

Inflation Monitor

November 2015



State Bank of Pakistan

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Review

Inflation in Brief

1. Headline CPI inflation (2007-08=100) is recorded at 2.7 percent on year-on-year basis in November 2015 compared to 1.6 percent in the previous month and 4.0 percent in the corresponding month of last year.
2. CPI inflation on month-on-month basis is recorded at 0.6 percent in November 2015 compared to 0.5 percent in the previous month and -0.5 percent during the corresponding month of last year. Seasonally adjusted month-on-month CPI inflation is recorded at 0.85 percent in November 2015 compared to 0.29 percent in the previous month.
3. Core inflation (trimmed) on year-on-year basis slightly increased to 2.9 percent in November 2015 compared to 2.8 percent in the previous month and recorded 5.3 percent during the corresponding month of last year.
4. On month-on-month basis, the Core inflation (trimmed) is recorded at 0.2 percent in November 2015 compared to 0.4 percent in the previous month and 0.1 percent during the corresponding month of last year.
5. Non-food, non-energy inflation measured by CPI Core (NFNE) on year-on-year basis recorded at 4.0 percent in November 2015 compared to 3.4 percent in the previous month. It was 6.9 percent in the corresponding month of last year.
6. Core NFNE inflation on month-on-month basis recorded at 0.1 percent in November 2015 compared to 0.6 percent in the previous month. Core NFNE index was -0.5 percent in November 2014.
7. WPI inflation on year-on-year basis recorded at -1.7 percent in November 2015 compared to -2.7 percent in the previous month. During November 2014, WPI inflation witnessed negligible increase.

8. WPI inflation on month-on-month basis recorded at negligible increase in November 2015 compared to 0.5 percent in the previous and -1.0 percent in the corresponding month of last year.
9. SPI inflation on year-on-year basis recorded at 2.3 percent in November 2015 compared to 0.2 percent in the previous month. It was -0.1 percent in the corresponding month of last year.
10. SPI inflation on month-on-month basis recorded at 1.1 percent in November 2015 compared to 0.8 percent in the previous month and -1.0 percent in the corresponding month of last year.

1.1 A New Measure of Core Inflation

A new method of permanently excluding relatively volatile commodities from CPI basket in Pakistan has been developed by SBP. This is achieved by making use of trimming approach on past data on monthly CPI changes to isolate a Relatively Stable Component of CPI (RSC-CPI) as a new measure of core inflation. This method ensures inclusion of both food and non-food commodities that show persistent price behavior in Pakistan (see technical notes for details). Developments in core inflation measured by RSC- CPI for the month of November 2015 are described below:

- Core RSC inflation on year-on-year basis is recorded at 4.5 percent in November 2015 compared to 4.0 percent in the previous month and 7.2 percent in the corresponding month of last year.
- Core RSC inflation on month-on-month basis is recorded at 0.1 percent in November 2015 compared to 0.5 percent in the previous month and -0.3 percent in the corresponding month of last year.

Monthly CPI, WPI and SPI data is summarized in the following table.

Table 1.1 Inflation Trends (percent) (Base 2007- 08 = 100)																
Period	CPI Inflation						Core Inflation						WPI Inflation	SPI*** Inflation		
	General		Food		Non-food		NFNE*		Trimmed		RSC**					
	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM
Nov-14	4.0	-0.5	2.1	-0.4	5.4	-0.6	6.9	-0.5	5.3	0.1	7.2	-0.3	0.0	-1.0	-0.1	-1.0
Dec-14	4.3	-1.0	3.4	-2.1	4.9	-0.2	6.7	0.1	5.2	0.0	7.0	0.2	-0.9	-1.9	0.5	-1.3
Jan-15	3.9	0.1	3.0	-0.5	4.5	0.5	6.4	0.7	4.8	0.3	6.7	0.5	-2.4	-1.0	0.4	-0.9
Feb-15	3.2	-0.9	2.1	-1.8	4.0	-0.3	6.2	0.0	4.2	-0.2	6.4	0.0	-3.4	-1.1	-0.7	-1.4
Mar-15	2.5	0.2	0.5	0.5	3.9	0.0	5.9	0.0	3.8	0.0	6.2	0.1	-3.7	0.0	-2.4	0.0
Apr-15	2.1	1.3	0.0	1.4	3.7	1.3	5.4	1.4	3.1	0.6	5.6	1.1	-2.9	0.9	-1.6	0.7
May-15	3.2	0.8	3.0	1.8	3.3	0.0	4.9	0.0	3.9	0.1	5.1	0.2	-1.8	1.1	0.8	1.5
Jun-15	3.2	0.6	3.2	1.2	3.2	0.2	4.6	0.1	3.8	0.2	4.8	0.7	-2.0	1.2	0.9	1.3
Jul-15	1.9	0.5	0.6	0.1	2.9	0.8	4.1	0.6	3.0	0.5	4.4	0.6	-2.9	-0.4	-0.5	0.4
Aug-15	1.8	0.2	0.4	0.3	2.8	0.1	4.1	0.1	2.8	0.1	4.4	0.2	-2.9	-0.6	-1.3	-0.4
Sep-15	1.3	-0.1	-0.1	-0.4	2.4	0.1	3.4	0.1	2.8	0.1	4.1	0.4	-3.5	-0.4	-0.8	0.4
Oct-15	1.6	0.5	0.5	0.4	2.4	0.5	3.4	0.6	2.8	0.4	4.0	0.5	-2.7	0.5	0.2	0.8
Nov-15	2.7	0.6	2.2	1.2	3.1	0.2	4.0	0.1	2.9	0.2	4.5	0.1	-1.7	0.0	2.3	1.1
* NFNE is Non-food non-energy ** Relatively Stable Component of CPI *** SPI for all income groups combined																

