

Economy

Deep dive into CPI data reveals easing supply constraints, narrowing price pressures

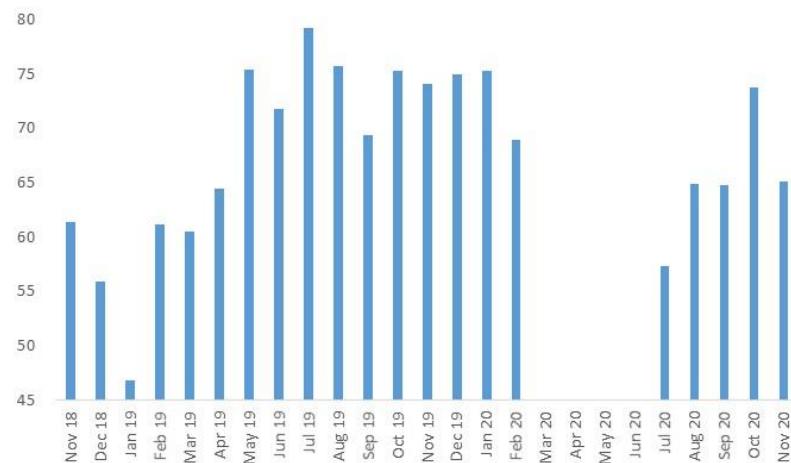
- ▶ **CPI inflation has remained above 6% for almost a year...:** CPI inflation has remained above the upper limit of MPC's target range of 6% since Dec '19, with the sole exception of Mar '20. The latest inflation print for Nov '20 came in at 6.93%, surprising us and the street on the lower side. Despite the lower-than-expected number, CPI inflation in the first nine months of FY21 now stands at 6.9%.
- ▶ **...leading to fears of generalisation of price pressures:** Persistently high inflation has led to concerns that it could cause generalisation of price pressures. Recently, the RBI also warned that generalised inflationary pressures pose a serious threat to evolving macroeconomic outlook.
- ▶ **However, Diffusion Index shows price pressures are getting concentrated in fewer items:** Our analysis of Diffusion Index, which calculates percentage of items recording price increase vs price decrease, shows fears of generalisation of price pressures don't have any merit. On the contrary, price pressures are getting concentrated in fewer items now compared to last year. This is evident from the fact that during Jul-Nov '20, Diffusion Index averaged 65 (indicating only 65% of CPI basket has recorded price increases), sharply down from 75 in the corresponding period last year.
- ▶ **Trimmed Means measures of inflation further confirm the finding:** Moreover, Trimmed Means inflation measures also confirm this finding. Our analysis shows Trimmed Means inflation measures fell sharply in Nov '20. In sequential terms, 5%, 10% and 20% TM inflation fell 58bps, 56bps and 41bps, respectively. This is the sharpest sequential fall since Jul '15. Also, since Jun '20, the gap between headline inflation and TM inflation measures has been consistently widening, further indicating the fact that price pressures are getting concentrated in increasingly fewer items.
- ▶ **Contribution of perishables, services to headline inflation falling...:** In the recent months, perishables inflation has started coming down YoY. During Oct-Nov '20, share of perishables inflation in headline inflation stood at 52%, sharply down from 60% in Oct-Nov '19. Similarly, the share of services in headline inflation fell to 15% during Oct-Nov '20 from 22% during Oct-Nov '19. This indicates possible normalisation of supply chains and near-normal resumption of service sector.
- ▶ **...leading to a corresponding increase in share of durables:** The share of semi-perishables (22% in Oct-Nov '20 vs 9% in Oct-Nov '19) and durables (10% in Oct-Nov '20 vs 8% in Oct-Nov '19) has correspondingly increased, possibly indicating pent-up demand is entering the market and restocking by households.

CPI inflation has remained above 6% since Dec '19, with the sole exception of Mar '20. Persistently high inflation has sparked fears of un-anchoring of household inflation expectations and broad-based price increases. In the Oct '20 Monetary Policy Report, the RBI cautioned that rising oil prices, supply chain disruptions, and heightened volatility in financial markets could have a bearing on inflation. It further added that monetary policy has to keep a constant vigil on price movements, especially as it can 'translate into generalised inflation.'

