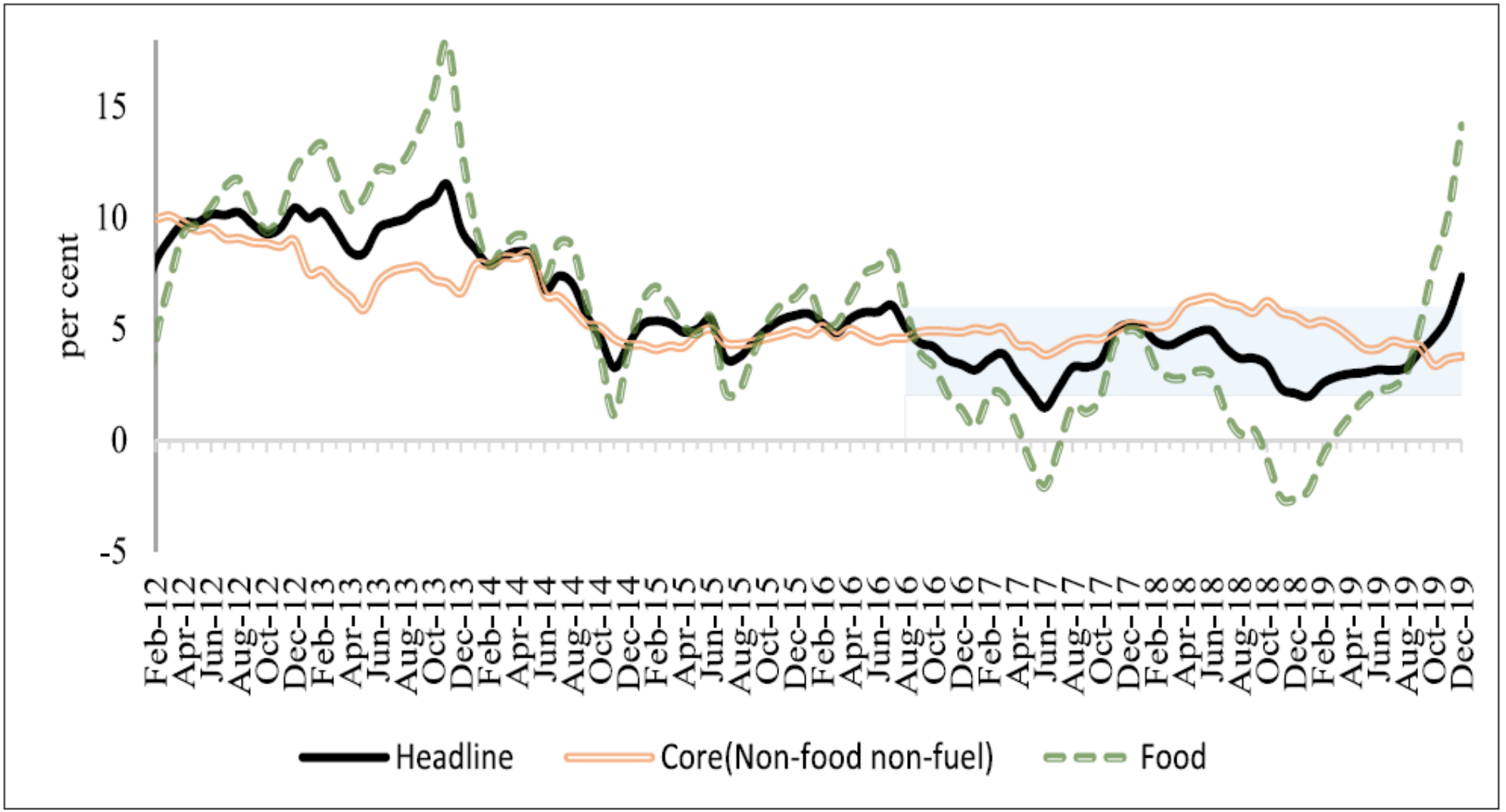
PRICES AND INFLATION

Economic Survey Vol 2 Chapter 5

KEY FINDINGS

- Inflation has seen a declining trend but,
- Volatility/Variation has increased
- Evidence suggests headline inflation is converging to core inflation
- Minimal transmission of inflation from non-core to core components
- The trend of steep decline in inflation is being observed both globally as well as for India
- Inflation Dynamics have changed: avg. levels have fallen; peaks are lower.

Figure 1: Trends in CPI-C Headline, Core and Food inflation



Source: NSO.

