04

CHAPTER

Prices and Inflation

Inflation in the country continued to moderate during 2017-18. CPI based headline inflation averaged 3.3 per cent during April-December 2017-18, the lowest in the last six financial years. The significant reduction in food inflation, particularly of pulses and vegetables, moderated the general inflation. The average food inflation fell to 1.2 per cent during April-December 2017-18. Core inflation too declined during this period. Many States witnessed reduction in inflation across rural as well as urban areas during the year.

INTRODUCTION

4.1 The economy witnessed a gradual transition from a period of high and variable inflation to more stable prices in the last four years. Headline inflation measured by the Consumer Price Index (CPI) has remained under control for the fourth successive year. Financial year (FY) 2017-18 began with an annual inflation rate of 3.0 per cent. In the first two quarters of FY 2017-18, there was a moderate increase in prices, resulting in a low level of inflation of 2.2 per cent in quarter one and 3.0 per cent in quarter two. Headline inflation rate reached its series low of 1.5 per cent in the month of June 2017. Food inflation measured by the Consumer Food Price Index (CFPI) declined to a low of 1.2 per cent during the FY 2017-18 (April-December).

4.2 The average inflation based on the new series (2011-12) of Wholesale Price Index (WPI) stood at 1.7 per cent in 2016-17 compared to (-)3.7 per cent in 2015-16 and 1.2 per cent in 2014-15. WPI based inflation for FY 2017-18 (Apr-Dec) stood at 2.9 per cent. Inflation based on the major series of the price indices for the last six years is given in Table 1 and the movement of WPI and CPI inflation since April 2014 is at Figure 1.

Table 1 : General inflation based on different price indices (per cent)

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (Apr-Dec)*
WPI	6.9	5.2	1.2	- 3.7	1.7	2.9 (P)
CPI (combined)	10.2	9.5	5.9	4.9	4.5	3.3 (P)
CPI (IW)	10.4	9.7	6.3	5.6	4.1	2.3#
CPI (AL)	10.0	11.6	6.6	4.4	4.2	2.0#
CPI (RL)	10.2	11.5	6.9	4.6	4.2	2.1#

Source: **Department of Industrial Policy and Promotion (DIPP) for WPI, Central Statistics Office (CSO) for CPI (combined) and Labour Bureau for CPI (IW), CPI (AL) and CPI (RL).**

Notes: **CPI (combined) inflation for 2012-13 and 2013-14 is based on old series 2010=100;**

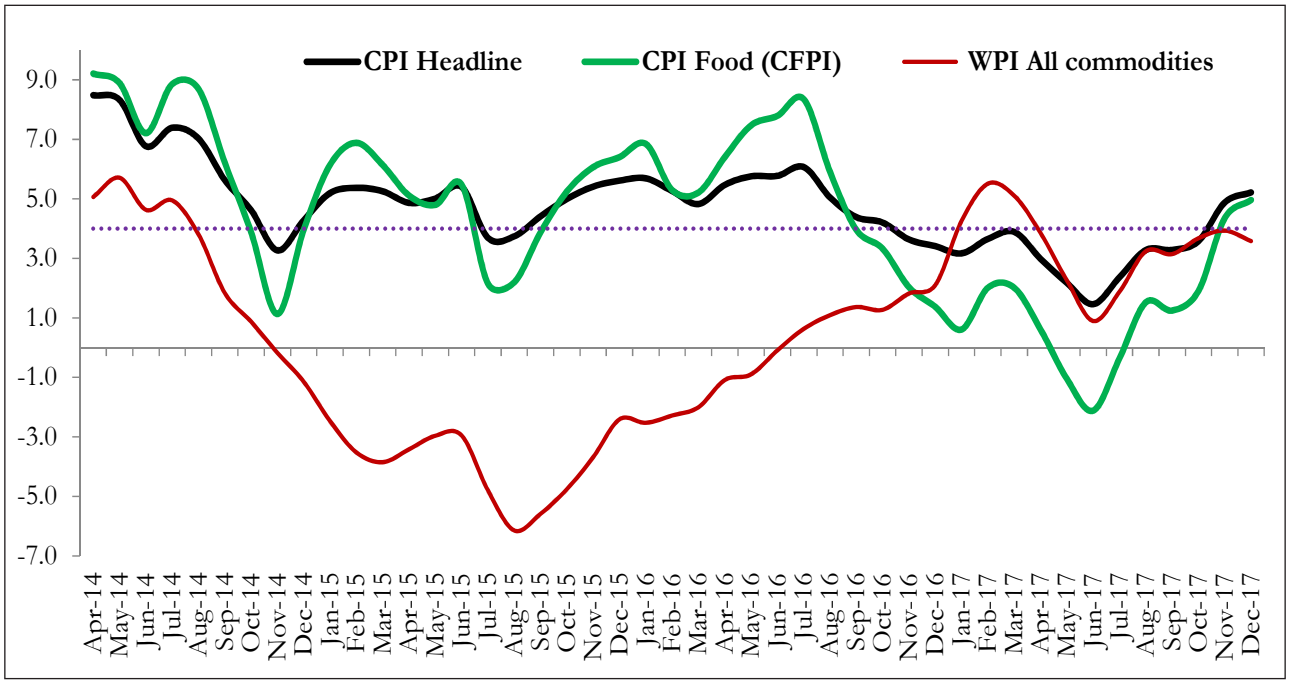
P - Provisional;

 # - For period 2017-18 (April - November);

IW stands for Industrial Workers, AL stands for Agricultural Labourers and RL stands for Rural Labourers;

*** - Inflation during April to December (Apr-Dec) 2017 is percentage change in average of monthly index for nine months from April to December 2017 over average of monthly index for nine months from April to December 2016.**

Figure 1 : Inflation based on WPI and CPI (per cent)



CURRENT TRENDS IN INFLATION

4.3 The average CPI-combined (CPI-C) inflation declined to 4.5 per cent in 2016-17 from 4.9 per cent in 2015-16 and 5.9 per cent in 2014-15. Average inflation for FY 2017-18 (Apr-Dec) stood at 3.3 per cent, below the threshold of 4 per cent. The decline in the inflation in the first half of the current fiscal year was indicative of a benign food inflation which ranged between (-)2.1 to 1.5 per cent. The moderate inflation rate of less than 4 per cent was maintained for straight 12 months up to the end of October 2017 (Figure 1). The CPI-C inflation for the month of December, 2017 stood at 5.2 per cent as compared to 4.9 per cent in November, 2017 and 3.4 per cent in December, 2016.

4.4 Food Inflation: Good agricultural production coupled with regular price monitoring by the Government helped to contain inflation, especially food inflation. CFPI declined to 4.2 per cent in 2016-17 from 4.9 per cent in 2015-16 and 6.4 per cent in 2014-15. Average food inflation for the financial year 2017-18 (Apr- Dec) declined to a low of 1.2 per cent and stood at 5.0 per cent in December, 2017. The rise in food inflation in recent months is mainly due to factors driving prices of vegetables and fruits. Though decline in food inflation is broad-based, major drivers are meat & fish, oil & fats, spices and pulses & products. Pulses & products sub-group with a weight of 2.4 in CPI-C has recorded inflation of (-)22.1 per cent in FY 2017-18 (Apr- Dec) as compared to 16.2 per cent during the same period last year. Vegetables accounting for 6.04 weight in overall CPI-C recorded inflation of 2.4 per cent during 2017-18 (Apr- Dec).

