, from a high of positive 13.8 percent to a low of negative 12.5 percent. The 1980s saw equally turbulent inflationary tendencies, peaking at 18.2 percent in 1980–1981 and falling to 4.4 percent in 1985–1986 (Reddy, Y. V. 1999).

The global economic landscape of the twenty-first century is different from that of the twentieth, even though the 1990s brought about a period of relative stability regarding inflation and price levels. For the majority of the previous century, inflation was controlled; but, with the global financial crisis and the ensuing recovery, inflation resumed, especially in developing nations like India, known as a "two-speed recovery," this phenomenon emerged from developing markets' higher growth trajectory relative to developed economies' slow pace of expansion (Mohanty, 2011). The various inflationary behaviour called for policy vigilance as demonstrated by various events in the 20th and 21st centuries.

2. Inflation dynamics in the last decade

This session presents various episodes of inflation, including headline inflation, core inflation, and food inflation, measured by the Consumer Price Index (CPI) since 2012 (see Figure 1). The inflation trajectory exhibited upward trends in 2013, 2020, 2022, and 2023, driven by diverse factors. During 2013, in November, the CPI peaked at 11.5 percent due to rocketing food prices, which had firmed up considerably during April-November. On the contrary, the core inflation was at 7 percent during this period. Several supply-side factors played a role in the increase in inflation. From April to November, the price of vegetables more than doubled, pushing inflation from one year to the next to a 15-year high of 95.2 percent in November 2013. Even with exchange rate depreciation and rising input costs, non-food manufactured product (NFMP) inflation showed a moderate increase as weak demand conditions contained generalized inflationary pressures to some extent. (Reserve Bank of India, 2015).

Figure 1: Month-wise annual inflation patterns in India (y.o.y growth in percentage)



Source: Authors' computation based on the Reserve Bank of India database

Following on, though, there was a stretch of rather stable prices, with inflation even dropping below 4 percent in November 2014. Owing to the fall in prices of food and fuel components, the headline inflation had a fall in the consequent months. Together, these two variables make up 57% of the consumer price index (CPI), which tracks changes in the costs of a chosen basket of goods and services for Indian households over time. due to the increased availability or the absence of supply-side bottlenecks, vegetable prices plummeted 13.2 percent between December 2013 and January 2014. Decreased oil prices were also advantageous in the situation. Since June 2014, the price of crude oil has been declining globally. From $111.25 per barrel in mid-June 2014 to $56.55 per barrel in December 2014, US crude prices have collapsed by approximately 95 percent (Dharamsi, K,2015)

India's Consumer Price Index (CPI) exhibited significant fluctuations from June 2016 to April 2024. In June 2016, CPI spiked to 5.8 percent, followed by a decline to a low of 1.5

percent in June 2017, the lowest since 1991, driven by a sharp fall in food prices, particularly pulses, vegetables, and perishables (India Today, July 12, 2017). Post-demonetization, inflation experienced a temporary increase, with the RBI attributing the rise to uncertainty in vegetable prices due to distressed sales and seasonal factors (RBI, 2019).

In the case of core inflation, the period from Sep 2016 to Oct 2019 witnessed the core surpassed the headline, which was mainly fuelled by the negative food inflation. Price pressures were visible during March- July 2018 because of transportation interruptions, a decrease in cold storage stock availability, and protests organized by potato farmers. It quickly decreased to the 1.97 percent range in January 2019, where from a peak of 40.6 percent in July 2018 to (−) 57.1 percent in January 2019, the inflation of vegetable prices was lower for onions. This fall was helped by rises in kharif production, an increase in mandi arrivals, and the release of old inventories. The increase in the minimum selling prices of sugar by ₹ 2 per kg. to ₹ 31 per kg. by the central government in February 2019 has not yet been reflected in domestic retail prices (Reserve Bank of India, 2019).