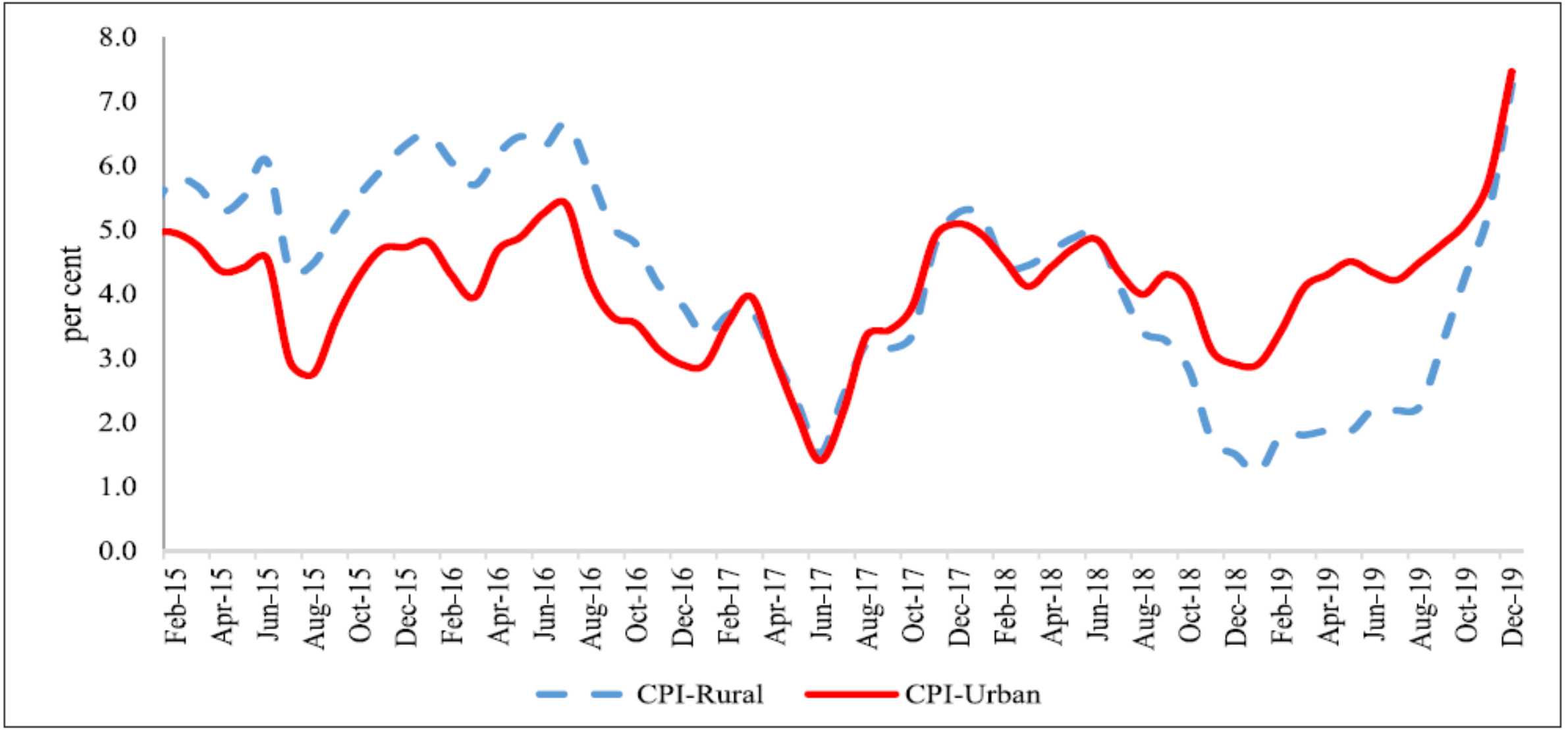
CHAPTER AT A GLANCE

- Headline Consumer Price Index (CPI) inflation was 3.7 per cent in 2018-19 (April to December, 2018), compared to 4.1 per cent in 2019-20 (April to December, 2019).
- During 2019-20, WPI based inflation has been on a continuous fall declining from 3.2 per cent in April 2019, only marginally rising in November and December to end at 2.6 per cent in December 2019.
- Food index which declined on an annual basis between 2017-18 and 2018-19, saw an uptick during the current financial year (April-December, 2019).
- Since July 2018, CPI-Urban inflation has been consistently higher than CPI-Rural inflation, which is in contrast to earlier trend where rural inflation was higher than urban inflation.
- During 2019-20 (April- December), food and beverages emerged as the main contributor to CPI-C inflation, with 54 per cent of the inflation during this period attributable to this group.
- In the four metropolitan cities of the country, retail prices of various essential commodities have diverged from wholesale prices over the years.
- Since 2012, there has been a change in inflation dynamics. There is evidence for a strong reversion of headline inflation to core inflation. However, transmission of inflation from non-core components to core components is minimal. Therefore, there may be a case for monetary policy to not respond to transitory shocks in non-core components of inflation.
- Inflation in fifteen States/Union Territories (UTs) was below 4 percent in FY 2019-20 (April-December). Comparing FY 2018-19 (April- December) with FY 2019-20 (April- December), inflation has actually decreased in eight states.
- Inflation expectations have declined thereby indicating that the inflation targeting framework has started influencing expectations of inflation in the economy.

TRENDS

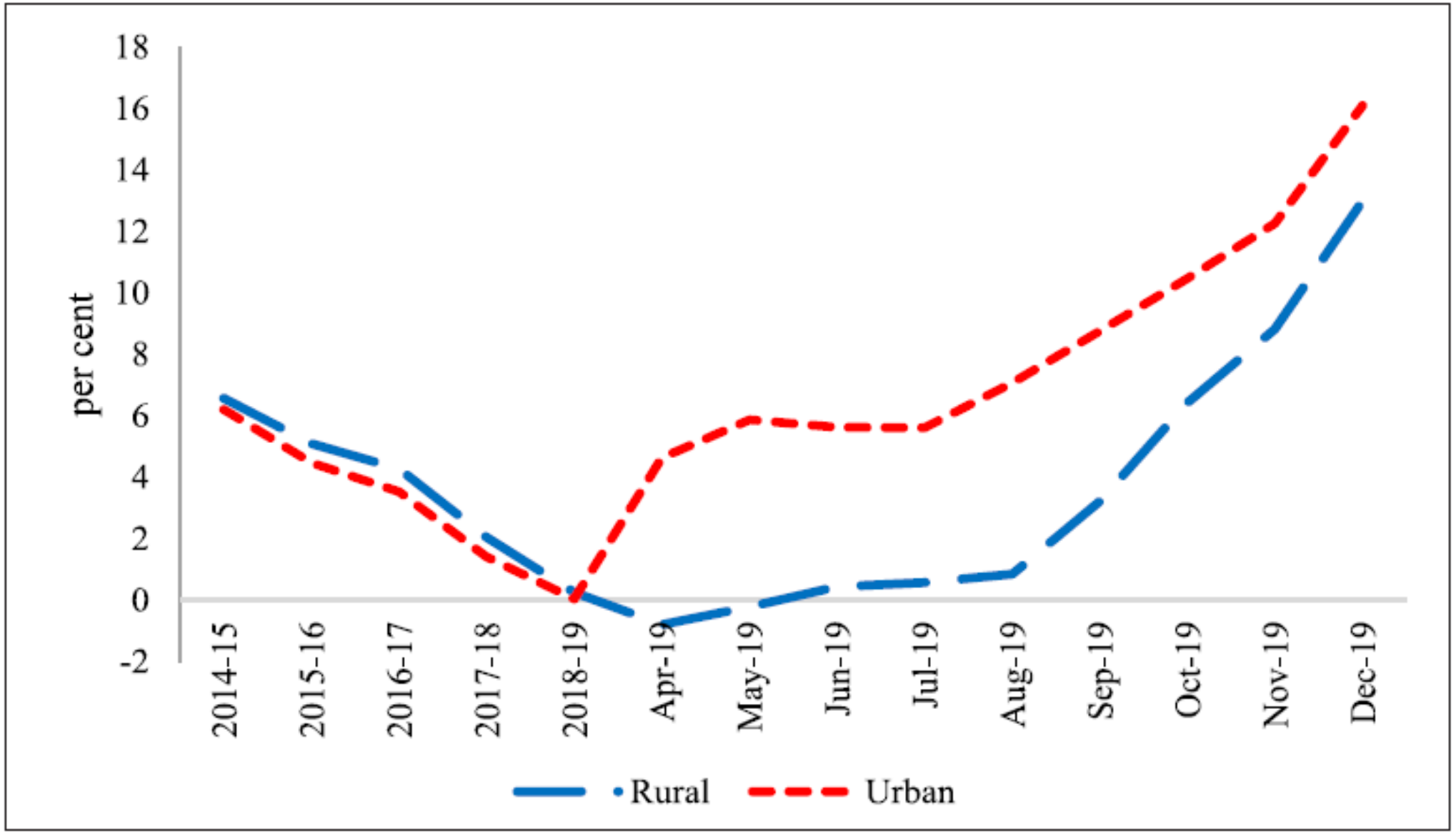
- In 2019-20, there has been slight uptick in the headline and food inflation numbers since August 2019.
- Since July 2018, CPI-Urban inflation, has been consistently above CPI-Rural inflation mainly on account of the differential rates of food inflation
- In 2019-20, there has been sudden change in the trend. Since July 2019, urban areas have registered much higher food inflation when compared to rural areas
- Divergence in rural-urban food inflation in 2019-20 was mainly led by cereals, eggs, fruits, vegetables etc.

Figure 3: CPI Rural and Urban inflation



Source: NSO.

Figure 4: Rural Urban CPI food inflation



Source: NSO.