4.5 Food inflation based on WPI has also declined, it averaged 2.3 per cent in FY 2017-18 (Apr-Dec) as compared to 6.3 per cent in FY 2016-17 (Apr- Dec). WPI of Food Articles and Food Products has also shown decline in FY 2017-18 (Apr- Dec) over the corresponding period of the previous FY. WPI Food inflation stood at 2.9 per cent in December, 2017 as compared to 4.1 per cent in November, 2017 and 3.6 per cent in December, 2016.

Table 2 : Inflation in selected groups of CPI-C - Base 2012 (per cent)

Description	Weight	2016-17	2017-18 (Apr-Dec)	Dec-16	Nov-17	Dec-17 (P)
All Groups	**100**	**4.5**	**3.3**	**3.4**	**4.9**	**5.2**
CFPI*	**39.1**	**4.2**	**1.2**	**1.4**	**4.4**	**5.0**
Food & beverages	45.9	4.4	1.7	2.0	4.4	4.9
Cereals & products	9.7	4.2	3.9	5.3	3.3	2.6
Milk & products	6.6	4.1	4.2	4.4	4.3	4.4
Vegetables	6.0	-2.2	2.4	-14.6	22.5	29.1
Pulses & products	2.4	9.3	-22.1	-1.6	-23.6	-23.5
Fuel & Light	6.8	3.3	6.0	3.8	8.2	7.9
CPI excl. food and fuel group (Core)	47.3	4.8	4.5	4.9	4.9	5.2

Source: **CSO** **P: Provisional** *** Consumer Food Price Index**

Table 3 : Inflation in selected groups of WPI- Base 2011-12 (per cent)

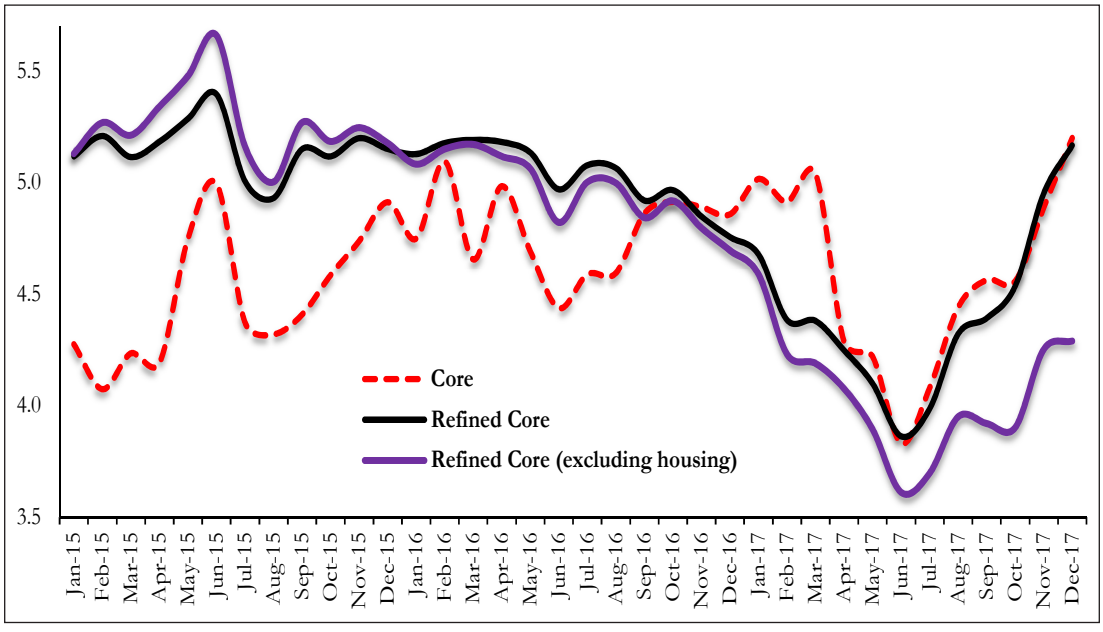
Description	Weight	2016-17	2017-18 (Apr-Dec)	Dec-16	Nov-17 (P)	Dec-17 (P)
All Commodities	**100**	**1.7**	**2.9**	**2.1**	**3.9**	**3.6**
Food Index	**24.4**	**5.8**	**2.3**	**3.6**	**4.1**	**2.9**
Food articles	15.3	4.0	2.3	0.1	6.1	4.7
Cereals	2.8	8.7	0.9	9.9	-2.1	-3.0
Pulses	0.6	17.6	-27.5	14.8	-35.5	-34.6
Vegetables	1.9	-5.3	19.3	-26.9	59.8	56.5
Fruits	1.6	6.0	3.6	0.6	4.2	12.0
Food products	9.1	9.5	2.3	10.7	0.5	-0.2
Fuel & power	13.2	-0.2	9.7	4.2	8.8	9.2
Non-Food manufactured products (Core)	55.1	-0.1	2.6	1.0	3.0	3.2

Source: **DIPP** **P: Provisional**

4.6 Core Inflation: While significant moderation has been witnessed in the headline and food inflation, the CPI based core[1] inflation has remained above 4 per cent during the last four financial years. However, it has declined from 4.8 per cent in FY 2016-17 (Apr-Dec) to 4.5 per cent in FY 2017-18 (Apr- Dec) and was 5.2 per cent in December, 2017 (Figure 2). Refined core[2] is moving very close to core since the beginning of FY 2017-18, it declined to 4.4 per cent in FY 2017-18 (Apr- Dec) from 5.0 per cent in FY 2016-17 (Apr- Dec). Movements of refined core (excluding housing)[3] track the refined core. However, during the current financial year, the wedge between the two has grown following the implementation of the revised house rent allowance for central government employees based on the recommendation of the 7th Central Pay Commission. Refined core (excluding housing) declined to 4.0 per cent in FY 2017-18 (Apr- Dec) from 4.9 per cent in FY 2016-17 (Apr-Dec) and stood at 4.3 per cent in December 2017.

[1] CPI excluding food and fuel group.
[2] CPI excluding food and fuel group, petrol & diesel.
[3] CPI excluding food, fuel group, petrol, diesel and housing group.

Figure 2 : CPI-C based Core Inflation (per cent)



Box 4.1 : Producer Price Index

The Government had set up a Working Group under the Chairmanship of Professor B. N. Goldar on 21st August, 2014 to suggest the methodology for introducing Producer Price Index (PPI) in India. The Working Group submitted its report on 31.08.2017. The major recommendations of the Working Group on Producer Price Index are as follows:

(i) PPI in India may be compiled based on Supply Use Table 2011-12 using Total Final Use values for higher level weights. Initially indices based on Total Final Use weights should be compiled separately for goods and services. Aggregate index based on goods and services may be compiled and released once the coverage of service sector indices is adequate and the sector-wise indices are robust and stable.