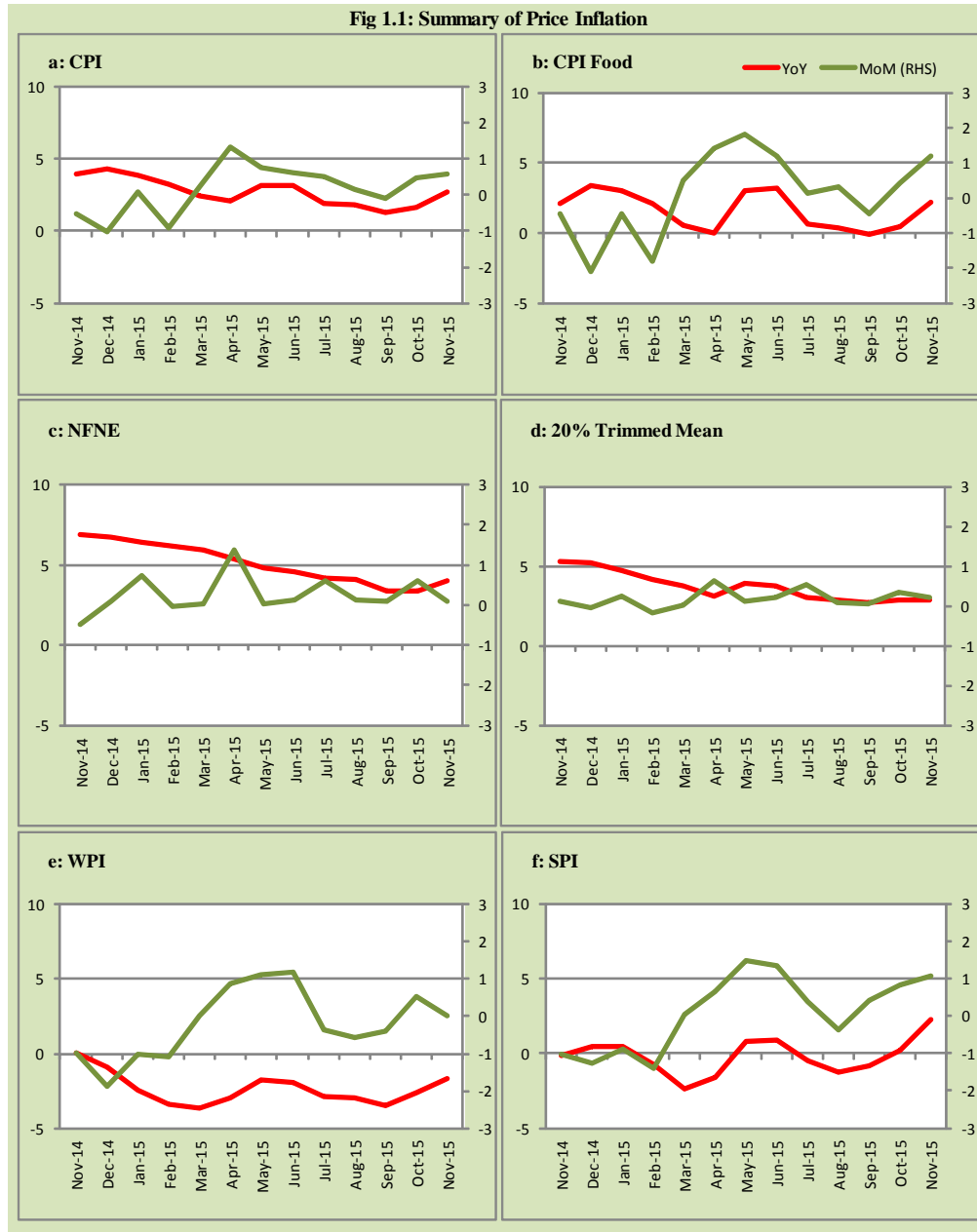
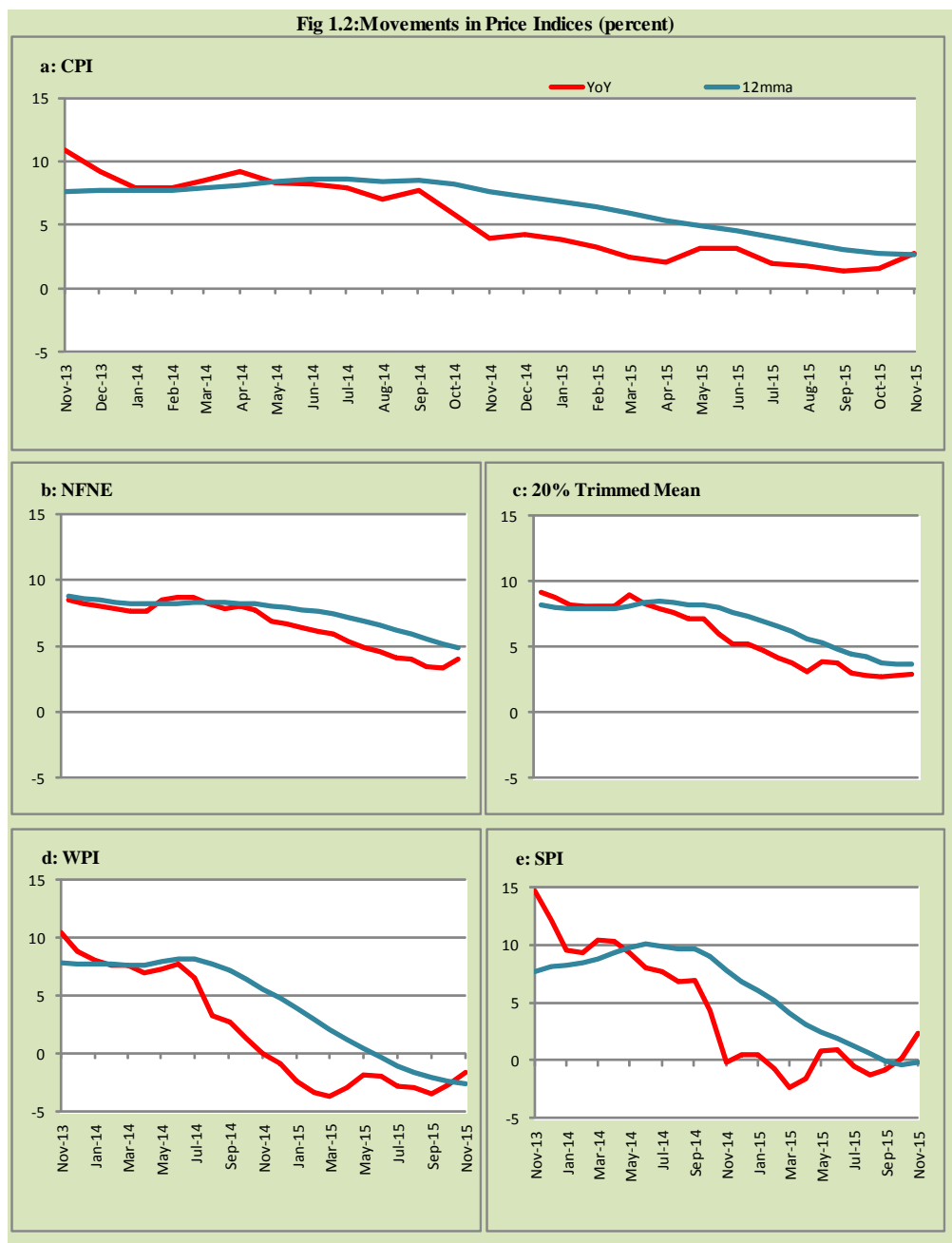


Fig 1.2: Movements in Price Indices (percent)



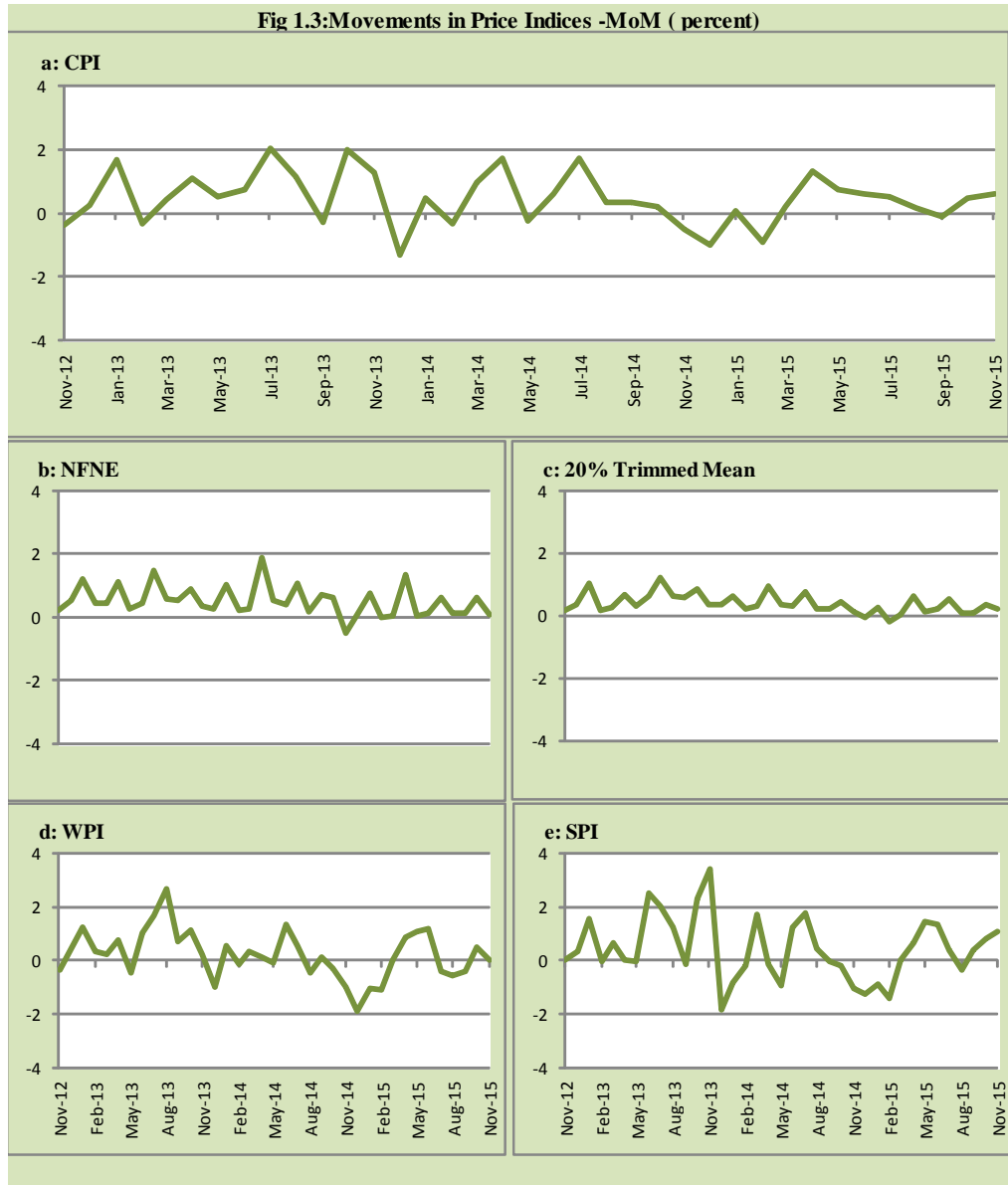
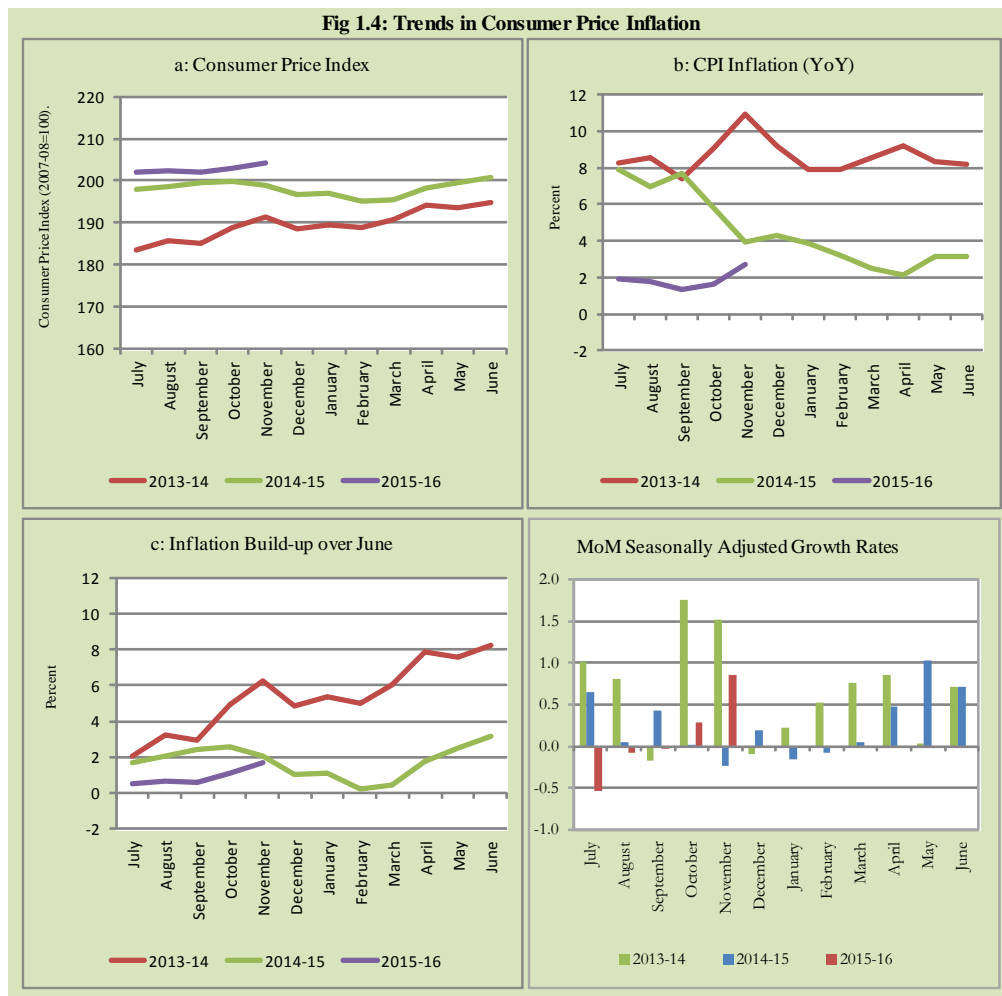