Figure 5 (a): CPI inflation rate of cereals

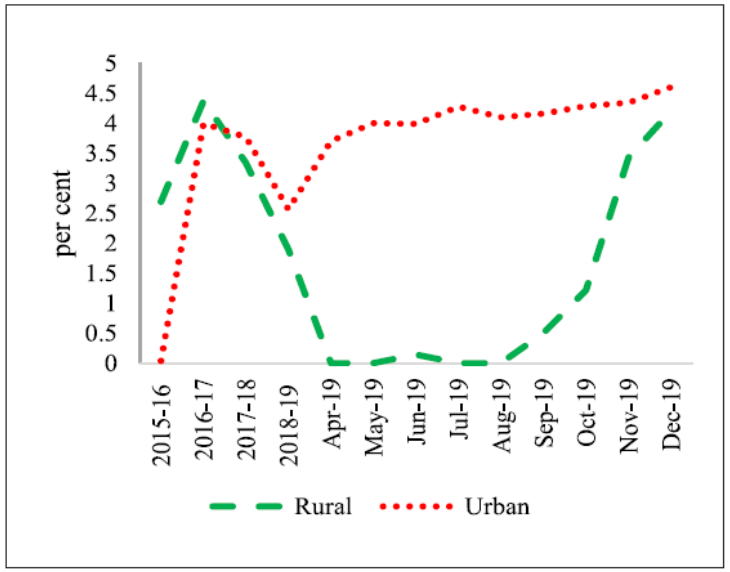


Figure 5 (b): CPI inflation rate of vegetables

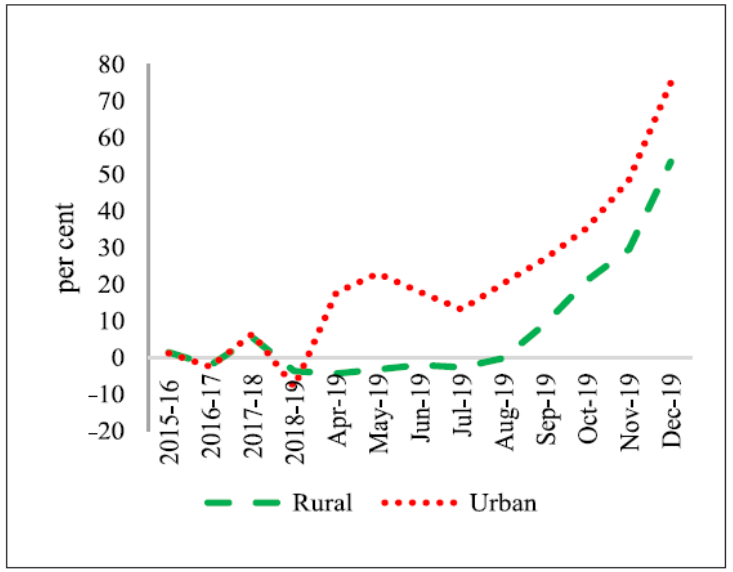


Figure 5 (c): CPI inflation rate of fruits

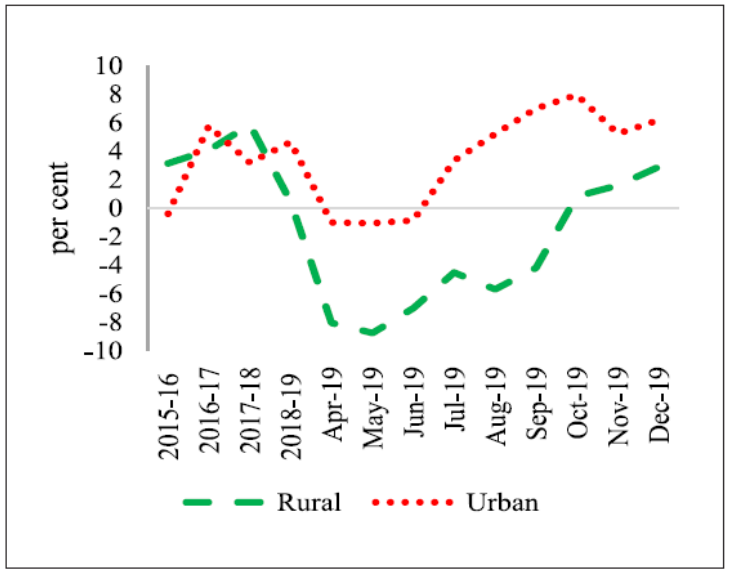
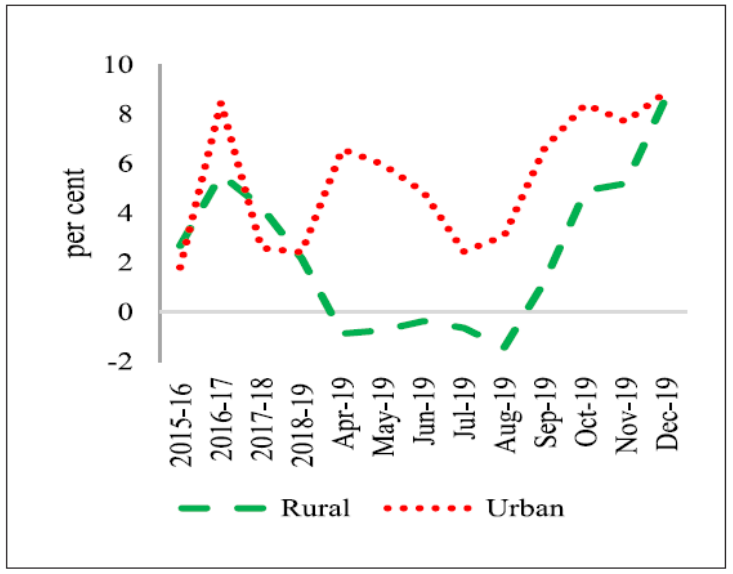


Figure 5 (d): CPI inflation rate of eggs

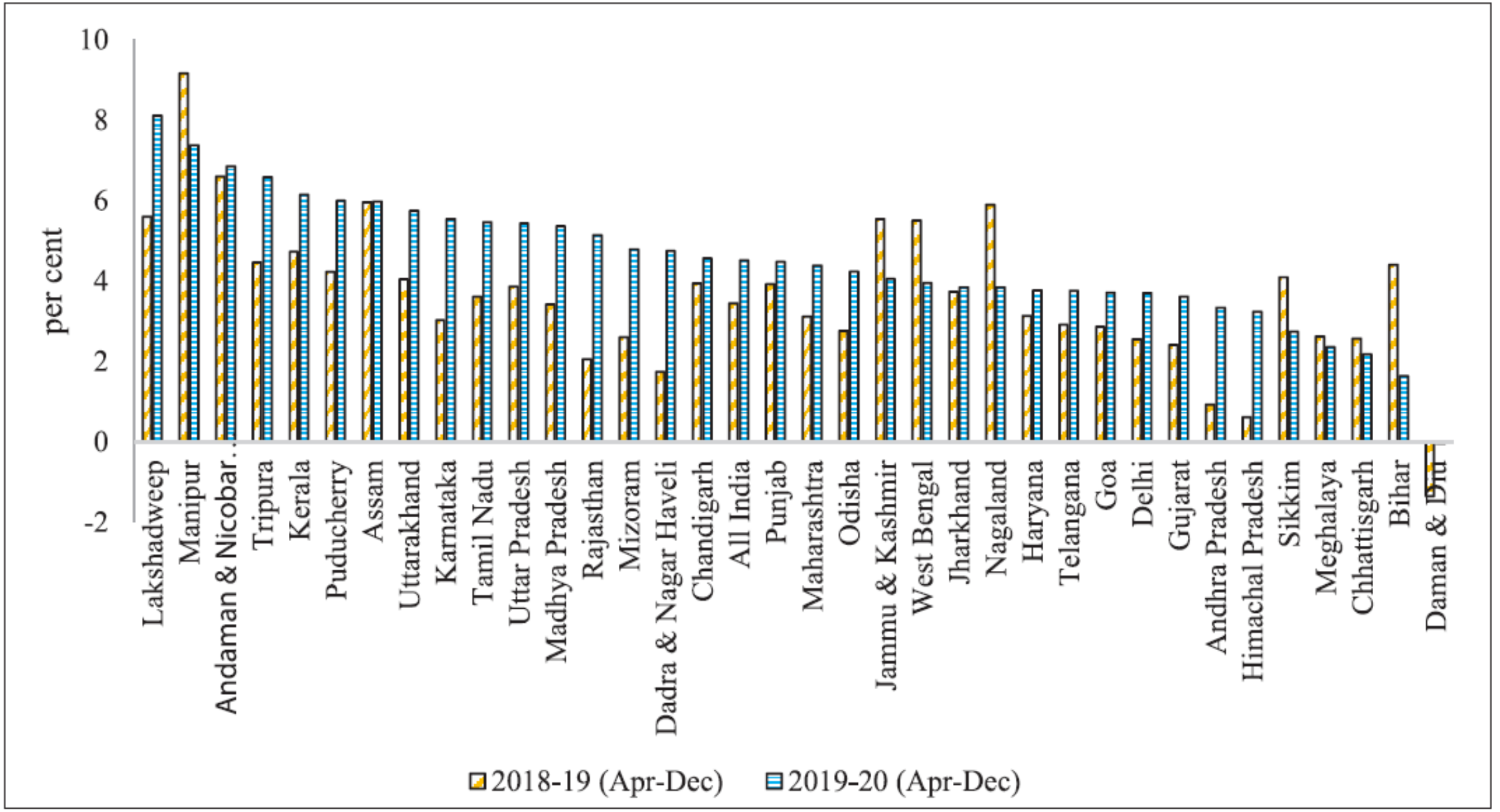


Source: NSO.