(ii) Two separate sets of input PPIs may be compiled - one including services and the other excluding services.

(iii) An additional set of output PPI based on Final Demand and Intermediate Demand framework may also be compiled for the benefit of the users.

(iv) The PPIs may be initially compiled on an experimental basis and switching over from WPI to PPI should be undertaken after the PPI series stabilizes and due consultation with the stakeholders is done.

(v) For compilation of experimental PPI, price quotations collected for current series of WPI may be used.

(vi) The experimental PPI will be released on monthly basis. Initially, the base year of the experimental PPI would be 2011-12.

(vii) The Working Group recommended inclusion of 15 services in the PPI basket to begin with. The coverage of service sector may be extended to all key sectors on an urgent basis during the experimental phases of PPI.

The Producer Price Index (PPI) measures the average change in the prices of goods and services, either as they leave the place of production called Output PPI or as they enter the production process called Input PPI. Thus, the output indices measure the average change in prices that producers receive for their outputs while the input indices measure the average change in prices that producers pay for their inputs. PPI contrasts with other measures such as the Consumer Price Index (CPI) which measures changes in prices from buyers or consumers perspective.

The Wholesale Price Index (WPI) basket tracks prices of bulk transactions at first stage of all intermediate and final products. Inherent drawback of the aggregate basket of WPI without appropriate segregation of intermediate and final products involves multiple counting which can lead to bias in measures of inflation. Multiple counting occurs when the price for a specific commodity and the inputs used for its production are included in an aggregate index. PPIs significantly reduce the distortion arising from multiple counting by deriving weights from Supply Use Table compiled by the CSO. Further, the scope of PPI extends to services which are not presently covered under WPI. The

benefits of migrating from WPI to PPI are to cover bulk transactions of all goods and services, do away with the bias of double counting inherent in WPI and to compile indices that are conceptually consistent with the National Accounts Statistics (NAS) for use as deflators.

The complete report of the Working Group may be accessed from the website of Office of Economic Advisor at *http://eaindustry.nic.in/PPI_Final_Report.pdf*.

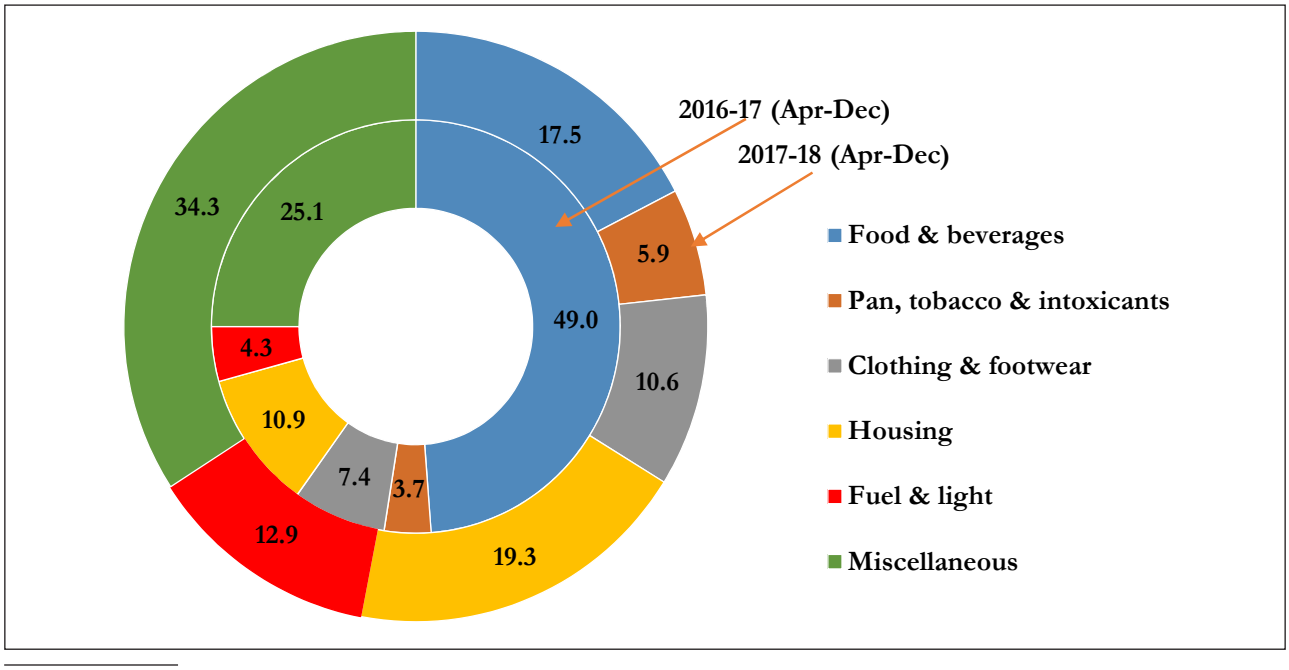
DRIVERS OF INFLATION

4.7 At the all India level, CPI-C inflation was driven mainly by food during FY 2016-17 (Apr-Dec). The miscellaneous[4] group has contributed the most to it during the current FY 2017-18 (Apr-Dec) (Figure 3). As can be seen in Figure 6, goods inflation (weight of 76.6% in CPI-C) is rising since June 2017 while services (with weight of 23.4%) inflation has remained around 5 per cent. Housing group contributed nearly twice as much to inflation in 2017-18 (Apr- Dec) as compared to 2016-17 (Apr- Dec). Excluding housing, services inflation declined to 3.8 per cent in 2017-18 (Apr- Dec) from 5.0 per cent during the corresponding period last financial year. Contribution of fuel and light group in CPI inflation in 2017-18 (Apr- Dec) was thrice of that in 2016-17 (Apr- Dec).

4.8 While food was the main driver of CPI (Rural) inflation in 2016-17 (Apr- Dec), miscellaneous category contributed the most to inflation in rural areas during April-December of the current financial year. The contribution of fuel and light, clothing and footwear and pan, tobacco and intoxicants categories in CPI (Rural) inflation has risen during April to December, 2017 over the same period last year (see Figure 4).

4.9 In urban areas, while food was the main driver of inflation during April-December last year, housing sector has contributed the most to CPI (Urban) inflation during April-December in the current financial year, followed by miscellaneous category (see Figure 5).

Figure 3 : Contribution to CPI (Combined) inflation 2016-17 (Apr-Dec) and 2017-18 (Apr- Dec)



4 Miscellaneous group (weight of 28.32 % in CPI - C) includes household goods & services, health, transport & communication, recreation and amusement, education and personal care and effects.