Fig 1.4: Trends in Consumer Price Inflation



2. City wise Inflation

CPI Inflation on year-on-year basis in federal and provincial capitals of Pakistan showed mix trend during November 2015. Among these five cities, the lowest inflation was observed in Lahore at 0.4 percent while the highest inflation was observed in Karachi at 4.9 percent (Table A6 of annexure-A).

Table 2.1 City-wise Inflation of Selected Cities (percent)						
	Nov-14		Oct-15		Nov-15	
	MoM	YoY	MoM	YoY	MoM	YoY
Overall CPI	-0.5	4.0	0.5	1.6	0.6	2.7
Islamabad	-0.1	6.8	0.2	2.5	0.4	3.1
Karachi	-0.2	5.3	0.7	4.2	0.5	4.9
Lahore	0.3	7.7	-0.2	0.2	0.5	0.4
Peshawar	0.1	5.0	0.9	3.6	0.7	4.2
Quetta	0.0	2.1	2.5	1.6	0.4	2.0

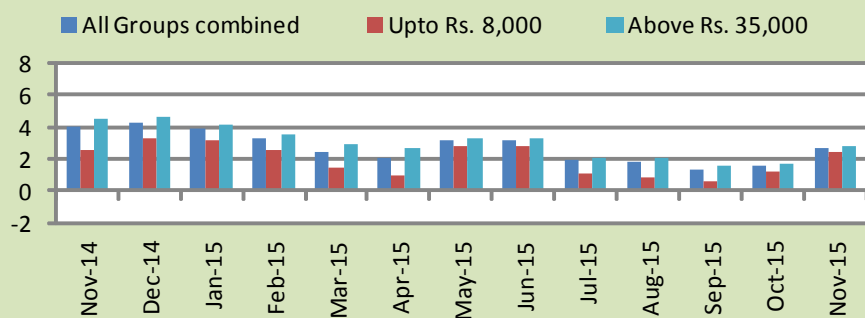
3. Income Group wise Inflation

Income group- wise data shows that income group above Rs. 35,000 witnessed higher inflation during November 2015 in food group. The lowest income group (Up to Rs. 8, 000) has the lowest inflation in food group among the income groups during the month of November 2015 (Table A7 of annexure-A).

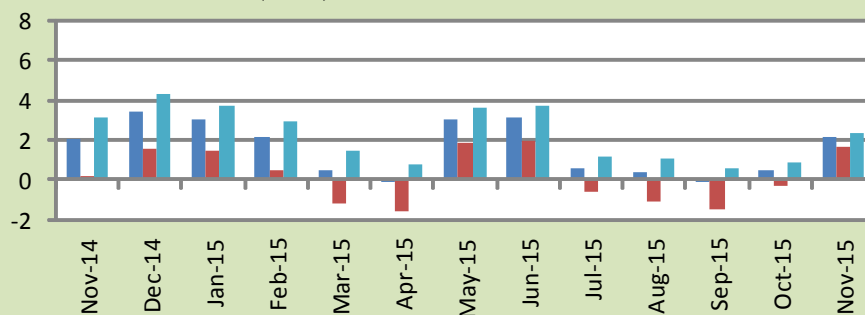
Table 3.1 Income Group- wise Inflation (YoY)									
Income Groups	General			Food			Non-food		
	Nov-14	Oct-15	Nov-15	Nov-14	Oct-15	Nov-15	Nov-14	Oct-15	Nov-15
All Groups Combined	4.0	1.6	2.7	2.1	0.5	2.2	5.4	2.4	3.1
Up to Rs. 8,000	2.6	1.3	2.5	0.2	-0.2	1.7	5.8	3.2	3.5
Rs. 8,001- 12,000	3.0	1.6	2.8	0.9	-0.1	1.8	5.5	3.5	3.9
Rs. 12,001- 18,000	3.4	1.2	2.3	1.4	0.3	2.0	5.5	2.2	2.5
Rs. 18,001- 35,000	3.7	1.8	2.9	2.1	0.6	2.3	5.2	2.9	3.5
Above Rs. 35,000	4.6	1.7	2.8	3.1	0.9	2.4	5.3	2.1	3.1

Fig 3.1: Income Group- wise Inflation

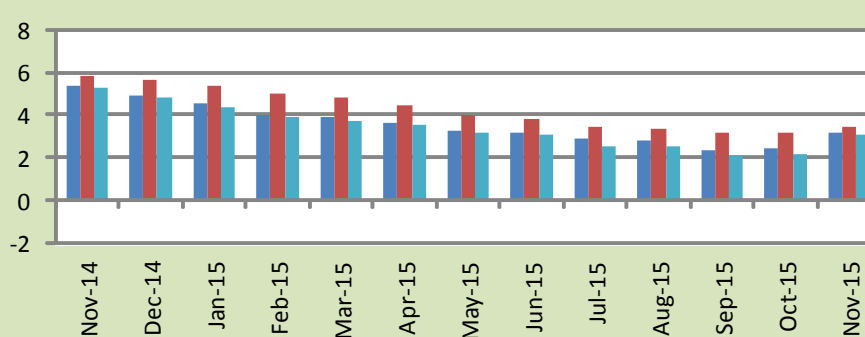
a: CPI Overall Inflation (YoY)



b: CPI Food Inflation (YoY)



c: CPI Non-Food Inflation (YoY)



4. Weighted Contribution

The weighted contribution of food group in the overall inflation increased to 33.23 percent during November 2015 from 12.98 percent in October 2015. It was 22.63 percent in November 2014.

The weighted contribution of non-food group decreased to 66.77 percent in November 2015 from 87.02 percent in October 2015.