Diffusion Index refutes fears of generalisation of price pressures

In the recent past, many voices have warned about generalisation of price increases after almost a year of over 6% inflation. To assess whether inflationary pressures are generalising or not, we construct CPI Diffusion Index based on all 299 items in the CPI basket. Our analysis shows that despite high and rising inflation, dispersion of price pressures is getting narrower. This implies that price pressures are getting concentrated in fewer items.

Chart A: CPI Diffusion Index



Source: Mospi, I-Sec research. Since Diffusion Index is based on month-on-month inflation, there is no data for Jun '20 as detailed inflation data for 299 items is not provided by Mospi for Mar – May '20.

Chart A shows that during FY20, Diffusion Index averaged 73¹. This implies that during the year, 73% of the CPI basket recorded rising prices. However, during Q2FY21 Diffusion Index averaged 62, indicating the dispersion of price pressures was significantly lower compared to a year earlier. While in Oct '20 Diffusion Index increased to 74, it again fell to 65 in Nov '20. During Jul-Nov '20 it has averaged 65, sharply down from 75 in the corresponding period of last year.

Hence, Diffusion Index proves that fears of generalisation of price pressures do not have any merit. On the contrary, price pressures are getting concentrated in fewer items now compared to last year.

¹ We are excluding Mar '20 from the calculation since there is no detailed CPI data available for the month.

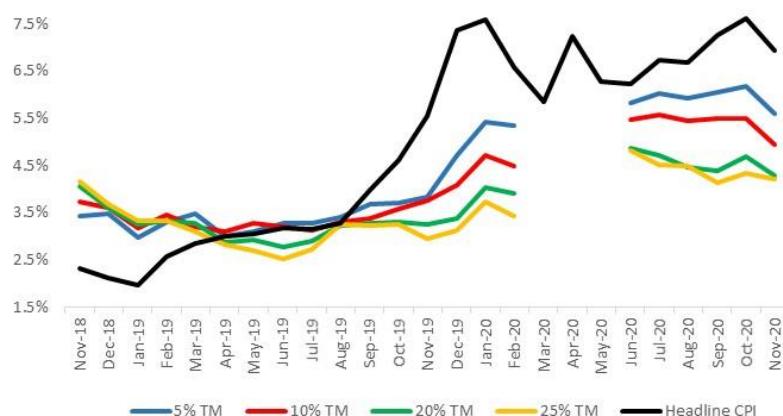
Trimmed Means inflation confirms the disproportionate contribution by fewer items

To validate the findings of Diffusion Index that current price pressures are concentrated in fewer items, we turn to Trimmed Means inflation measures. Trimmed Means (TM) measures calculate core inflation by removing inflation outliers. E.g. 5% TM measure removes 15 items (5% of 299 CPI items) with highest inflation rates and 15 items with lowest inflation rates. Similarly, 10% TM measure removes 30 items with highest and 30 items with lowest inflation rates.

Since Trimmed Means measures exclude outliers, they have less noise compared to headline inflation and exclusion-based core inflation numbers.

Our analysis shows Trimmed Means inflation measures fell sharply in Nov '20. In sequential terms, 5%, 10% and 20% TM inflation fell 58bps, 56bps and 41bps, respectively. This is the sharpest sequential fall since Jul '15. Also, since Jun '20, the gap between headline inflation and TM inflation measures has been consistently widening, further indicating the fact that price pressures are getting concentrated in increasingly fewer items.

Chart B: Trimmed Means inflation measures



Source: Mospi, I-Sec research

To understand which items are driving TM measures lower, let us look at some of the most common outliers (i.e. items with highest and lowest inflation rates) during Jun '20 an Nov '20.

Table 1: Inflation outliers excluded from TM measures

	Items with lowest inflation rates	Items with highest inflation rates
Jun '20 to Nov '20	Cinema, other entertainment, private tuition, food items (ginger, lemon, garlic) kerosene by PDS, headwear etc.	Air fare, gold, silver, potato, pulses (urad, moong, masoor), meat (chicken & mutton), intoxicants (beer, foreign liquor, toddy), monthly maintenance charges etc.