Figure 4 : Contribution to CPI (Rural) inflation 2016-17 (Apr- Dec) and 2017-18 (Apr- Dec)

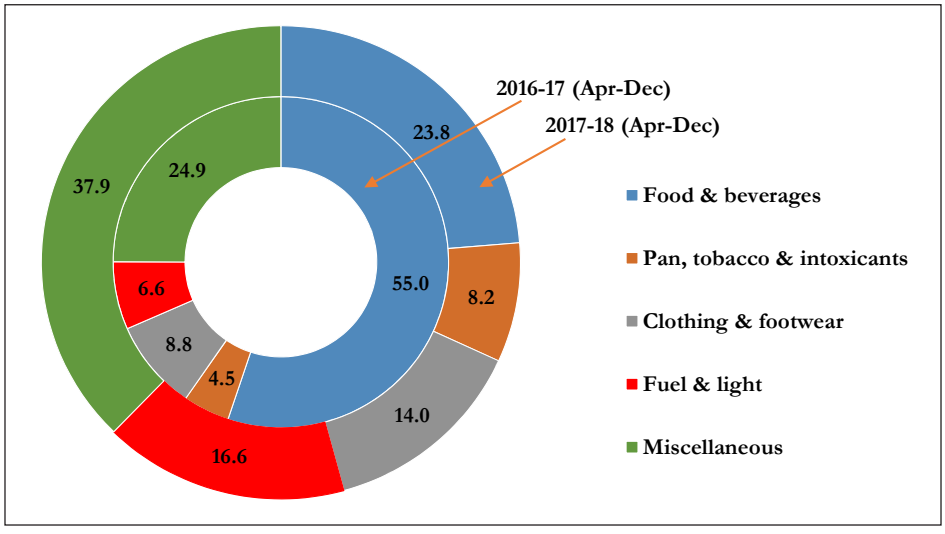


Figure 5 : Contribution to CPI (Urban) inflation 2016-17 (Apr- Dec) and 2017-18 (Apr- Dec)

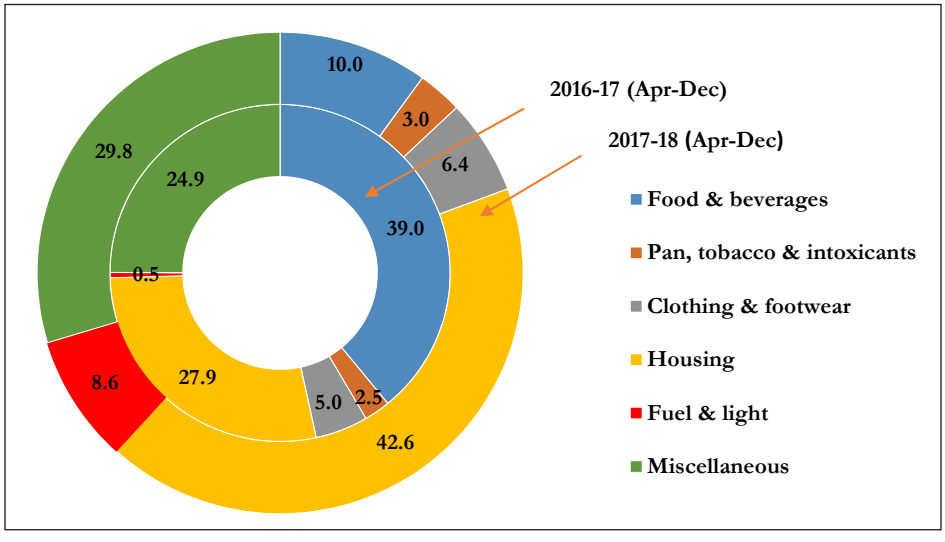
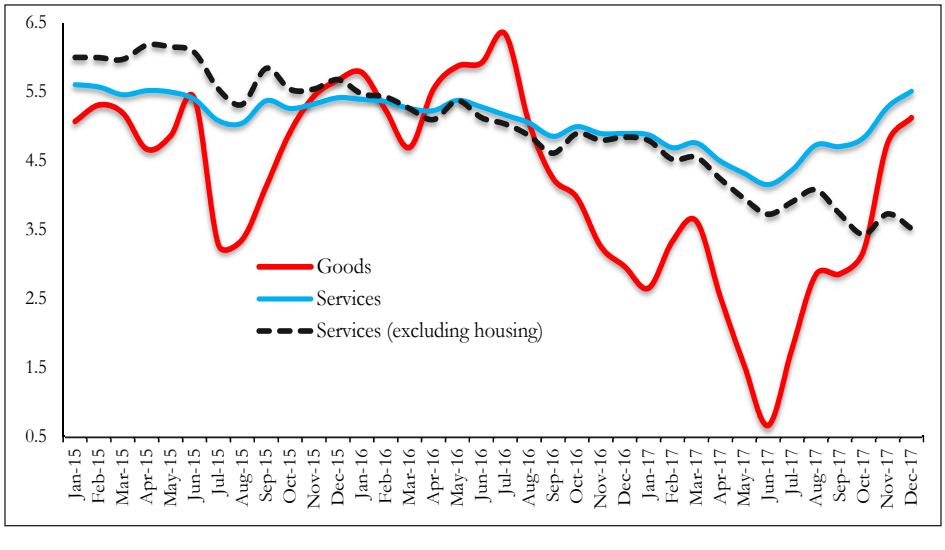


Figure 6 : CPI inflation in goods and services (per cent)

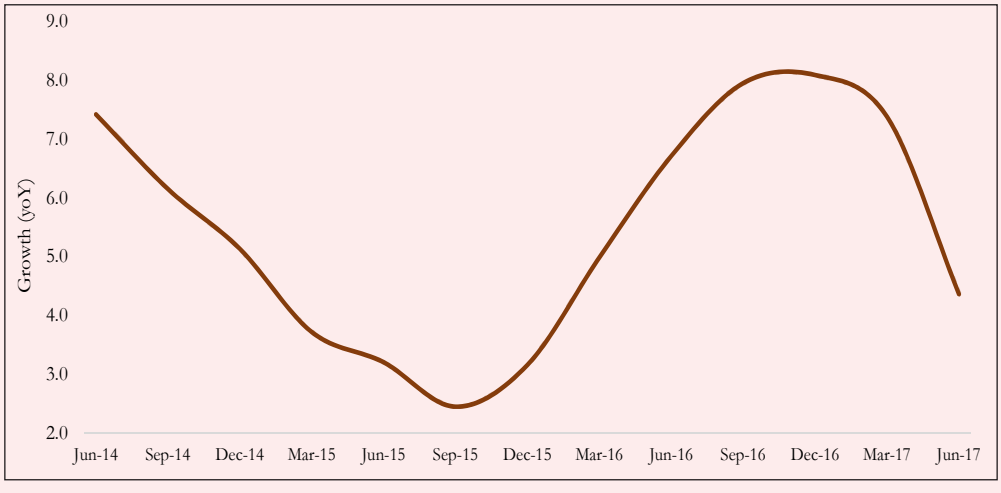


Box 4.2 : Housing Price Index

The Housing Price Indices (HPIs) are a broad measure of movement of residential property prices observed within a geographic boundary. The first official housing price index for the country named 'NHB RESIDEX' was launched in July, 2007 by the National Housing Bank (NHB). Overtime, the base year has been revised to FY 2012-13 to ensure capturing the latest information and accurately reflect the current economic situation in the country. Currently, National Housing Bank is publishing NHB RESIDEX for 50 cities on quarterly basis with FY 2012-13 as base year. Among 50 cities covered are 18 State/UT capitals and 37 Smart Cities.