Table 4.1 Weighted Contribution to CPI Inflation (YoY)						
Period	Food	Clothing & Footwear	Housing, Water, Elect, Gas & Other Fuel	Transport	Education	Others
Nov-14	22.63	16.74	37.56	-6.13	12.74	16.45
Dec-14	33.26	16.16	34.82	-10.53	11.70	14.59
Jan-15	32.11	16.52	38.34	-15.65	12.84	15.84
Feb-15	26.97	18.93	45.83	-25.78	15.39	18.66
Mar-15	8.95	23.54	58.95	-31.96	19.90	20.62
Apr-15	-0.64	26.66	59.33	-33.22	23.40	24.46
May-15	39.65	15.58	39.67	-21.47	13.19	13.38
Jun-15	41.77	14.28	39.36	-19.53	11.71	12.40
Jul-15	12.95	19.89	65.96	-36.87	18.22	19.84
Aug-15	8.48	21.50	71.76	-41.96	19.75	20.47
Sep-15	-3.59	27.85	104.73	-80.48	25.82	25.67
Oct-15	12.98	25.37	84.32	-64.95	20.62	21.67
Nov-15	33.23	13.58	46.86	-17.91	12.23	12.01

5. Inflation Diffusion Index

Table 5.1 Inflation Diffusion Index - based on MoM change

	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15
General	33.7	25.4	23.0	18.2	14.9	25.8	23.1	31.1	37.3	32.6	29.3	34.5	34.7
Food & Non-Alcoholic Beverages	35.7	2.7	18.6	-3.6	1.8	0.0	32.7	18.6	36.8	35.4	20.2	29.6	30.4
Alcoholic Beverages & Tobacco	33.3	-33.3	-33.3	33.3	-16.7	16.7	100.0	100.0	66.7	33.3	33.3	0.0	66.7
Clothing & Footwear	67.8	55.9	49.2	23.7	35.6	49.2	30.5	50.8	55.9	57.6	49.2	54.2	66.1
Housing, Water, Elect, Gas & other Fuels	25.0	11.1	27.8	0.0	11.1	38.9	13.9	30.6	55.6	27.8	41.7	44.4	33.3
Furnishing & Household Equip. Maintenance etc	65.2	56.5	56.5	59.4	33.3	52.2	42.0	73.9	71.0	50.7	56.5	59.4	58.0
Health	17.9	25.6	23.1	20.5	10.3	5.1	7.7	17.9	12.8	10.3	10.3	17.9	15.4
Transport	-7.0	4.7	-39.5	-16.3	-4.7	-2.3	4.7	11.6	9.3	0.0	4.7	11.6	18.6
Communication	16.7	33.3	8.3	33.3	0.0	25.0	0.0	8.3	16.7	8.3	8.3	0.0	16.7
Recreation & Culture	10.3	15.4	7.7	10.3	10.3	30.8	2.6	0.0	7.7	10.3	12.8	10.3	20.5
Education	0.0	0.0	0.0	0.0	6.3	37.5	0.0	0.0	0.0	12.5	0.0	18.8	0.0
Restaurant & Hotels	0.0	100.0	33.3	66.7	50.0	50.0	50.0	50.0	33.3	33.3	66.7	100.0	66.7
Miscellaneous	37.1	42.9	40.0	57.1	31.4	45.7	17.1	34.3	37.1	57.1	42.9	45.7	20.0
NFNE	34.3	34.3	26.9	25.7	19.8	33.7	18.6	33.7	37.0	33.4	33.7	36.4	35.2

See annexure B (Technical Notes) for the definition of Inflation Diffusion Index.

6. Domestic Commodity Prices

Table 6.1 Inflation in Domestic CPI Food Commodities

Sr. No	Item	Unit	Nov-14		Oct-15		Nov-15	
			YoY	MoM	YoY	MoM	YoY	MoM
1	Wheat	10 Kg	-3.97	0.57	-5.01	3.19	-4.17	1.46
2	Wheat Flour Bag	10 Kg	-2.04	-0.20	-5.35	1.84	-3.53	1.71
3	Rice Basmati Sup. Qlty.	Kg	2.80	-0.18	-15.60	-2.68	-18.77	-3.93
4	Pulse Masoor (Washed)	Kg	15.96	2.48	9.05	1.26	7.12	0.67
5	Pulse Moong (Washed)	Kg	24.15	5.42	7.29	1.88	1.57	-0.20
6	Pulse Mash (Washed)	Kg	21.59	1.25	36.08	15.53	38.30	2.90
7	Pulse Gram	Kg	6.16	1.94	55.49	5.42	56.35	2.50
8	Vegetable Ghee (Loose)	Kg	-1.71	-0.45	-12.98	-0.19	-13.38	-0.90
9	Sugar Refined	Kg	-4.44	-3.30	3.89	-3.73	3.43	-3.73
10	Milk Fresh (Unboiled)	Ltr	6.64	0.26	4.07	0.09	3.85	0.05
11	Tea- Tapal Danedar	200 Gm	-20.56	0.00	28.87	0.77	31.86	2.32
12	Beef With Bone Av. Qlty.	Kg	6.90	0.19	4.21	0.13	4.02	0.01
13	Mutton Av. Qlty.	Kg	5.95	0.43	6.38	0.11	6.71	0.74
14	Chicken Farm Broiler (Live)	Kg	6.82	1.14	-16.07	-8.58	0.52	21.13
15	Eggs Farm	Doz	6.23	8.72	-15.69	-3.93	-14.17	10.67
16	Potatoes	Kg	1.03	-7.57	-55.42	9.85	-45.59	12.82
17	Onion	Kg	-43.89	-18.75	30.38	5.42	83.90	14.61
18	Tomatoes	Kg	-65.82	-29.06	17.39	33.96	95.45	18.12
19	Ginger	Kg	19.12	-11.24	-26.68	-8.62	-23.21	-7.04
20	Garlic	Kg	4.07	3.37	30.16	5.56	30.79	3.87

7. Global Commodity Prices

Table 7.1 Changes in Major Global Indices (percent)

Item/ Group	Nov-14		Oct-15		Nov-15	
	YoY	MoM	YoY	MoM	YoY	MoM
Overall	-17.4	-5.8	-34.5	-0.3	-34.3	-5.5
Food	-5.9	1.0	-14.4	-0.5	-17.5	-2.6
Metals	-12.1	-0.3	-24.8	-2.2	-30.3	-7.5
Energy	-23.1	-9.0	-44.0	0.1	-42.8	-7.0
Agricultural Raw Material	-3.6	-1.0	-17.6	-0.2	-18.7	-2.2
Cotton	-20.2	-4.0	-1.9	0.4	2.5	0.3

Source: IMF

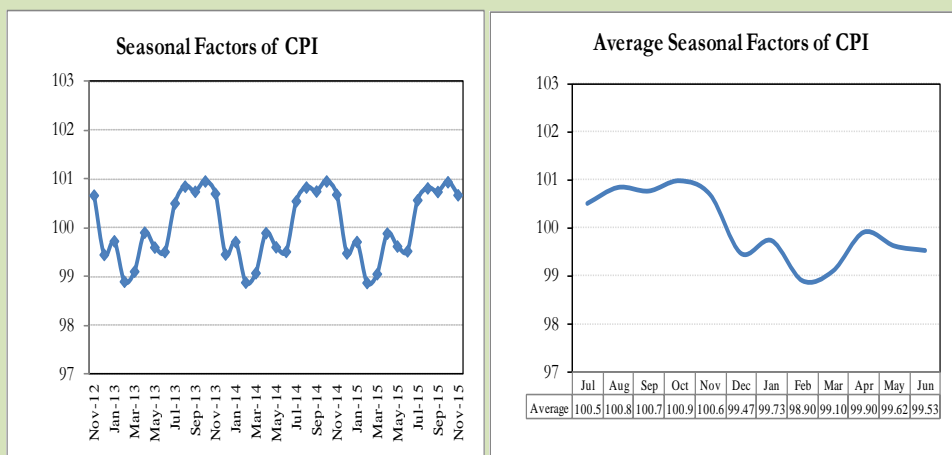
8. Seasonal Adjustment in CPI

Seasonal adjustment is the process of estimating and removing the seasonal effects from a time series after decomposing it into seasonal, trend, cycle and irregular components. The purpose is to identify the different components of the time series and thus provide a better understanding of its underlying behavior. Seasonally adjusted changes are usually preferred for analyzing general price trends in the economy because they eliminate the effect of changes that normally occur at the same time and in about the same magnitude every year. Various statistical methods can be used to decompose a time series into its constituent components. The State Bank of Pakistan uses X-12- ARIMA Seasonal Adjustment Method for this purpose.

The changes in consumer prices are normally reported in terms of year-on-year and month-on-month basis. Seasonal adjustment is particularly useful for analyzing month-on-month changes. The monthly data series of Consumer Price Index (CPI) from July 2008 to November 2015 has been used for seasonal adjustment analysis. The seasonal analysis is carried out without taking trading-day or Islamic calendar month's effects.