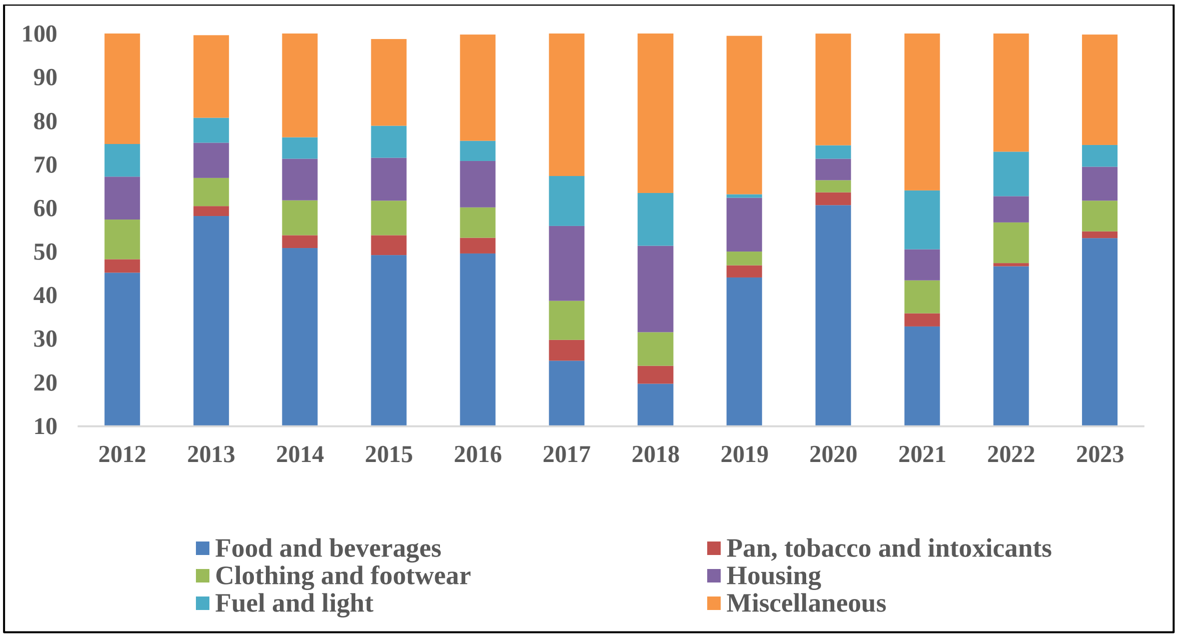
For most countries, the dip in inflation during the pandemic was such that inflation touched or went below last year's average inflation level. On this aspect, too, the Indian situation was different. The average inflation in developing economies in Asia would be around 2.9 percent, quite lower than the range in which India's inflation has hovered in 2020. However, supply constraints in India are so great that inflation has been high throughout the board. During the first lockup, when demand was suppressed, during the festival season, and even on the leeward side of a minor fall in pent-up demand. Meat and dairy have remained expensive even after early jumps in industrialized economies, despite persistently high inflation in India over the pandemic period (Waghmare, A, 2020). Due to an advantageous base effect, inflation dropped to 4.23% in April 2021, with fuel inflation increasing while food inflation fell. (PTI, 2021).

Despite this, there was a surge in July 2023 that showed 7.44 percent inflation, mostly due to rising costs for fruits and vegetables. For the first time in five months, this increase exceeded the RBI's 6 percent upper tolerance limit. Essential food items with inelastic demand, such as vegetables, cereals, and dairy products, cause disproportionate expenditure adjustments in response to price rises, which has a big effect on household budgets. For example, unpredictable monsoons have sent tomato prices plunging more than 1,400 percent. Recent months have shown encouraging signs of inflation control and it reached 11 months' lowest of 4.83 percent of CPI inflation in the month of April mainly driven by primarily, a contraction in fuel and light inflation of 4.24 percent helped keep the CPI rate within the RBI's tolerance range of 2-6 percent. This time witnessed a core of 3.84 percent. Just like fuel, Clothing, and footwear as well as housing inflation also eased, albeit slightly, in April to 2.85 percent and 2.68 percent respectively on a month-on-month basis (Money control, May 2024).