NHB is not computing the composite all India housing price index as of now. Using population proportion as weights, an all India index as weighted average of city indices has been computed in-house (Figure 1). The figure shows that the rate of growth in housing prices at All India level has started to decline from the quarter ending December, 2016. It has decreased to around 4 per cent in the first quarter of FY 2017-18 from over 8 per cent in the third quarter of FY 2016-17.

Figure 1 : HPI Inflation based on NHB HPI at Assessment Prices (per cent)

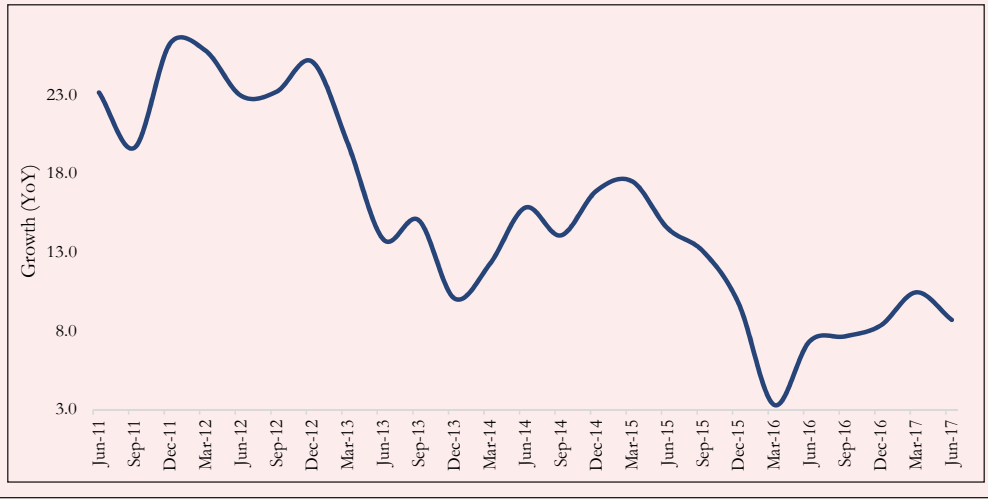


(*Note:* NHB computes HPI at Assessment Prices for each of 50 cities based on valuation data received from Banks/HFCs on a quarterly basis.)

The Reserve Bank of India (RBI) began compiling a house price index (HPI) in 2007 with a quarterly HPI for Mumbai city (Base 2002-03=100). Since then, it has extended its coverage to 9 more cities, revised its base to 2010-11=100, and started publishing a composite All India HPI. RBI's quarterly HPI is based on transactions data received from housing registration authorities in ten major cities.

Growth (YoY) in housing prices, as per RBI's all India HPI, after reaching a low of 3 per cent in quarter ending in March 2016, is showing upturn with mild fluctuation. It rose to 8.7 per cent in the first quarter of 2017-18 (Figure 2).

Figure 2 : HPI Inflation based on RBI's All-India HPI (per cent)



STATE-WISE[5] INFLATION

4.10 Many States have witnessed sharp fall in CPI inflation during 2017-18 (Apr- Dec)[6] (Figure 7). Inflation in seventeen States was below 4 per cent in FY 2017-18 (Apr- Dec) as compared to only three States in 2016-17 (Apr- Dec). Five States, namely, Jammu & Kashmir, Kerala, Delhi, Tamil Nadu and Himachal Pradesh recorded inflation of more than 4 per cent in FY 2017-18 (Apr- Dec) whereas nineteen States had inflation of more than 4 per cent in FY 2016-17 (Apr- Dec). Ten States had inflation rate lower than All India average for FY 2017-18 (Apr- Dec) with Odisha having the lowest inflation followed by Uttar Pradesh, Bihar and Chhattisgarh, respectively.

4.11 In urban areas, fifteen States had inflation of less than 4 per cent in FY 2017-18 (Apr- Dec) as compared to twelve in FY 2016-17 (Apr- Dec) (Figure 8). In the case of CPI-Rural, fifteen States recorded inflation of less than 4 per cent in FY 2017-18 (Apr- Dec) as against only one in 2016-17 (Apr- Dec) (Figure 9).

Figure 7 : CPI (Combined) General Inflation for States (per cent)

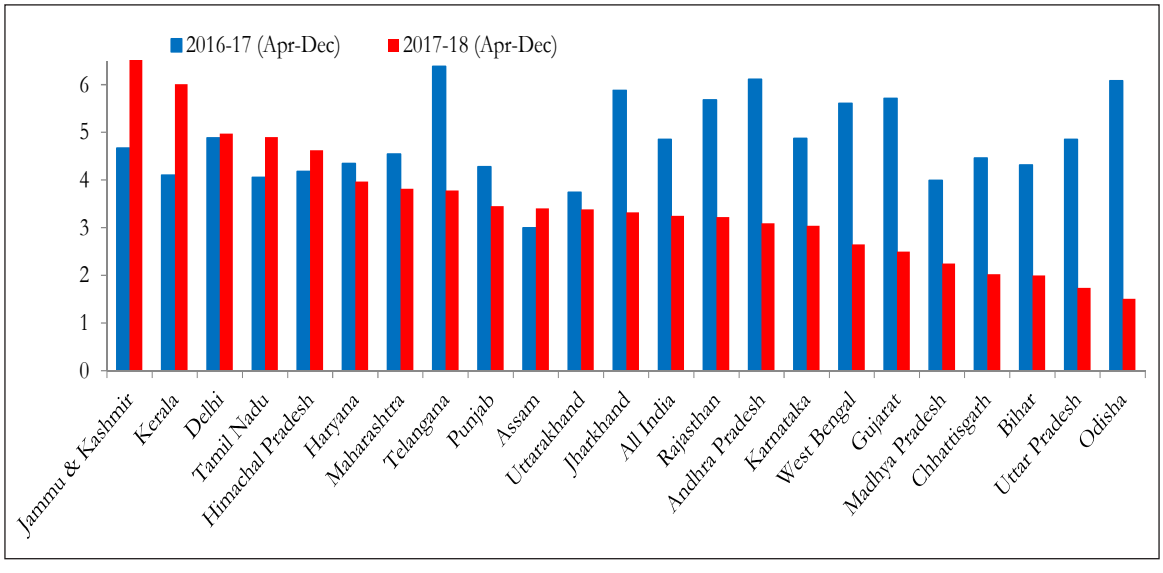
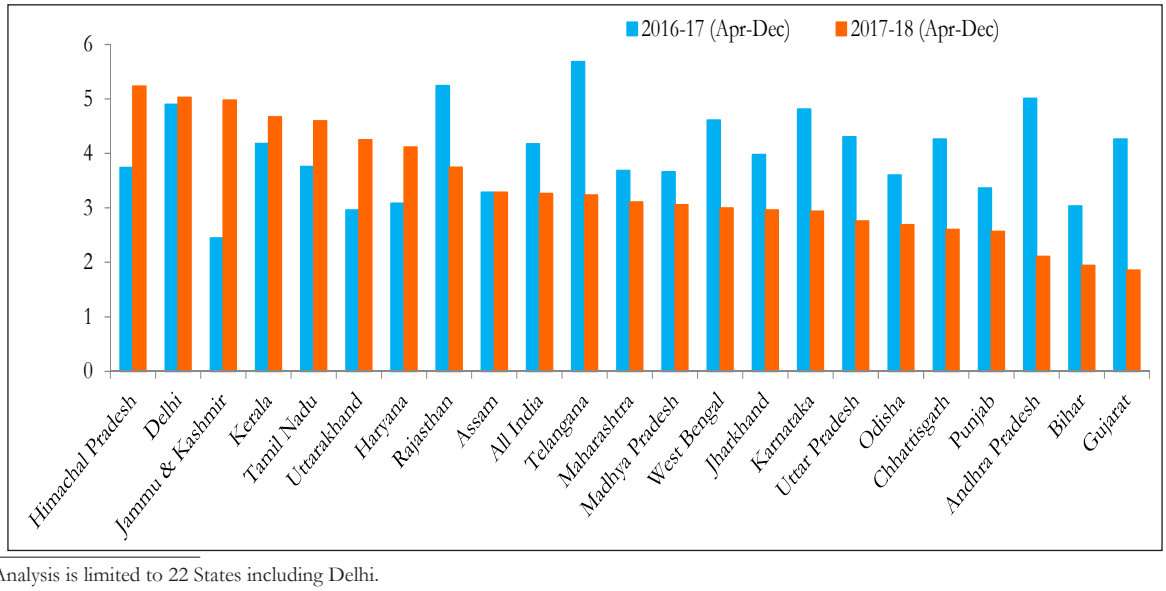