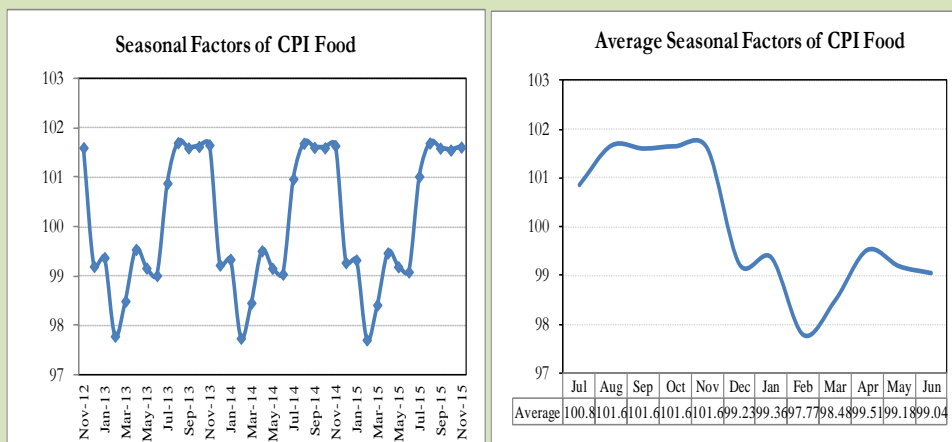
Figure 8.1 reveals that seasonality in CPI has been increasing over the period of last four years. Average seasonal factors reveal strong seasonality during the calendar year. There is an upward seasonality during the months from July to November and downward seasonality in the remaining months of the year. Upward and downward seasonality is above and below the trend line respectively. It is important to note that seasonal factors are estimates based on present and past experience and that future data may not necessarily show the same pattern of seasonal factors.

Fig. 8.1 Seasonal Factors of CPI



Note: Data Available in Annex Table 16.

Fig. 8.2 Seasonal Factors of CPI Food



Note: Data Available in Annex Table 17.

Figures 8.3 & 8.4 show that seasonally adjusted series are relatively smoother than the original series due to the removal of the seasonal variations. The trend follows the long-term movement in original series, and is smoother than the original series because some irregular fluctuations have been removed.

Fig. 8.3 Seasonal Plots of CPI

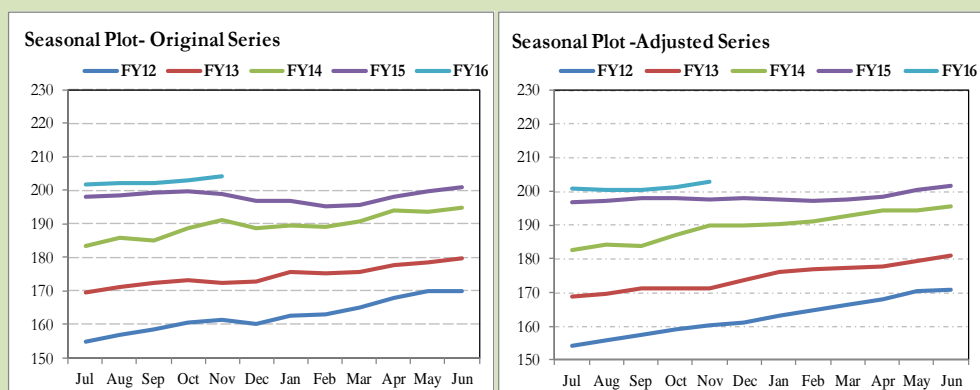
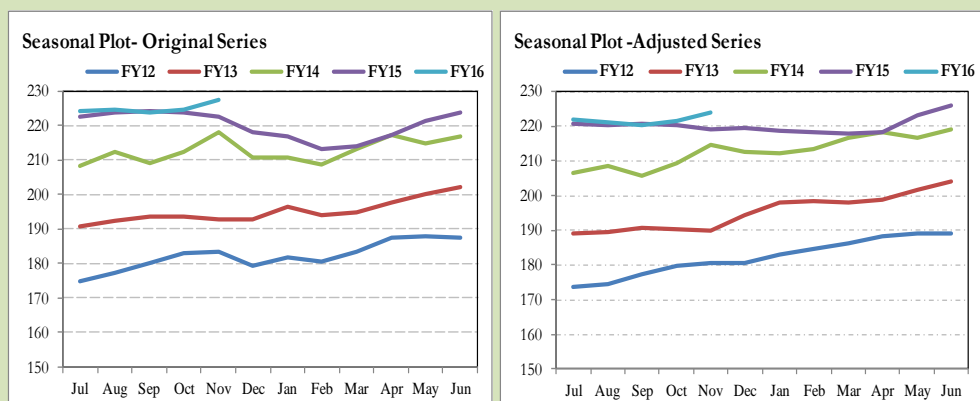


Fig. 8.4 Seasonal Plots of CPI (Food)



Seasonally adjusted CPI for November 2015 stood at 202.84 against 204.22 in original series showing a decrease of 1.38 on account of adjustment of upward seasonality in November 2015.

Seasonally adjusted CPI food group for November 2015 stood at 223.93 against 227.55 in original series showing a decrease of 3.62 on account of adjustment of upward seasonality in November 2015.

Month-on-month change of seasonally adjusted CPI series stood at 0.85% reflecting increase during November 2015 over October 2015 and an increase of 0.59% in original series.

Month-on-month change of seasonally adjusted CPI food group series stood at 1.13% reflecting increase during November 2015 over October 2015 and an increase of 1.20% in original series.

It is important to note that inflation rates should be analyzed on the basis of seasonally adjusted rates. This is especially needed for inflation rates on month-on-month basis. The most recent annual rate of inflation is usually indicated by annualizing the seasonally adjusted month-on-month rate. Annualized rate of CPI inflation in November 2015 (corresponding to the seasonally adjusted month-on-month rate) is 10.73 percent.

Fig. 8.5 Month-on-Month Percent Changes in CPI

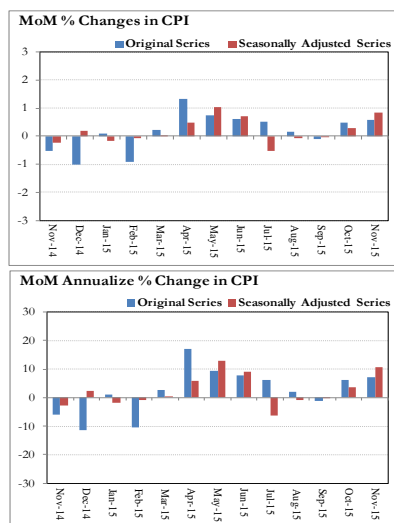
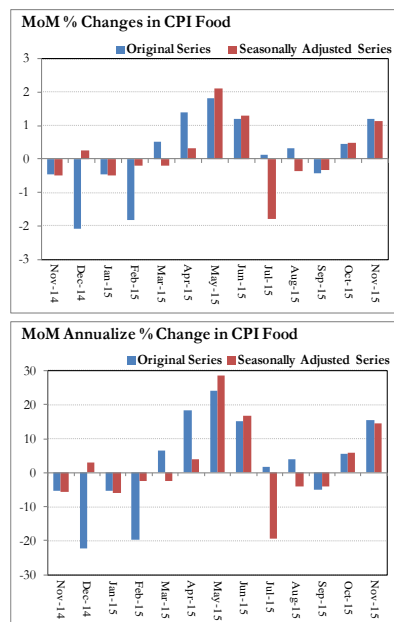


Fig. 8.6 Month-on-Month Percent Changes in CPI Food



Annexure A

Table A1: CPI Inflation by Groups (percent)							
	Weight	MoM change			YoY change		
		Nov-14	Oct-15	Nov-15	Nov-14	Oct-15	Nov-15
I. Food Group	37.5	-0.4	0.4	1.2	2.1	0.5	2.2
Food & Non-Alcoholic Beverages	34.8	-0.5	0.5	1.3	1.1	-0.4	1.3
Alcoholic Beverages & Tobacco	1.4	0.0	0.0	0.7	22.2	16.3	17.1
Restaurant & Hotels	1.2	0.0	0.8	0.4	7.5	4.3	4.8
II. Non-Food Group	62.5	-0.6	0.5	0.2	5.4	2.4	3.1
Clothing & Footwear	7.6	0.9	0.5	0.4	8.5	5.1	4.6
Housing, Water, Elect, Gas & other Fuels	29.4	0.4	0.8	0.0	5.9	5.3	5.0
Furnishing & Household Equip. Maintenance etc	4.2	0.4	0.3	0.1	7.3	3.9	3.6
Health	2.2	0.2	0.1	0.5	5.8	2.7	3.0
Transport	7.2	-7.0	0.1	0.7	-3.3	-14.2	-7.1
Communication	3.2	0.1	0.0	0.0	0.2	0.4	0.3
Recreation & Culture	2.0	0.1	0.1	0.1	3.8	2.2	2.2
Education	3.9	0.0	0.0	0.0	14.6	8.8	8.8
Miscellaneous	2.8	0.0	0.5	-0.3	5.1	2.5	2.1
Headline	100.0	-0.5	0.5	0.6	4.0	1.6	2.7

Table A2: Distribution of Price changes (YoY) of CPI basket											
Groups	% changes	No. of items in each inflation range									
		Total number of items		Decrease or no change (0% or less)		Subdued increase (>0% but <5%)		Moderate increase (5% but less than 10%)		Double digit increase (10% or more)	
		Nov-14	Nov-15	Nov-14	Nov-15	Nov-14	Nov-15	Nov-14	Nov-15	Nov-14	Nov-15
I. Food Group	2.2	129	129	30	41	29	44	31	22	39	22
Food & Non-Alcoholic Beverages	1.3	117	117	30	41	28	42	26	16	33	18
Alcoholic Beverages & Tobacco	17.1	6	6	0	0	0	0	1	2	5	4
Restaurant & Hotels	4.8	6	6	0	0	1	2	4	4	1	0
II. Non-Food Group	3.1	348	348	79	113	97	149	122	71	50	15
Clothing & Footwear	4.6	59	59	8	8	4	29	31	22	16	0
Housing, Water, Elect, Gas & other Fuels	5.0	36	36	9	6	9	13	17	12	1	5
Furnishing & Household Equip. Maintenance etc	3.6	69	69	1	4	19	45	39	19	10	1
Health	3.0	39	39	18	22	9	12	6	5	6	0
Transport	-7.1	43	43	19	36	15	6	6	1	3	0
Communication	0.3	12	12	6	6	5	4	1	1	0	1
Recreation & Culture	2.2	39	39	13	17	17	15	6	5	3	2
Education	8.8	16	16	0	9	5	3	6	0	5	4
Miscellaneous	2.1	35	35	5	5	14	22	10	6	6	2
Overall	2.7	477	477	109	154	126	193	153	93	89	37

Note: Prices of 10 seasonal items were not reported during the month.