3. Drivers of headline inflation in India

This section outlines the major components contributing to the headline inflation of the country. Figure 2 shows how each component has contributed to headline inflation over the past decade. Food inflation—whose primary drivers are vegetables, cereals, and oil and fats—as well as miscellaneous inflation are the primary drivers that contribute to CPI inflation. These components also have the highest weights in the CPI calculation, by 28.32 and 45.9, respectively. However, the inflation over the past period has not been greatly fuelled by the other variables. Nevertheless, the other factors haven't contributed significantly to the inflation over the last few years. Prices and demand for food are thought to be driven by elements including the farmers' debt waiver, the sixth pay commission, and the growth of the MGNREGS. Rapid price variations were caused by erratic supply due to weather and climate changes. However, massive food subsidies have led to the build-up of substantial inventories of rice and wheat. Although the direct effects of the crisis-response policies are poorly understood or researched, overall poverty rates have been falling, but given the strong economic development, much work still needs to be done. (Gulati, A. and Ganguly, K. (2013).

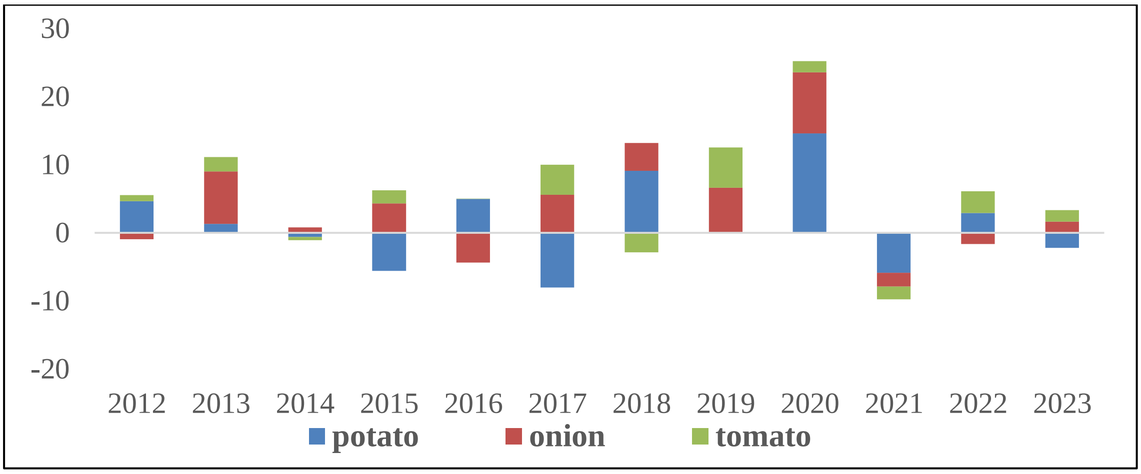
Figure 2: Component-wise contribution to the headline inflation (In percentage)



Source: Authors' computation from RBI database

The highest inflation in Nov 2013 (11.5 percent) was mainly contributed by the food inflation, which was contributed around 66.4 percent with largest contribution of vegetable to headline by 36 percent whereas contribution of miscellaneous to total inflation was only around 15.8 percent in Nov 2013.The food inflation was the sole determinant from 2012 Jan to Nov 2016, where it can be seen from figure 3 that, the vegetable is the major contributor to the healine. Then, the miscellaneous inflation takes the route for around one year (led by transport and communication) and again from April 2018 to August 2019, (Health expenditure was very high due to covid 19 pandemic), where the contribution of food inflation and vegetable inflation was negative in the pandemic period. Post-demonetisation in November 2016, India has experienced extraordinarily low food inflation, staying below 4% except for three months (November 2017-January 2018) and consistently lower than overall consumer inflation. This period of low/negative food inflation has led to agrarian unrest. The decline in food inflation is attributed to supply-side surpluses from bumper domestic harvests and low global prices, which have undermined agricultural exports and increased import vulnerability. Government measures, including export restrictions and duty-free imports, have compounded these effects, aligning with the RBI's inflation targeting policy. Additionally, liquidity issues have impacted farm commodity trading, traditionally cash-based, with demonetisation and the goods and services tax causing traders to be cautious in purchasing and stocking produce. While cash may have returned to the system, it isn't circulating as freely as before (The Indian Express, December 17, 2018). Then the sudden rise in headline led by sharp upward moving food contribution (Mainly by vegetables) to inflation which was set top in contribution in Dec 2019 at 75 percent with vegetable inflation contributing around 49 percent of total inflation. The current scenario portrays a mild fall in headline inflation mainly by falling miscellaneous where the contribution of transport and communication declined to 1.9 and education fell to 3.9 percent respectively. Even though there is a high food inflation contribution of about 74 percent in April 2024, mainly because of vegetable contribution at 34 percent it is evident that the impact is set off by falling part of other components including housing, clothing, and footwear, and negative fuel & light inflation.