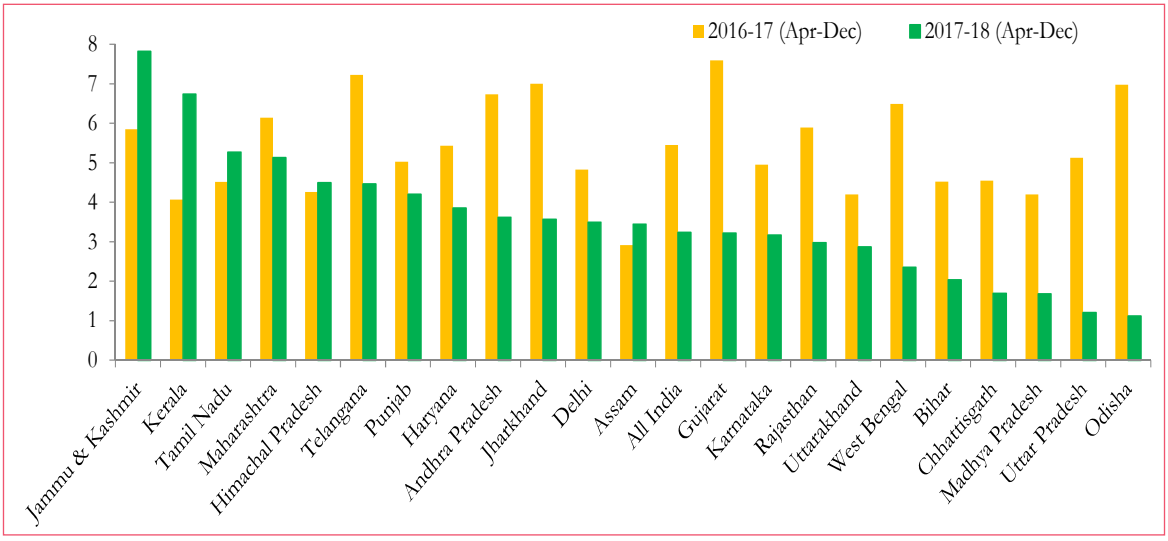
Figure 8 : CPI (Urban) General Inflation for States (per cent)



5 Analysis is limited to 22 States including Delhi.

6 Inflation during April to December 2017 is percentage change in average of monthly index for nine months from April to December 2017 over average of monthly index for nine months from April to December 2016.

Figure 9 : CPI (Rural) General Inflation for States (per cent)



Box 4.3 : Seasonal Movements in CPI-C and its Food components

The price variations/fluctuations in items arising from supply shocks during certain periods of the year are characterized as seasonal in nature. General (Headline) inflation is more volatile than core; it fluctuates more due to large changes in the relative prices of certain food items vulnerable to supply shocks. Food basket which has a large weight in the price indices (particularly in Consumer Price Index) in India is affected by seasonality. Within food basket of the price indices, pulses, fruits and vegetables groups, in particular, have witnessed large changes in prices mainly due to their seasonal nature.

An attempt to examine the seasonality of the price indices has been made to assess the extent and nature of seasonal factors. The analysis is built upon the approach followed by the Internal Technical Group's Report of RBI*. Using the X-12 ARIMA methodology, seasonal factors of the price indices are obtained. Seasonal factors exceeding 1.0 show the period when prices are likely to show some upward shift due to seasonality.

Figures 1 to 3 show the movement of seasonal factors of Headline, Food group, and Vegetables group of CPI-C, respectively. These reflect seasonality starting from July and ending in the month of November for CPI-C (All Groups). Seasonal peak is observed in the month of August for CFPI and Vegetables. Unlike the presence of seasonality in Food groups of CPI-C, its Non-Food groups display negligible seasonality.