INFLATION IN STATES

The overall inflation rate has been quite low in almost all the States.

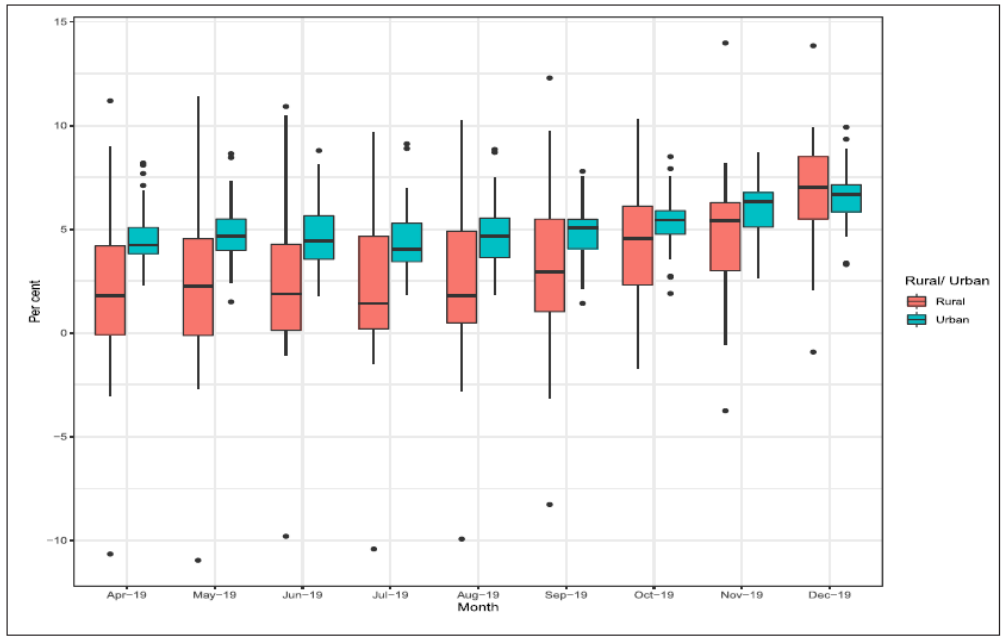
Figure 8: CPI- Combined inflation for States/Union Territories (in per cent)



Source: NSO.

THOUGH THE OVERALL INFLATION IN RURAL AREAS IS LOWER AT AN ALL INDIA LEVEL BUT DUE TO THE HIGH VARIABILITY ACROSS STATES SOME STATES MIGHT HAVE INFLATION IN RURAL AREAS HIGHER THAN INFLATION IN URBAN AREAS.

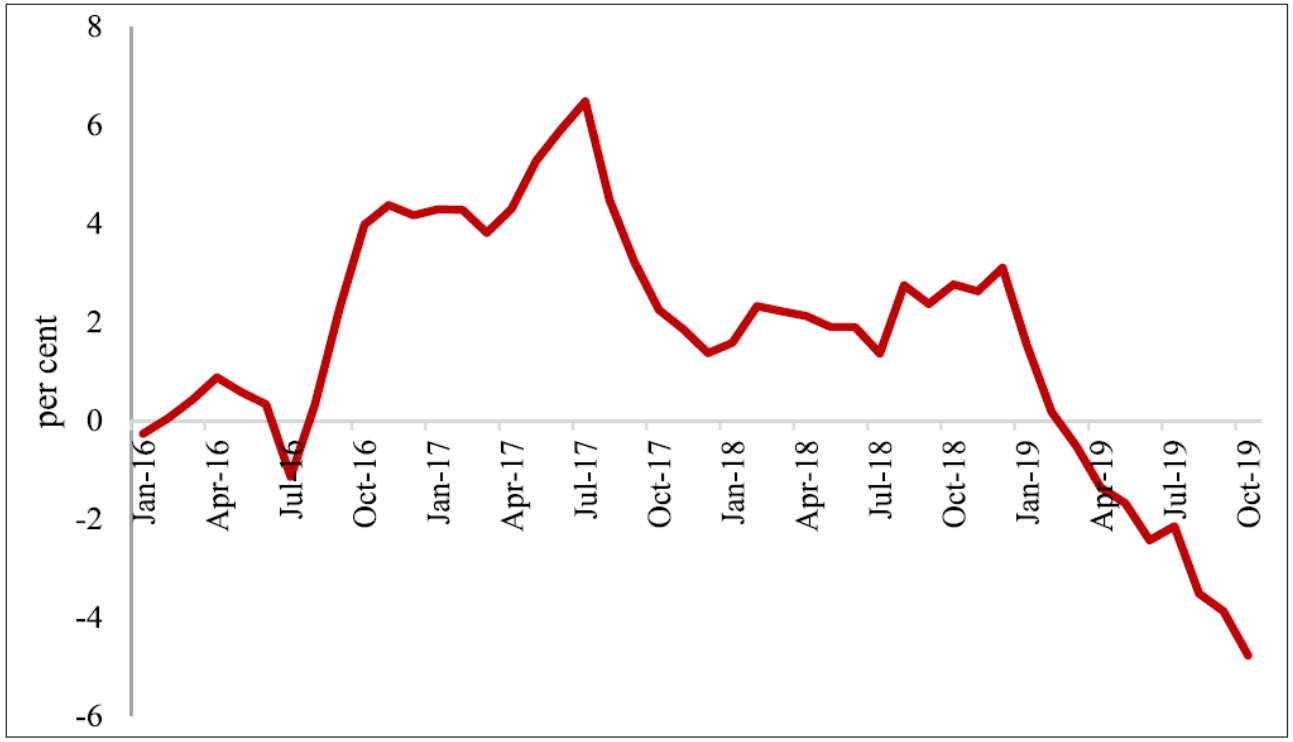
Figure 9: Variability in rural and urban inflation across States in 2019-20 (April- December)



Source: NSO.