Source: Mospi, I-Sec research

An interesting case in point is 'goods for recreation and hobbies.' During Jun '20 to Oct '20, the item was excluded from 10% TM consistently, although for different reasons. In Jun '20 and Jul '20 (i.e. Unlock 1.0 and Unlock 2.0), 'goods for recreation and hobbies' recorded one of the lowest inflation rates within the basket. However, during Aug '20 to Oct '20 (Unlock 3.0, Unlock 4.0, Unlock 5.0), it recorded one of the highest inflation rates in the basket. Hence, during the first two months of the Unlock, it was an outlier due to very low inflation, while in the subsequent three months of Unlock it was an outlier due to very high inflation.

Perishables inflation is declining, possibly indicating normalisation of supply chains

We normally calculate perishables inflation based on a very narrow basket of milk, meat & fish, eggs, fruits and vegetables. However, we now expand the perishables basket to assess the impact of lockdown measures and the resultant supply disruptions on various categories of inflation. For the same, we use the classification used in Modified Mixed Reference Period (MMRP) in Consumer Expenditure Survey 2011-12. The classification is given in Table 2:

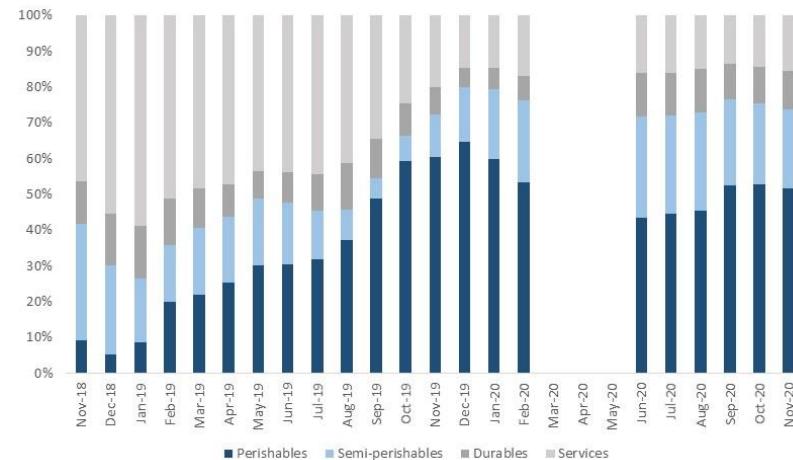
Table 2: MMRP classification, CES 2011-12

Classification	Weight in CPI	Items
Perishables (7-day recall)	34%	Edible oil, eggs, fish, meat, vegetables, fruits, spices, beverages, processed foods, pan, tobacco and intoxicants
Semi-perishables (30-day recall)	32%	All other food, fuel and light, miscellaneous goods and services including non-institutional medical services
Durables (365-day recall)	10%	Clothing, bedding, footwear, education, medical (institutional), durable goods
Services	24%	School/college fees, mobile, internet and cable TV charges, private tuitions etc.

Source: Mospi, I-Sec research

In Chart C, we show contribution of each of these categories to headline inflation:

Chart C: Contribution to headline inflation



Source: Mospi, I-Sec research

Chart C shows the share of perishables in headline inflation started increasing long before Covid-19 pandemic and the subsequent lockdown. Hence, in our opinion, the narrative that lockdown pushed up perishables inflation has flimsy ground. Unfortunately, we do not have data on all 299 items in CPI basket from Mar '20 to May '20. Hence, it is impossible to calculate how perishables inflation based on the CES basket moved during the most stringent phase of the lockdown. However, the data shows that perishables inflation has started coming down YoY. During Oct-Nov '20, share of perishables inflation in headline inflation stood at 52%, sharply down from 60% in Oct-Nov '19. Similarly, the share of services in headline inflation fell to 15% during Oct-Nov '20 from 22% during Oct-Nov '19. This indicates possible normalisation of supply chains and near-normal resumption of service sector. The share of semi-perishables (22% in Oct-Nov '20 vs 9% in Oct-Nov '19) and durables (10% in Oct-Nov '20 vs 8% in Oct-Nov '19) has correspondingly increased, possibly indicating pent-up demand entering the market and restocking by households.

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