Figure 1 : Movement of Seasonal Factors of CPI-C All Groups

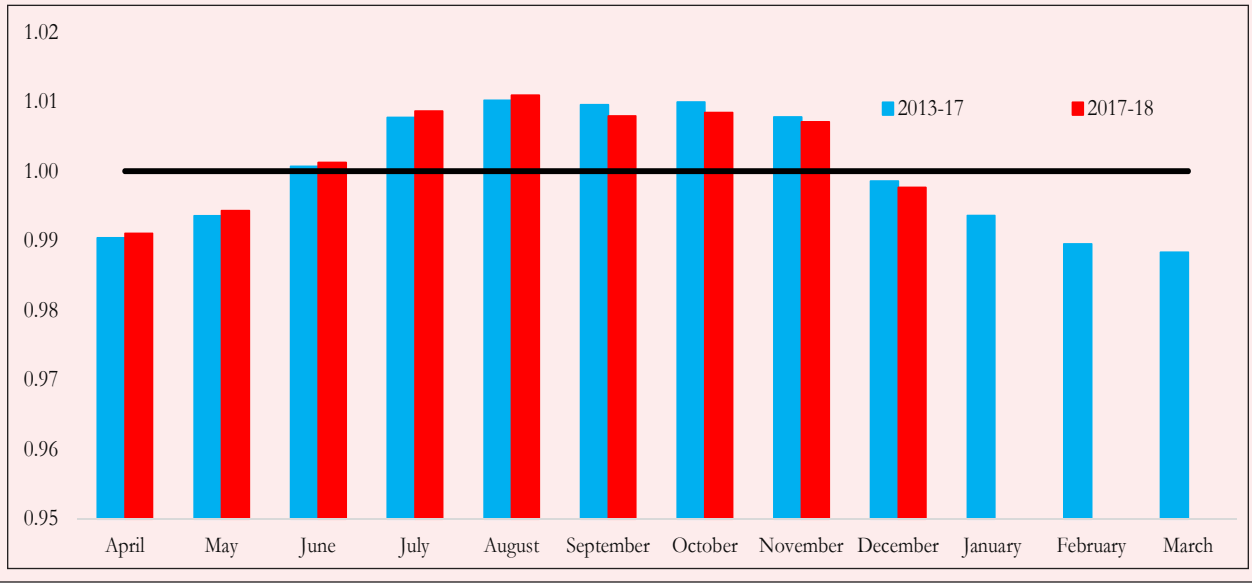


Figure 2 : Movement of Seasonal Factors of CFPI

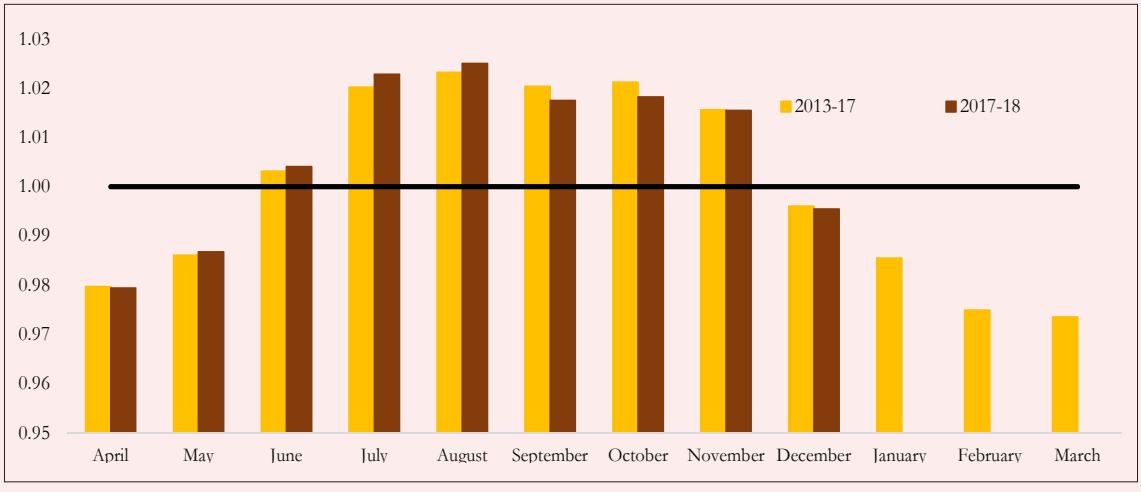
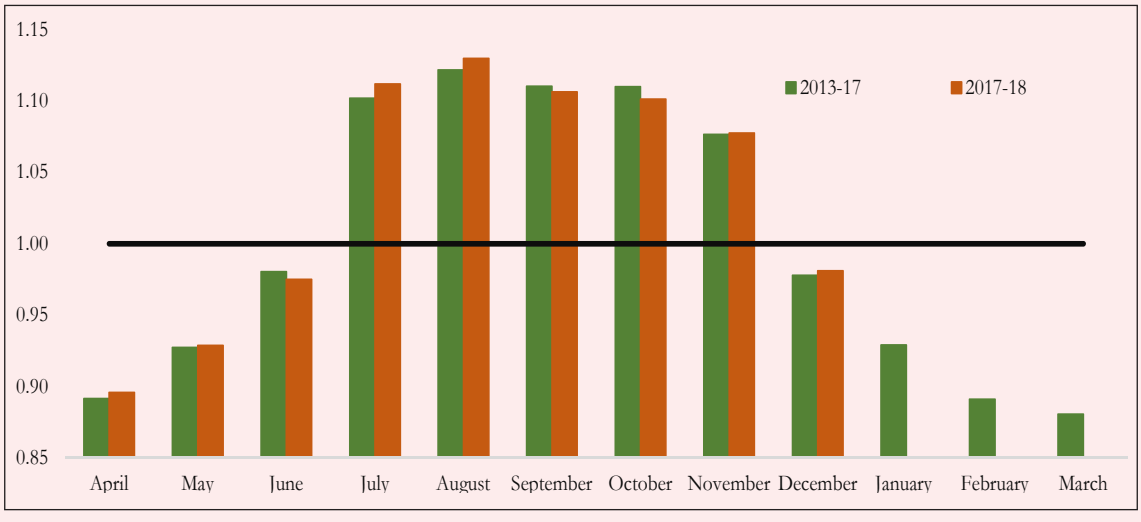


Figure 3 : Movement of Seasonal Factors of CPI-C Vegetables



To look at variability of seasonal factors in price indices during a given year and over the years, coefficient of variation (CV) is computed for seasonal factors of price indices for four years i.e. 2013-14 to 2016-17. Table 1 shows that level of variability of seasonal factors is more in the case of Food than General price indices. Within Food price indices, variability level of vegetables is several times that of pulses. CV of seasonal factors of pulses has increased during the period.

Table 1 : Coefficient of Variation (CV) of Seasonal Factors for Major Groups/Sub Groups of CPI-C

	CPI-C All Groups	CFPI	CPI-C (Pulses & Products)	CPI-C (Vegetables)	CPI-C (Non CFPI)
2013-14	0.90	1.96	1.29	9.68	0.26
2014-15	0.88	1.97	1.50	9.68	0.20
2015-16	0.86	1.96	1.71	9.81	0.14
2016-17	0.84	1.95	1.90	9.82	0.11

Source: **Survey Calculation**

* '*Report of the Internal Technical Group on Seasonal Movements in Inflation*', RBI, March 2008.

TRENDS IN GLOBAL COMMODITY PRICES

4.12 As per the commodity prices published by the World Bank, energy commodity prices are surging recently. These recorded average inflation of 15.3 per cent in FY 2017-18 (Apr-Dec) compared to (-) 8.0 per cent in FY 2016-17 (Apr-Dec) (Figure 10). Movement of 'Fuel & Power' inflation based on All India WPI tracks World Bank Energy price index and increased at an average of 9.7 per cent in FY 2017-18 (Apr-Dec) compared to (-) 6.5 per cent in FY 2016-17 (Apr-Dec) (Figure 11). World Bank Food price index declined by 3.0 per cent in 2017-18 (Apr-Dec), but rose at 5.8 per cent during the corresponding period last year. In contrast, FAO food prices have recorded higher inflation of 5.8 per cent in FY 2017-18 (Apr-Dec) compared to 3.2 per cent in FY 2016-17 (Apr-Dec). WPI 'Basic Metals' prices have also tracked World Bank's 'Base Metals' prices, though, inflation of 'Basic Metals' as per WPI is lower at 9.9 per cent than that of World Bank's 'Base Metals' inflation of 23.7 per cent during FY 2017-18 (Apr-Dec).