Table A3: Top and Bottom 15 Contributors to CPI Inflation (YoY) in November 2015					
Top 15 Contributors		YoY Change		Weighted Contribution	
Items/ Contributors	Weights	Nov-14	Nov-15		
Ranked by Weighted Contribution					
1	House Rent	21.81	7.62	5.42	35.31
2	Onion	0.51	-43.89	83.90	15.89
3	Education	3.94	14.59	8.75	12.23
4	Cigarette	1.39	22.38	17.23	11.81
5	Milk Fresh	6.68	6.98	3.75	11.42
6	Tomatoes	0.41	-65.82	95.45	10.26
7	Tea	0.84	-15.14	27.35	9.06
8	Meat	2.43	6.58	4.93	5.38
9	Electricity	4.40	1.79	2.84	5.33
10	Pulse Gram	0.24	6.16	56.35	4.22
11	Gas	1.58	0.00	9.92	4.14
12	Fresh Vegetable	1.77	-4.32	4.96	4.08
13	Tailoring	0.88	11.46	8.83	3.78
14	Pulse Mash (Washed)	0.21	21.58	38.30	3.39
15	Ready Made Food	1.23	7.54	4.77	2.62
Total		48.31			138.92
Bottom 15 Contributors					
1	Potatoes	0.44	1.03	-45.59	-15.98
2	Motor Fuel	3.03	-9.83	-14.38	-14.08
3	Rice	1.58	1.80	-19.15	-10.94
4	Cooking Oil	1.75	-0.66	-16.57	-8.56
5	Vegetable Ghee	2.07	-1.17	-12.41	-7.35
6	Fresh Fruits	1.86	20.08	-8.04	-6.03
7	Wheat Flour	4.16	-2.13	-3.00	-5.13
8	Transport Services	2.70	-0.73	-4.35	-4.47
9	Egg	0.46	6.23	-14.17	-2.79
10	Wheat	0.35	-3.97	-4.17	-0.57
11	Motor Vehicle Accessories	0.24	3.76	-0.95	-0.10
12	Motor Vehicle	0.66	1.83	-0.44	-0.09
13	Wheat Product	0.10	4.74	-1.79	-0.07
14	Mustard Oil	0.10	0.13	-2.43	-0.07
15	Beans	0.03	4.01	-4.72	-0.06
Total		19.54			-76.28

Table A3.1: Top and Bottom 15 Contributors to CPI Inflation (MoM) in November 2015

<u>Top 15 Contributors</u>		<u>MoM Change</u>		Weighted Contribution	
Items/ Contributors	Weights	Oct-15	Nov-15		
Ranked by Weighted Contribution					
1	Chicken	1.36	-8.58	21.13	34.77
2	Onion	0.51	5.42	14.61	20.25
3	Tomatoes	0.41	33.96	18.12	14.71
4	Fresh Vegetable	1.77	-0.46	3.26	12.43
5	Wheat Flour	4.16	2.20	1.49	11.13
6	Potatoes	0.44	9.85	12.82	9.89
7	Motor Fuel	3.03	0.17	1.99	7.45
8	Egg	0.46	-3.93	10.68	7.44
9	Tea	0.84	1.08	3.14	5.86
10	Cigarette	1.39	0.00	0.73	2.65
11	Woolen Readymade Garments	0.40	2.13	2.52	2.07
12	Pulse Mash (Washed)	0.21	15.53	2.90	1.58
13	Doctor (MBBS) Clinic Fee	0.59	0.00	1.21	1.47
14	Meat	2.43	0.12	0.25	1.33
15	Pulse Gram	0.24	5.42	2.51	1.31
Total		18.22			134.33
<u>Bottom 15 Contributors</u>					
1	Fresh Fruits	1.86	-0.87	-7.78	-26.58
2	Rice	1.58	-3.55	-3.62	-7.91
3	Sugar	1.04	-3.73	-3.72	-7.23
4	Cooking Oil	1.75	-1.96	-1.31	-2.61
5	Personal Equipments	0.84	1.17	-1.05	-2.01
6	Vegetable Ghee	2.07	-0.80	-0.80	-1.90
7	Beverages	1.20	0.22	-0.22	-0.47
8	Gur	0.02	0.26	-4.20	-0.23
9	Pulse Moong	0.23	1.88	-0.20	-0.12
10	Spices	0.54	-0.48	-0.03	-0.03
11	Water Supply	0.50	0.00	0.00	0.00
12	News Papers	0.19	0.00	0.00	0.00
13	Motor Vehicle Tax	0.11	0.00	0.00	0.00
14	Text Books	0.57	0.00	0.00	0.00
15	Postal Services	0.07	0.00	0.00	0.00
Total		12.60			-49.09

Table A3.2: Top Fifteen Contributors to CPI Inflation (YoY) in November 2015					
Items/ Contributors		Weights	YoY Change		Weighted Contribution
			Nov-14	Nov-15	
A. Ranked by Percentage Change					
1	Tomatoes	0.41	-65.82	95.45	10.26
2	Onion	0.51	-43.89	83.90	15.89
3	Pulse Gram	0.24	6.16	56.35	4.22
4	Besan	0.15	1.95	50.50	2.41
5	Pulse Mash (Washed)	0.21	21.58	38.30	3.39
6	Tea	0.84	-15.14	27.35	9.06
7	Gram Whole	0.16	2.19	21.32	1.14
8	Cigarette	1.39	22.38	17.23	11.81
9	Sewing Needle & Dry Cell	0.15	6.56	9.96	0.50
10	Gas	1.58	0.00	9.92	4.14
11	Construction Wage Rate	0.33	6.97	9.30	1.17
12	Tailoring	0.88	11.46	8.83	3.78
13	Education	3.94	14.59	8.75	12.23
14	Pulse Masoor	0.27	15.09	8.11	0.75
15	Woolen Readymade Garments	0.40	17.23	7.44	1.28
Total		11.46			82.02
B. Ranked by Weights					
1	House Rent	21.81	7.62	5.42	35.31
2	Milk Fresh	6.68	6.98	3.75	11.42
3	Electricity	4.40	1.79	2.84	5.33
4	Wheat Flour	4.16	-2.13	-3.00	-5.13
5	Education	3.94	14.59	8.75	12.23
6	Communication & Apparatus	3.15	0.13	0.19	0.14
7	Motor Fuel	3.03	-9.83	-14.38	-14.08
8	Transport Services	2.70	-0.73	-4.35	-4.47
9	Meat	2.43	6.58	4.93	5.38
10	Vegetable Ghee	2.07	-1.17	-12.41	-7.35
11	Fresh Fruits	1.86	20.08	-8.04	-6.03
12	Fresh Vegetable	1.77	-4.32	4.96	4.08
13	Cooking Oil	1.75	-0.66	-16.57	-8.56
14	Cotton Cloth	1.73	13.85	3.92	2.59
15	Rice	1.58	1.80	-19.15	-10.94
Total		63.08			19.91
Note: Weighted contribution is estimated by multiplying the weights by the price change of an item; this is then reported as a share in YoY change in CPI, which is 2.7 percent in November, 2015.					