Figure 3: Vegetables' lead components contribution to headline inflation

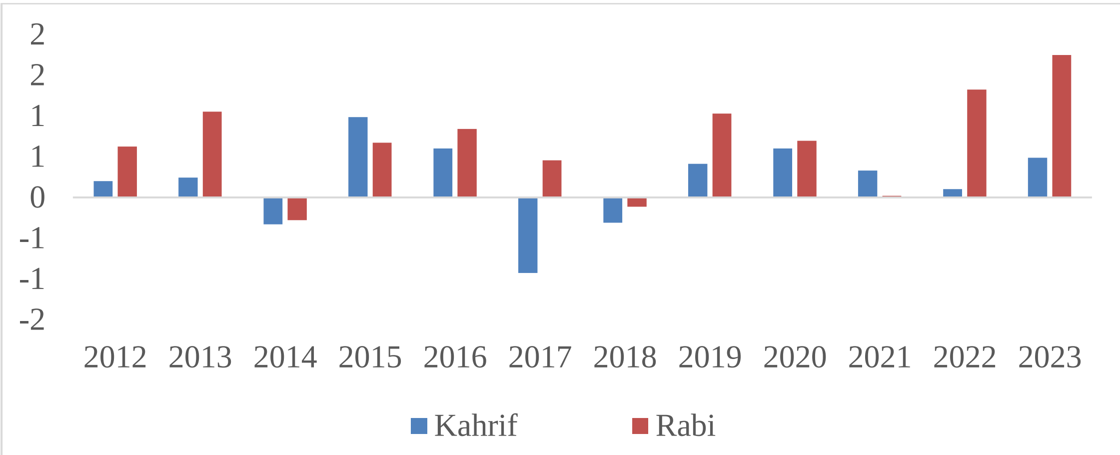


Source: Authors' computation from RBI database

Together with oil and grains, vegetable inflation is the main factor influencing India's inflation trend. The subject at question is why vegetable inflation is so high in India and what factors influence it? Food inflation, which is vulnerable to supply shocks, is also taking on a structural aspect due to dietary changes and increased demand in the absence of sufficient supply response. The sharp rise in inflation for non-food manufactured goods indicates that, given the increased demand, companies may be able to pass on cost increases. Food inflation has become more persistent, despite the high persistence of inflation in non-food manufactured goods (Mohanty, D, 2011). The main ingredients that significantly contribute to India's overall inflation trend are onion, tomato, potato, and garlic (Figure 3). Costly vegetables, especially potatoes and onions, drove November wholesale inflation to a 14-

month high of 7.52%, making it difficult for the Reserve Bank to lower key policy rates. As previously mentioned, vegetable inflation contributed the most to the highest inflation of the decade in November 2013. In November, onion inflation stood at 190.34 percent. India Today, December 16, 2013. Later, in June 2017, the lowest inflation in the decade was primarily caused by negative food contributions, namely negative inflation related to onions, potatoes, tomatoes, and garlic. This trend continued in January 2019, when negative food contributions contributed to low headline inflation. Tomatoes and garlic started to make headlines in the middle of 2023. By April 2024, however, potatoes take the lead with the largest contribution of 10.9 percent. Based on this data, it can be determined that while potatoes and onions have historically contributed to the highest levels of food inflation, garlic, and tomatoes are currently leading the current inflation after the first few months of 2021.