THE SLIDE IN RURAL INFLATION COULD BE BECAUSE OF FALL IN THE GROWTH OF REAL RURAL WAGES

Figure 6: Year on year growth of average real wage rate for agricultural workers during 2016 to 2019 (upto October, 2019)



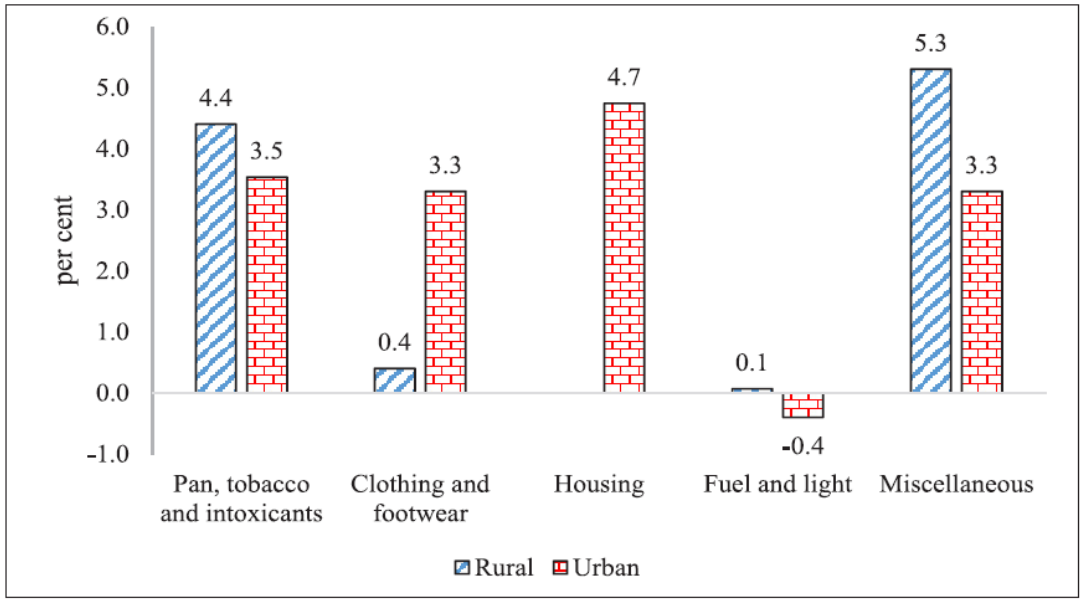
Source: Labour Bureau, Ministry of Labour and Employment.

Note : Real wage rate is calculated by dividing Nominal general agriculture workers wage rate by CPI AL.

THE DIVERGENCE IN RURAL-URBAN INFLATION IS DUE TO OTHER COMPONENTS ALSO.

- Figure 7 shows the component wise rural and urban inflation.
- Due to the high overall weight attached to the food and clothing & footwear groups in the rural index, the overall inflation observed in rural areas was lower than the overall inflation observed in urban areas
- The decline in rural inflation in items like clothing and footwear, fuel and light could be due to fall in growth of real rural wages
- Rise in rural price index for items like education, health, personal care etc. also raises the question of affordability of these items to the rural segment.

Figure 7: Component-wise rural and urban inflation in 2019-20 (April- December)

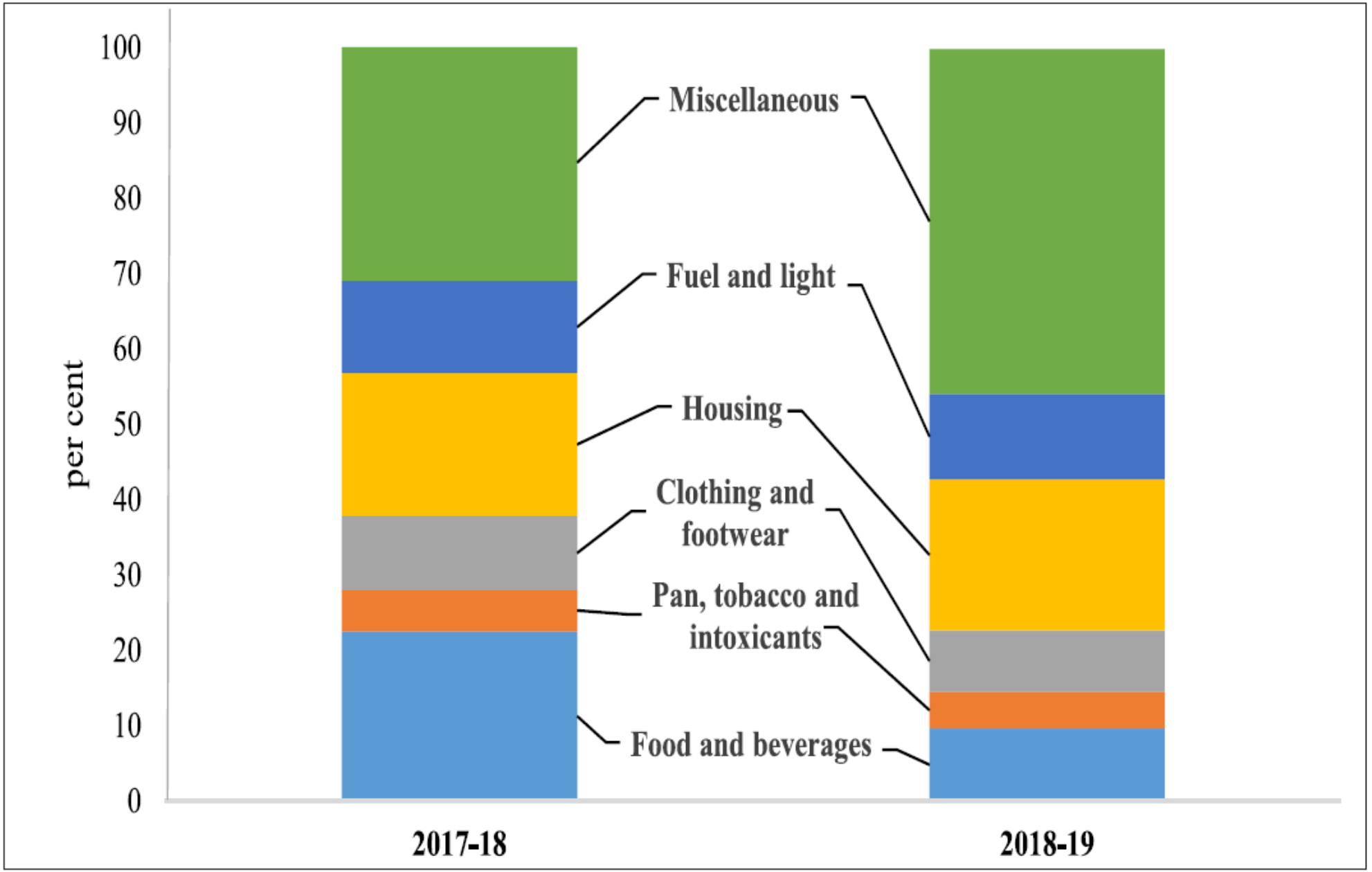


Source: NSO.