Table A3.3: Top Ten Contributors to CPI Food Inflation (YoY) in November 2015

A. Ranked by Weighted Contribution					
Items/ Contributors		Weights	YoY Change		Weighted Contribution
			Nov-14	Nov-15	
1	Onion	0.51	-43.89	83.90	15.89
2	Cigarette	1.39	22.38	17.23	11.81
3	Milk Fresh	6.68	6.98	3.75	11.42
4	Tomatoes	0.41	-65.82	95.45	10.26
5	Tea	0.84	-15.14	27.35	9.06
6	Meat	2.43	6.58	4.93	5.38
7	Pulse Gram	0.24	6.16	56.35	4.22
8	Fresh Vegetable	1.77	-4.32	4.96	4.08
9	Pulse Mash (Washed)	0.21	21.58	38.30	3.39
10	Ready Made Food	1.23	7.54	4.77	2.62
Total		15.70			78.13
B. Ranked by Percentage Change					
1	Tomatoes	0.41	-65.82	95.45	10.26
2	Onion	0.51	-43.89	83.90	15.89
3	Pulse Gram	0.24	6.16	56.35	4.22
4	Besan	0.15	1.95	50.50	2.41
5	Pulse Mash (Washed)	0.21	21.58	38.30	3.39
6	Tea	0.84	-15.14	27.35	9.06
7	Gram Whole	0.16	2.19	21.32	1.14
8	Cigarette	1.39	22.38	17.23	11.81
9	Pulse Masoor	0.27	15.09	8.11	0.75
10	Betel Leaves & Nuts	0.02	8.36	7.21	0.06
Total		4.20			59.00
C. Ranked by Weights					
1	Milk Fresh	6.68	6.98	3.75	11.42
2	Wheat Flour	4.16	-2.13	-3.00	-5.13
3	Meat	2.43	6.58	4.93	5.38
4	Vegetable Ghee	2.07	-1.17	-12.41	-7.35
5	Fresh Fruits	1.86	20.08	-8.04	-6.03
6	Fresh Vegetable	1.77	-4.32	4.96	4.08
7	Cooking Oil	1.75	-0.66	-16.57	-8.56
8	Rice	1.58	1.80	-19.15	-10.94
9	Cigarette	1.39	22.38	17.23	11.81
10	Chicken	1.36	6.82	0.52	0.23
Total		25.06			-5.10

Note: Weighted contribution is estimated by multiplying the weights by the price change of an item; this is then reported as a share in YoY change in CPI Food, which is 2.2 percent in November, 2015.

Table A3.4: Top Ten Contributors to CPI Non-food Inflation (YoY) in November 2015					
Items/ Contributors		Weights	YoY Change		Weighted Contribution
			Nov-14	Nov-15	
A. Ranked by Weighted Contribution					
1	House Rent	21.81	7.62	5.42	35.31
2	Education	3.94	14.59	8.75	12.23
3	Electricity	4.40	1.79	2.84	5.33
4	Gas	1.58	0.00	9.92	4.14
5	Tailoring	0.88	11.46	8.83	3.78
6	Cotton Cloth	1.73	13.85	3.92	2.59
7	Ready Made Garment	0.97	9.65	6.78	2.59
8	Household Servant	1.04	10.00	4.95	2.15
9	Personal Care	1.49	6.84	2.49	1.40
10	Woolen Readymade Garments	0.40	17.23	7.44	1.28
Total		38.25			70.79
B. Ranked by Percentage Change					
1	Sewing Needle & Dry Cell	0.15	6.56	9.96	0.50
2	Gas	1.58	0.00	9.92	4.14
3	Construction Wage Rate	0.33	6.97	9.30	1.17
4	Tailoring	0.88	11.46	8.83	3.78
5	Education	3.94	14.59	8.75	12.23
6	Woolen Readymade Garments	0.40	17.23	7.44	1.28
7	Ready Made Garment	0.97	9.65	6.78	2.59
8	House Rent	21.81	7.62	5.42	35.31
9	Hosiery	0.51	10.53	5.06	1.07
10	Household Servant	1.04	10.00	4.95	2.15
Total		31.62			64.21
C. Ranked by Weights					
1	House Rent	21.81	7.62	5.42	35.31
2	Electricity	4.40	1.79	2.84	5.33
3	Education	3.94	14.59	8.75	12.23
4	Communication & Apparatus	3.15	0.13	0.19	0.14
5	Motor Fuel	3.03	-9.83	-14.38	-14.08
6	Transport Services	2.70	-0.73	-4.35	-4.47
7	Cotton Cloth	1.73	13.85	3.92	2.59
8	Gas	1.58	0.00	9.92	4.14
9	Footwear	1.55	-3.12	0.52	0.24
10	Personal Care	1.49	6.84	2.49	1.40
Total		45.39			42.83
Note: Weighted contribution is estimated by multiplying the weights by the price change of an item; this is then reported as a share in YoY change in CPI Non-food, which is 3.1 percent in November, 2015.					

Table A4: Distribution of Price Changes (YoY) - Selected CPI Items: November 2015

Groups	Decrease or no change	Subdued increase (Greater than 0% but less than 5%)	Moderate increase (5% but less than 10%)	Double digit increase (10% or more)
Food & Non-Alcoholic Beverages	Potatoes, Guava, Ginger, Rice Basmati 385/386, Rice Basmati Sup. Qlty., Rice Basmati Broken Av.Qlty	Squash-Mitchells, Fruit Juice Tetra Pack, Cardamom Large Loose Av.Qlty, Beef With Bone Av.Qlty., Chillies Powder Loose	Gram Whole Yellow Av.Qlty, Cinnamon Loose Av. Qlty, Pulse Masoor (Washed), Malta/Mosambi, Tomato Ketchup Ahmed/Mitchells	Tomatoes, Onion, Pulse Gram, Besan Av. Qlty., Tea Lipton Yellow Label 200 Gm, Gram Whole Black Av Qlty., Pulse Mash (Washed), Peas, Chillies Green, Tapal Danedar Tea 200 Gm, Garlic, Arvi, Brinjal
Alcoholic Beverages & Tobacco			Betel Nuts, Betel Leaves	Cigarettes Morven Gold 20,S, Cigarettes Capstan 20,S, Cigarettes Gold Leaf 20,S, Cigarettes K-20,S
Clothing & Footwear	Gents Shoe, Art 1109 Servis, Child Shoe Power Lite Bata, Gents Shoes Paul Bata, Sports Shoes, Gents Spoung Chappal Bata	Socks Nylon (Pakistani), Vest/Shameez (Women) Av.Qlty, School Uni. Kameez-Shal. Girls, Brassier Av.Qlty, Tropical Suiting Law.Pur	Secondhand Sweater For Men, Tailoring Awami-Suit (Male), Tailoring Suit (Female), Awami-Suit W & W (Boys) 24"/26", Gloves Av.Qlty, Shoe Polish Charges Avg	
Housing, Water, Elect, Gas & other Fuels	Kerosene Oil, Iron Bar (M.S. Bar) 1/2", Elect. Charges 101 - 300 Units, Cement (Local)	Timber Shesham Log, Elect. Charges 301 - 1000 Units, Bricks (New) Ist Class, Bajree, Synthetic Enemal ICI, Elect. Charges Above 1000 Units	Gas Chrg Overall/ Combined, Mason (Raj) Wage Rate, Elect. Charges 01 - 100 Units, Carpenter Wage Rate, Cement Blocks (6"X8"X12")	Gas Chrg All Over 500 Mmbtu, Gas Chrg Over 300 - 500 Mmbtu, Electrician Wage Rate(P/Day), Unskilled Labour Wage Rat, Plumber Wage Rate
Furnishing & Household Equip. Maintenance etc	Tube Light Philips 40 Watt, Surf Excel 400 Gms Poly Bag, Washing Powder (Wheel/ Bonus), Sewing Machine Needle (Singer)	Household Servant Female (Part Time), Bucket(Balti) Plastic Med, Blanket (90" X 54"), Boot Polish Cherry/Kiwi 50 MI	Robin Blue (35 Gms), Towel(3'X2') Av. Qlty, Harpic, Lota Plastic (Med Size) Avg. Qlty, Tissue Paper Perfumed 100	Match Box (Small)
Health	Flagyl Tab. 200 Mg., Betnovate-N Ointment 5 Gm, Calcium Syrup Sandoz, Burnol Cream 30 Gm, Lederplex Syrup	Sugar Test (Random/Fasting), Glycerin Small Bottle, Doctor (Mbbs) Clinic Fee, O.R.S. (Nimcol), Thermometer China, ECG Charges	Jouhar Joshanda, Gripe-Water Woodward's, Blood Test (Cp) Charges, X-Ray (Chest) Charges, Urine Test (Dr) Charges	
Transport	Gas Cylinder S. Size (L.P.G), Petrol Super, High Speed Diesel HSD, Minibus Fare Max.Within City	Full Tonga Charges, Motor Cycle Service Charges, Car Service Charges, Cycle Overhauling Charges, Bicycle With Tyres & Tube	Tyre Puncture Charges	
Communication	Postal Envelope Domestic, Mobile Cell Charges, Telephone Charges Local Call	Telephone Set Av. Qlty, Fax Charges (Local), Mobile Set Nokia/Sony/Ericsson Av.Qlty, U.M.S. Reg Charges Min.	Internet Charges	T.C.S. Ch. Min.Within Zone
Recreation & Culture	Urdu Book Class IX/X (T.B.Board), English Book Class IX or X, V.C.P. Panasonic/LG/National, English Book BA/B.Sc, TV License Fee Domestic	Urdu Book Class V (T.B.Board), Urdu Book Ist Year/ Inter, Exercise Book Lined 80/10, Photostat Paper 70 Gm, Fountain Pen Hero/Wings/China	Cinema Non-A/C High Class, Maths Book Class IX or X, Maths Book Cals V (T.B.Board), English Book Class V1, Pencil Goldfish/Deer	Cinema A/C High Class, Ball Pen (Local)
Education	Govt. Med. College Fee MBBS Ist Year, Govt. Engg. Coll. Fee Ist Year, Govt. College Fee Ist. Year	Coaching Charges For Class XI/ XII Commerce Group, Coaching Charges For Class XI/ XII Science Group		Pvt School Fee Eng. Med (Class-X), Pvt School Fee Eng. Med (Class-VI), Pvt School Fee Eng. Med (Class-V), Pvt School Fee Eng. Med (Class-I)
Restaurant & Hotels		Cooked Beef (Av. Hotel), Bread Tandoori St. Size	Cooked Dal (Av. Hotel), Tea Prepared (Ordinary), Cooked Mutton (Av. Hotel)	
Miscellaneous	Toilet Soap Lux 95 Gms, Gold Tezabi 24 Ct, Silver Tezabi 24 Ct, Toothpaste Macleans 70 Gms	Hair Oil Amla/Chambeli, Beauty Cream (Fair & Lovely), Hair Color Bigen, Gel Medium Size	Suitcase Rexin (24"X16"X6"), Haircut Charges For Men, Perfume Med. Size Medora/Broche	Shaving Charges, Purse Ladies (Leather) Av. Qlty