Figure 4: Average contribution of Kharif and Rabi products to headline inflation



Source: Authors' computation from RBI database

The inflation trends in India demonstrate the significant impact of both kharif and rabi crops on overall inflation. These trends underscore the critical role of agricultural commodities in influencing inflationary dynamics in India. Cereals and pulses, which can be divided into two categories—kharif and rabi crops—contribute to overall inflation in addition to vegetable inflation. The most substantial inflation recorded in 2013–November was mainly caused by vegetable inflation, alongside wheat, a rabi crop, contributing 2.31 percent (MSP) (Figure 4). The main causes of the decline in inflation in both June 2017 and January 2019 were the negative kharif crops, namely tur, moong, and groundnut. coming to recent trends April 2024 was another recent month where the largest contributor to inflation was tur, accounting for almost 5.2 percent of the total.

4. Interest rate changes in the last decade

The monetary authority performs an instrumental part in regulating inflation and rectifying market distortions. Examining how the central bank adjusts interest rates during each inflation cycle to figure out whether or not their actions propel the economy into inflation becomes critically important in this situation. Over the past decade, the RBI has adjusted interest rates by an average of 25 basis points every time, taking into account the economic and inflationary climates. The RBI adopted a dovish stance from January 2012 to October 2013, dropping the repo rate from 8.5 percent in Jan 2012 to 7.75 percent in oct 2013 by 0.75 basis points. The largest prices during that period may have been caused in part by the countercyclicality of interest rates with inflation. Owing to the ensuing inflation, the RBI adopted a stronger stance in January 2014, raising the rate by 25 basis points to 8 percent. Then, in opposition to the theoretical foundations, the era experiences a procyclical movement in both interest rates and inflation. In June 2017, inflation dropped to a lower rate of 1.5 percent, and in August 2017, the repo rate dropped by around 2 basis points to 6 percent. The deepest and longest interest cycle occurred during and after the pandemic period the deeper cycle with the largest base point shift in interest rates happened during the pandemic in March 2020, when it dropped by 75 basis points to 4.40 percent to meet the economy's persistently weak demand and support moderate inflation and he longest interest cycle with maintaining status quo occurred in march 2020 to May 2022, where interest kept at 4 percent. The justification made by the RBI Governor is that the recovery that had been interrupted by the second wave of the pandemic is regaining traction, but it is not yet strong enough to be self-sustaining and durable. This underscores the vital importance of continued policy support (The Indian Express, December 9, 2021). In the recent downward trend in inflation also not urging the RBI to change the interest rate and is keeping the repo at 6.50 percent.

5. Conclusion

This study portrayed the inflation trajectory in India over the last decade and the responsible factors as well as the interest rate dynamics. Tackling inflation is crucial for sustaining growth and purchasing power. Food inflation, driven by volatile prices of vegetables, cereals, and pulses, has been a significant contributor to overall inflation. The main driver of notable spikes, including the 11.5 percent CPI inflation in November 2013, was the skyrocketing cost of food, particularly vegetables. Food inflation remained persistently high during the pandemic, and as of June 2020, prices for dairy and meat were still high. The RBI's monetary policy measures had a vital role, such as hiking the repo rate to 8 percent in January 2014 during rising inflation and cutting it to 4 percent in March 2020 during the pandemic. With CPI inflation of 4.83 percent in April 2024, inflation has begun to moderate recently. However, due to factors like the unpredictable monsoons, food inflation—especially that related to vegetables—remains high. India's experience indicates that to stabilize food prices and increase the effectiveness of the supply chain, proactive actions are required. To guarantee stable and sustainable economic growth, policymakers—especially the RBI—must be aware at all times and act promptly.

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