INFLATION DRIVERS

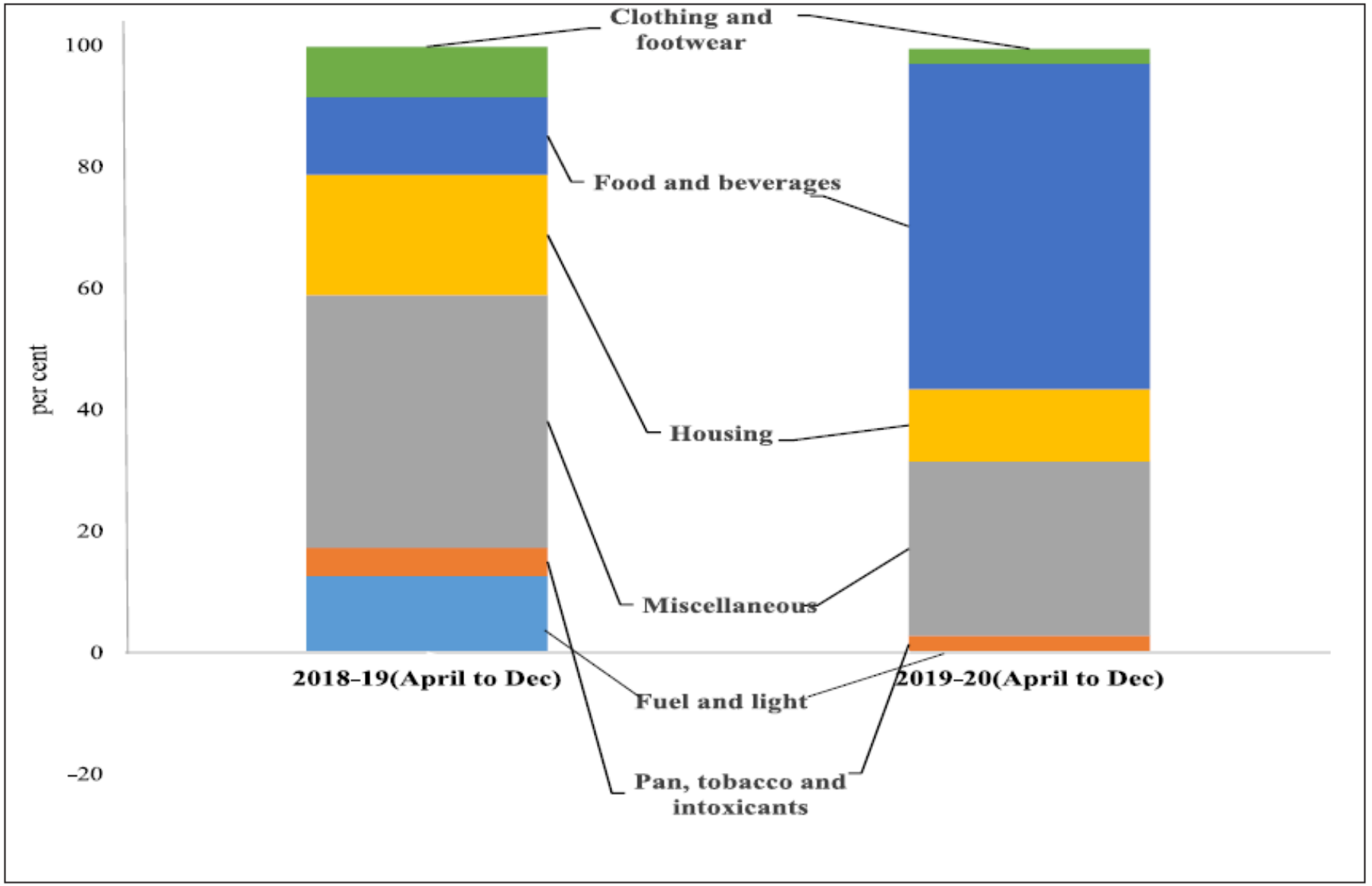
- Crude Oil and Fuel
- Drugs
- Food
- Essential Commodities

Figure 11: Contributions to CPI-C inflation in 2017-18 and 2018-19



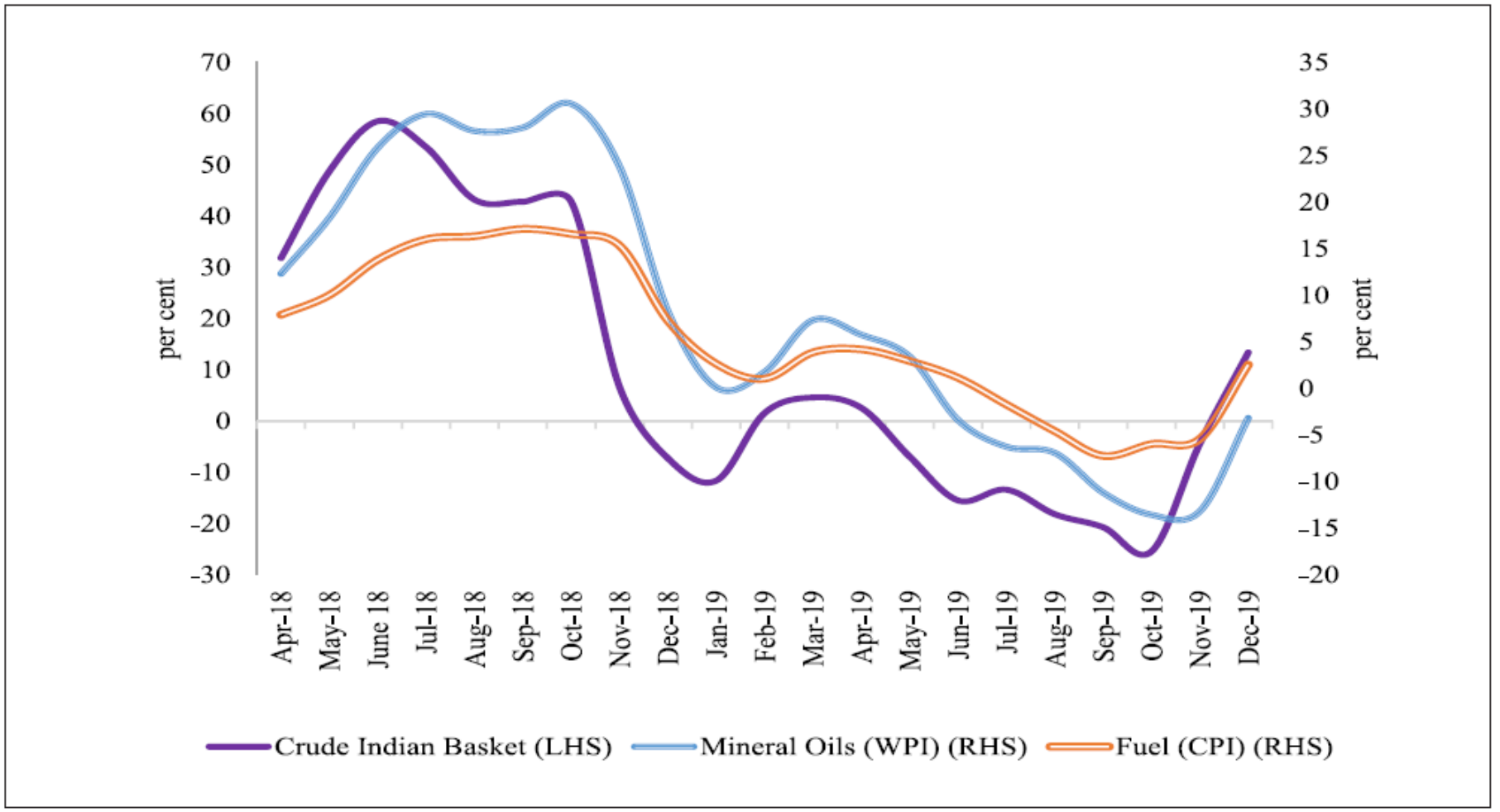
Source: NSO.

Figure 12: Contributions to CPI-C inflation in 2018-19 (April to December) and 2019-20 (April to December)



Source: NSO.

Figure 13: Year-on-year growth in price of Indian Crude Basket, inflation in Mineral oils in WPI and Fuel in CPI-C



Source: CPI data from NSO, Price of Indian Crude Basket from Petroleum Planning and Analysis Cell and WPI data Office of Economic Adviser, DPIIT; Survey calculations.

Note: Inflation for fuel in CPI has been calculated based on LPG, kerosene, diesel, other fuel, petrol for vehicle, diesel for vehicle, lubricants & other fuels for vehicle.