Figure 10 : Inflation based on World Bank Price Indices and FFPI[7] (per cent)

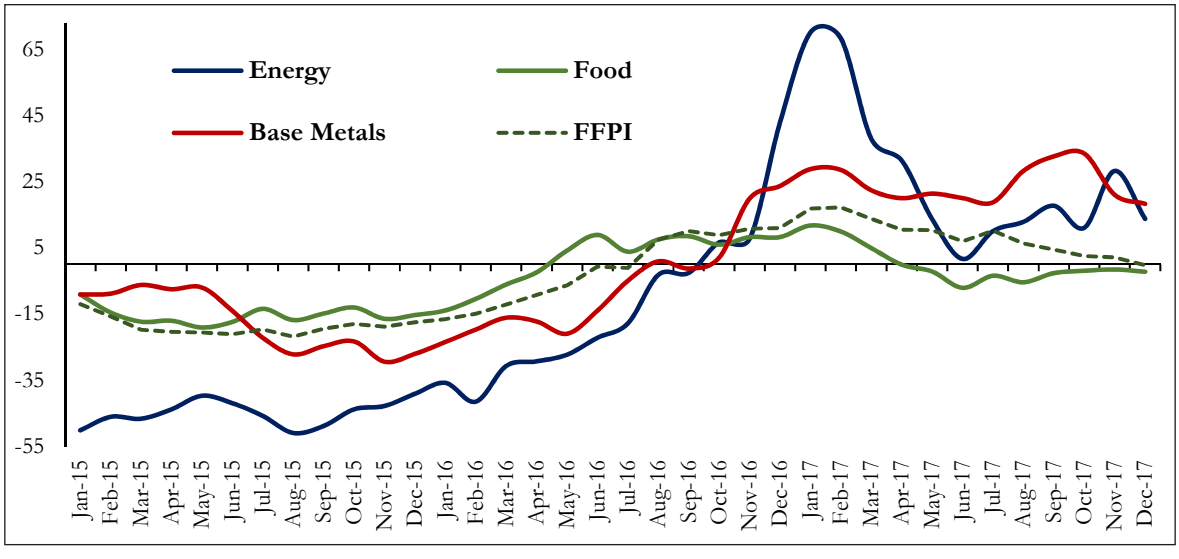
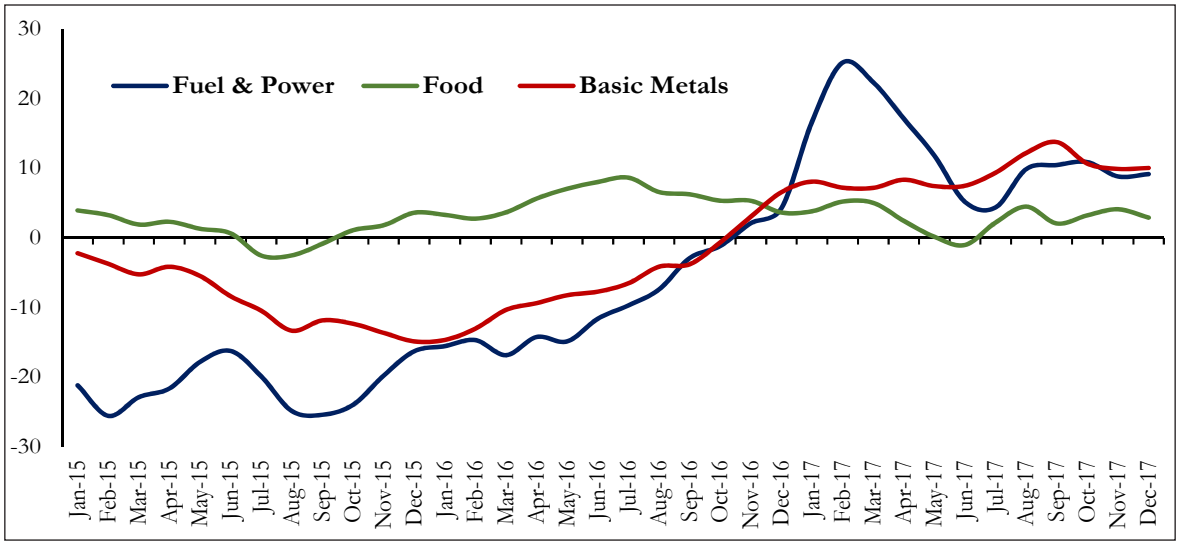


Figure 11 : Inflation based on WPI (per cent)



7 FFPI - FAO Food Price Index; The FAO (Food and Agriculture Organization) Food Price Index is a measure of the monthly change in international prices of a basket of food commodities. It consists of the average of five commodity group price indices, weighted with the average export shares of each of the groups for 2002-2004.

EFFORTS TO CONTAIN INFLATION

4.13 Central Government monitors the price situation on a regular basis as controlling inflation is a priority area. It has taken a number of measures to control inflation especially food inflation which, inter alia, include the following:

- Advisories are being issued, as and when required, to State Governments to take strict action against hoarding & black marketing and effectively enforce the Essential Commodities Act, 1955 & the Prevention of Black-marketing and Maintenance of Supplies of Essential Commodities Act, 1980 for commodities in short supply.
- Regular review meeting on price and availability situation is being held at the highest level including at the level of Committee of Secretaries, Inter Ministerial Committee, Price Stabilization Fund Management Committee and other Departmental level review meetings.
- Higher MSP has been announced so as to incentivize production and thereby enhance availability of food items which may help moderate prices.
- A scheme titled Price Stabilization Fund (PSF) is being implemented to control price volatility of agricultural commodities like pulses, onions, etc.
- Government approved enhancement in buffer stock of pulses from 1.5 lakh MT to 20 Lakh MT to enable effective market intervention for moderation of retail prices. Accordingly, a dynamic buffer stock of pulses of upto 20 lakh tonnes has been built under the Price Stabilization Fund (PSF) Scheme through both domestic procurement as well as imports. Of this, 3.26 lakh MT has been released for market intervention and buffer management.
- Pulses from the buffer are being provided to States/UTs for PDS distribution, Mid-day Meal scheme, etc. In addition, pulses from the buffer are being utilized to meet the requirement of pulses by Army and Central Para-military Forces. Recently, it has also been decided that all Ministries/Departments having schemes with a nutrition component or providing food/catering/hospitality services would utilize pulses from the Central buffer for their operations.
- Export of edible oils was allowed only in branded consumer packs of up to 5 kg. with a minimum export price of USD 900 per MT. With a view to incentivizing domestic production this restriction has been removed on oil except for palm oil, mustard oil and sunflower oil.
- Government has imposed stock holding limits on stockist/dealers of sugar till April, 2018.
- Government imposed 20% duty on export of sugar for promoting availability and moderating price rise.
- Permitted import of 5 lakh tonnes of raw sugar at zero duty; subsequently, import of additional 3 lakh tonnes was allowed at 25% duty.
- Export of all varieties of onion will be allowed only on letter of credit subject to a minimum export price (MEP) of $ 850 per MT till 31st December, 2017.
- States/UTs have been advised to impose stock limit on onions. States were requested to indicate their requirement of onions so that import of requisite quantity may be undertaken to improve availability and help moderate the prevailing high prices.

CONCLUSION

4.14 CPI inflation declined to 3.3 per cent during FY 2017-18 (Apr-Dec), with broad based decline in inflation across major commodity groups except Housing and Fuel & Light. Headline inflation has been below 4 per cent for 12 straight months, from November, 2016 to October, 2017 and CPI food inflation averaged around one per cent during April -December in the current financial year.