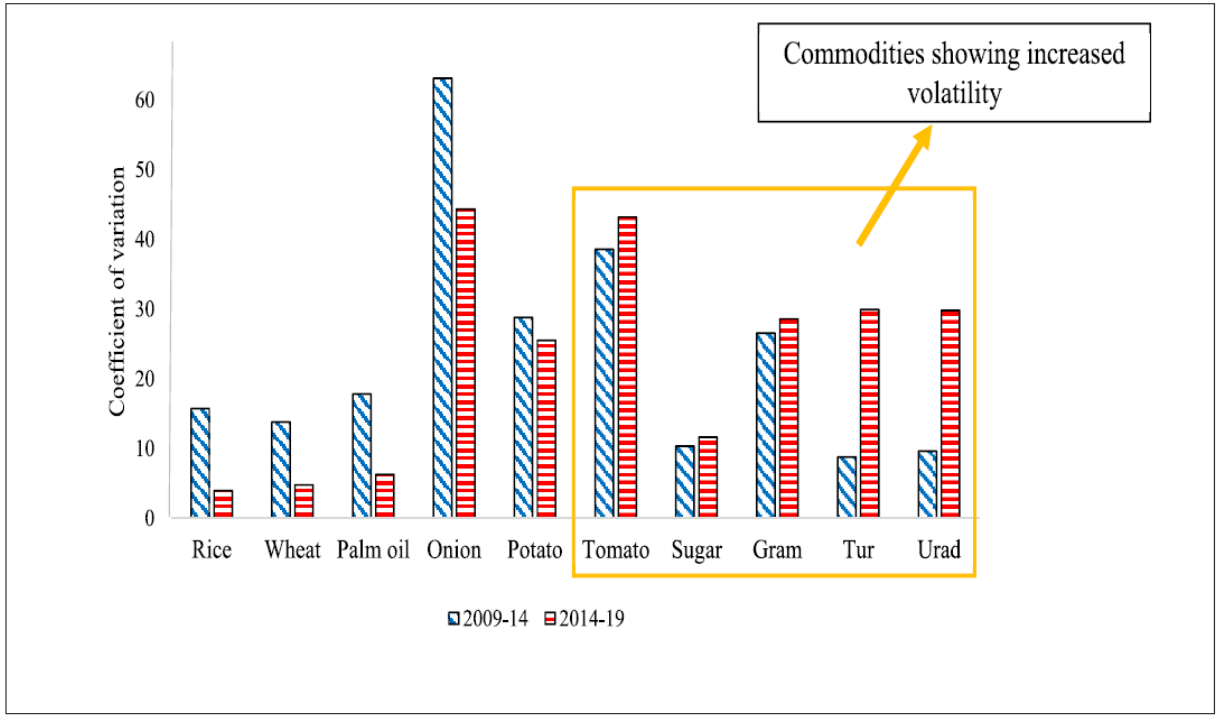
FOOD INFLATION HAS BEEN THE MAJOR DRIVER OF INFLATION DURING THE CURRENT FINANCIAL YEAR, 2019-20.

- Some commodities such as onion, tomato and pulses have shown high inflation since August 2019.
- Reason: Untimely Rains and demand supply mismatch (Onion and Tomato)
- Pulses: the progress in sowing has been at much lower levels than in the previous year.
- The Cobweb Phenomenon: Pulses
- "Price fluctuations can lead to fluctuations in supply which cause a cycle of rising and falling prices."
- Farmers base their sowing decisions on prices witnessed in the previous marketing period.
- So, if the farmer observes a higher price for a specific crop in period 't-1', he would opt to produce more of it in period 't'.
- However, if the production of the crop exceeds market demand, prices fall in period 't', signaling farmers to produce less of the commodity in period 't+1'
- Solution:
- Strengthening procurement by government agencies
- Increasing openness of external trade
- Stabilizing the prices,
- Reducing transportation cost for farmers by linking them via better roads and effective marketing channels
- So that production as well as net availability of pulses can be increased thus, leading to improvement in supply of pulses.

VOLATILITY IN ESSENTIAL COMMODITY PRICES

- Wholesale price volatility was analyzed for various essential commodities over two time periods i.e. 2009-14 and 2014- 19 by using Coefficient of variation which looks at the dispersion of data points in a data series around the mean.
- Prices of rice and wheat remained stable since 2014 due to adequate supply arising out of enough domestic production and due to maintenance of adequate buffer stock for meeting the food security requirements.
- It may be seen that overall price volatility was highest for vegetables and lowest for rice, wheat and palm oil. There was a significant rise in volatility for pulses, sugar and tomatoes during 2014 - 2019.

Figure 21: Coefficient of variation of various essential agricultural commodities



Source: PMC, Department of Consumer Affairs.

DIVERGENCE IN RETAIL AND WHOLESALE PRICES FOR ESSENTIAL AGRICULTURAL COMMODITIES

- A divergence between the retail and wholesale price of various essential commodities was observed in the four metropolitan cities of the country over the period 2014 to 2019.
- A price wedge1 of 10 to 15 per cent per kg is not excessive if one compares this with the marketing costs and margins (Sharma & Pramod, 2001)
- In 2019 the margins are excessive for some of the commodities, and for all the commodities the margins are highest in Delhi and Mumbai.
- The reasons for such a high spread could be due to several reasons such as high transaction costs, weak infrastructure and information systems, poor marketing facilities, huge margins of middleman etc.
- Transaction costs in the northern states of the country are high compared to other States (Sharma & Pramod, 2001).
- Another possible reason for this could be asymmetry in the transmission of price signals from wholesale to retail prices and vice versa, this can happen due to action of intermediaries.
- Therefore, to reduce the wedge it is important that market barriers and structural rigidities in the system that lead to higher transaction costs are removed.

SHIFT IN INFLATION DYNAMICS

- Given the falling trend in inflation in the recent years, it is pertinent to ask whether there has been a shift in the inflationary process.
- It has been generally believed that, food and fuel inflation in India have had strong secondary effects leading to persistence in household inflation expectations.
- This feeds into core inflation and therefore prolongs the effects on headline inflation (Anand et. al, 2014; Raj and Misra, 2011).
- One way to check for the presence of secondary effects is to look at the swiftness with which headline inflation converges to core inflation after the occurrence of a food or fuel price shock.
- If headline inflation does not completely revert back to core inflation within a reasonably short span of time, it may indicate the presence of strong secondary effects.
- The reversion of headline inflation to core inflation has considerable implications for the conduct of monetary policy in an inflation targeting framework.
- In an economy with strong secondary effects, monetary policy may have to be tighter in an event of a food or fuel price shock compared to an economy where such effects are minimal.

- It was observed that from 2012, there is convergence of headline towards core inflation as per the CPI-C data.
- The analysis for monthly CPI-C inflation data between January 2012 and November 2019 was done.
- The following commonly used equation to test for reversion of headline to core inflation was estimated:

$$\pi_t^{Headline} - \pi_{t-12}^{Headline} = \alpha_1 + \beta_1(\pi_{t-12}^{Headline} - \pi_{t-12}^{Core}) + e_t$$

where, $\pi_t^{Headline}$ is the headline CPI-C inflation at time point t, $\pi_{t-12}^{Headline}$ is the headline CPI-C inflation 12 months prior to t and π_{t-12}^{Core} is the core inflation 12 months prior to t.

- The results (Table 6) indicate that there is evidence of strong reversion of headline inflation to core inflation.
- The slope for the regression for the period is negative and close to -1, indicating complete reversion of headline inflation to core within a period of 12 months.
- A similar regression to test for the reversion of core to headline inflation does not provide evidence for the same (Table 6). This implies that secondary effects from non-core components to core components are minimal.
- Hence, monetary policy need not become tighter in face of short-term, transitory price shocks in non-core components.
- However, owning to the large weightage of food and fuel in the consumption basket of consumers in India and the fact that demand-side pressures (and not just supply-side factors) are important for food and fuel inflation-focus on headline inflation for monetary policy decisions may be warranted.

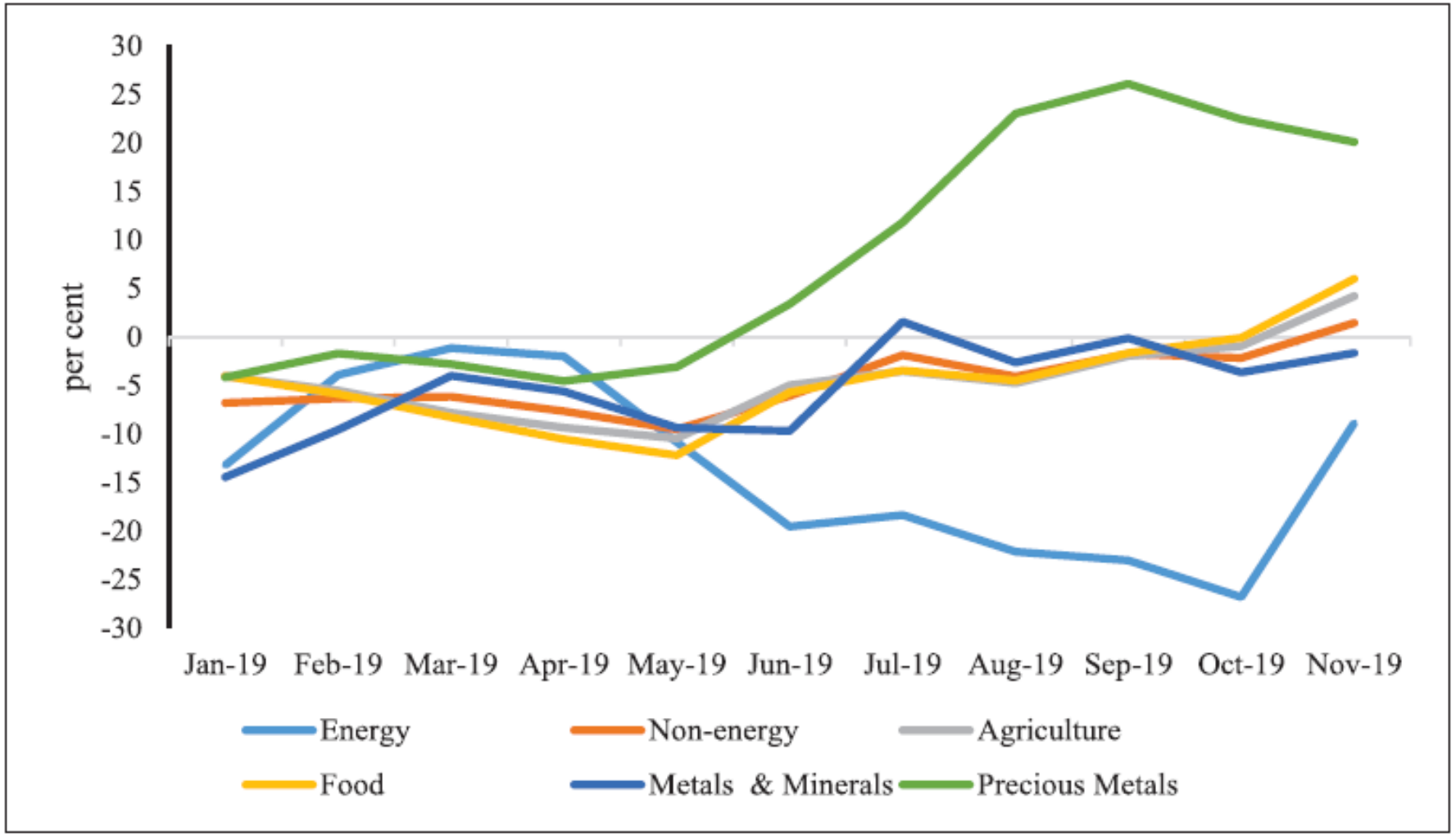
Table 6: Testing for reversion of CPI-C Headline to Core inflation

January 2012 to November 2019			
Dependent Variable: $\pi_t^{Headline} - \pi_{t-12}^{Headline}$			
	Slope Coefficient	**p-value for F statistic**	**R^2**
$\pi_{t-12}^{Headline} - \pi_{t-12}^{Core}$	-0.96***	0.000	0.47
Dependent Variable: $\pi_t^{Core} - \pi_{t-12}^{Core}$			
$\pi_{t-12}^{Headline} - \pi_{t-12}^{Core}$	-0.045	0.6865	0.002

*** p<0.01, ** p<0.05.

- Two major factors could have contributed to the changing dynamics of inflation in India.
- First, it was observed that food inflation has seen a declining trend during the period under consideration.
- The decline in inflation has been witnessed in most categories of food group including those with a high weightage such as cereals and products, fruits, vegetables and pulses and products.
- Second, inflation expectations have been declining since 2015.
- This could be partly because of the success of inflation targeting approach of monetary policy adopted by RBI in anchoring inflation expectations.
- On the other hand, household inflation expectations are known to move closely with food inflation.
- The fall in food inflation during this period could have had the effect of reducing the overall inflation expectations of the households.
- This is also reflected in the fact that proportion of the households expecting the prices of food products for one year ahead to increase has fallen consistently between September 2013 and November 2019.
- As per the commodity prices published by the World Bank, energy commodity prices have shown a decreasing trend in 2019-20 (April-November).
- They recorded average inflation of (-)16.8 per cent in 2019-20 (April-November) as compared to 35.5 per cent in 2018-19 (April-November).
- In terms of food prices, the deflationary trend continued with inflation of (-)4.3 per cent in 2019-20 (April-November) compared to 0.3 per cent in 2018-19 (April- November).
- The metals and minerals index also showed a deflationary trend, indicative of the gloomy global economic scenario prevalent during the year (Figure 31)

Figure 31: Inflation trend in global commodity prices (Jan 2019-Nov 2019)



Source: World Bank.

MEASURES TO CONTAIN PRICE RISE OF ESSENTIAL COMMODITIES

Government takes various measures from time to time to stabilize prices of essential food items

These include utilizing trade and fiscal policy instruments like import duty, Minimum Export Price, export restrictions, imposition of stock limits and advising States for effective action against hoarders & black marketers etc. to regulate domestic availability and moderate prices.

It incentivizes farmers by announcing Minimum Support Prices for increasing production and is implementing Schemes such as the Mission for Integrated Development of Horticulture (MIDH), National Food Security Mission (NFSM), National Mission on Oilseeds and Oil Palm (NMOOP), etc. for increasing production and productivity through appropriate interventions.

The Government is also implementing Price Stabilization Fund (PSF) to help moderate the volatility in prices of agri-horticultural commodities like pulses, onion, and potato.

For example, when onion prices saw a hike during 2019-20 starting from August, 2019, and various measures were taken by the Government to ease the situation which included:

Buffer stock of 57,373 metric tonnes (MT) was created under Price Stabilization Fund (PSF) which was distributed to various State Governments, other agencies and sold in various mandis through open auction.

Onions were supplied to State Governments at no-profit no-loss basis to improve prices and availability situation.

Onions were supplied from the buffer stock for direct retailing in Delhi-NCR through Mother Dairy, NCCF, NAFED and Govt. of NCT of Delhi at regulated retail rates to ensure availability of onions at reasonable prices.

The benefit to exporters of onions under Merchandise Exports from India Scheme (MEIS) was withdrawn w.e.f. 11th June 2019 so as to discourage exports and subsequently its export was banned by Government on 29th September 2019 in view of its continued high prices.

Government, imposed stock limits on wholesale traders across the country under the Essential Commodities Act, 1955.

Further, Government of India urged State Governments to hold regular meetings with the traders of Onions at State and District level to prevent hoarding, speculative trading and profiteering, unfair and illegal trade practices like cartelling, etc.

Facilitated private imports of onions by relaxing its fumigation norms and exempting importers from stock limits.

THANK YOU

-Anushruti