Table A5: City- wise CPI Inflation by Income Groups, November 2015

	Up to Rs: 8000						Rs 8001- 12000					
	General		Food		Non-Food		General		Food		Non-Food	
	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY
1 Rawalpindi	2.7	4.5	5.2	4.2	-0.3	4.8	2.6	4.9	5.5	4.3	-0.4	5.6
2 Islamabad	0.5	3.6	1.0	5.1	-0.1	1.7	0.6	3.4	1.1	5.0	0.0	1.7
3 Lahore	0.5	0.0	0.9	-1.9	-0.1	3.0	0.5	0.1	1.0	-2.1	0.0	3.1
4 Gujranwala	0.7	2.5	1.0	0.9	0.2	4.6	0.7	2.4	1.1	0.9	0.3	4.3
5 Sialkot	1.5	1.7	2.7	1.1	-0.2	2.5	1.5	1.6	2.8	0.7	0.1	2.7
6 Faisalabad	0.0	3.3	-0.3	3.3	0.5	3.3	0.1	2.8	-0.3	2.8	0.5	2.9
7 Multan	0.4	2.5	0.6	2.2	0.3	2.9	0.5	2.7	0.6	2.4	0.3	3.0
8 Sargodha	1.0	5.4	1.7	4.4	0.2	6.6	1.0	5.7	1.7	4.5	0.2	6.8
9 Bahawalpur	0.1	2.6	0.2	2.1	0.0	3.2	0.2	2.7	0.4	2.5	0.1	2.8
10 Karachi	0.4	4.5	0.7	2.5	0.0	7.1	0.5	4.5	0.8	2.6	0.1	6.7
11 Hyderabad	-0.4	2.6	-0.7	1.9	0.0	3.5	-0.3	3.0	-0.6	2.2	0.0	4.0
12 Sukkur	1.3	3.5	2.2	3.5	0.3	3.6	1.3	3.7	2.2	3.3	0.3	4.1
13 Larkana	-0.2	-0.4	-0.4	-1.8	0.0	1.3	-0.5	0.0	-1.1	-1.5	0.0	1.6
14 Peshawar	1.0	4.3	1.7	5.1	0.2	3.3	0.9	4.6	1.5	5.4	0.2	3.7
15 Bannu	1.2	2.3	2.1	2.1	0.2	2.5	1.3	2.1	2.4	1.7	0.2	2.5
16 Quetta	0.6	1.4	1.2	-1.9	0.0	5.8	0.7	1.9	1.3	-1.4	0.0	5.6
17 Khuzdar	-0.3	-2.5	-0.4	-5.3	-0.1	1.1	-0.3	-3.2	-0.4	-5.1	-0.1	-0.9

	Rs 12001-18000						Rs 18001-35000					
	General		Food		Non-Food		General		Food		Non-Food	
	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY
1 Rawalpindi	2.2	4.9	4.5	4.3	0.1	5.4	1.7	4.9	3.8	5.1	0.1	4.8
2 Islamabad	0.7	3.2	1.4	5.3	0.1	1.3	0.8	3.3	1.7	6.0	0.0	1.0
3 Lahore	0.6	-0.1	1.0	-1.9	0.0	2.2	0.6	0.1	1.2	-1.8	0.0	2.0
4 Gujranwala	0.8	2.4	1.3	1.2	0.4	3.7	0.9	2.3	1.4	1.5	0.4	3.1
5 Sialkot	1.5	1.2	2.7	0.4	0.4	2.0	1.4	1.6	2.6	1.2	0.3	2.0
6 Faisalabad	0.1	2.7	-0.2	2.6	0.4	2.9	0.2	2.3	-0.1	2.3	0.5	2.2
7 Multan	0.5	2.7	0.6	2.6	0.4	2.7	0.5	2.7	0.7	3.0	0.3	2.4
8 Sargodha	1.0	5.6	1.9	4.5	0.3	6.5	1.1	5.4	2.2	5.0	0.3	5.7
9 Bahawalpur	0.2	2.6	0.3	2.6	0.1	2.6	0.3	2.4	0.6	3.0	0.1	2.0
10 Karachi	0.5	4.7	0.9	2.9	0.1	6.5	0.5	4.5	1.0	2.9	0.1	6.0
11 Hyderabad	-0.3	2.9	-0.6	2.4	0.0	3.4	-0.3	2.8	-0.6	2.7	0.0	2.9
12 Sukkur	1.3	3.8	2.2	3.4	0.4	4.2	0.9	3.8	1.5	3.5	0.3	4.0
13 Larkana	-0.4	0.3	-0.9	-1.1	0.0	1.6	-0.5	0.9	-1.2	-0.4	0.0	1.9
14 Peshawar	0.8	4.6	1.4	5.5	0.2	3.8	0.7	4.5	1.4	5.9	0.2	3.3
15 Bannu	1.4	2.3	2.6	2.1	0.2	2.4	1.4	2.6	2.8	2.1	0.2	3.0
16 Quetta	0.5	1.9	1.0	-1.1	0.1	5.0	0.3	1.9	0.5	-1.2	0.1	4.6
17 Khuzdar	-0.2	-3.0	-0.3	-4.4	0.0	-1.4	-0.1	-2.3	-0.3	-4.0	0.0	-0.9

	Above Rs 35000						Combined					
	General		Food		Non-Food		General		Food		Non-Food	
	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY
1 Rawalpindi	1.2	5.1	3.5	4.8	0.1	5.2	1.5	5.0	3.9	4.8	-0.1	5.2
2 Islamabad	0.4	3.0	1.1	5.3	0.0	1.9	0.4	3.1	1.2	5.3	-0.2	1.5
3 Lahore	0.5	0.7	1.3	-1.6	0.1	2.1	0.5	0.4	1.2	-1.8	0.0	2.3
4 Gujranwala	0.7	2.6	1.3	1.5	0.4	3.2	0.8	2.5	1.3	1.3	0.4	3.4
5 Sialkot	1.3	1.8	2.7	1.7	0.5	1.9	1.4	1.7	2.7	1.2	0.4	2.1
6 Faisalabad	0.2	1.9	0.0	1.6	0.3	2.0	0.1	2.5	-0.2	2.4	0.4	2.5
7 Multan	0.4	2.4	0.5	3.0	0.3	2.1	0.4	2.6	0.6	2.8	0.3	2.4
8 Sargodha	1.0	5.8	2.2	5.0	0.5	6.2	1.0	5.6	2.0	4.8	0.4	6.1
9 Bahawalpur	0.3	2.5	0.6	3.4	0.1	2.1	0.2	2.6	0.5	2.9	0.1	2.4
10 Karachi	0.5	5.1	1.1	2.5	0.2	6.6	0.5	4.9	1.0	2.6	0.1	6.7
11 Hyderabad	-0.2	2.7	-0.5	3.0	0.0	2.5	-0.3	2.8	-0.6	2.7	0.0	3.0
12 Sukkur	0.5	3.6	1.0	2.9	0.3	4.0	1.0	3.7	1.7	3.4	0.4	4.0
13 Larkana	-0.8	0.8	-1.8	-0.8	-0.3	1.5	-0.5	0.4	-1.0	-1.0	-0.2	1.3
14 Peshawar	0.6	3.7	1.5	5.8	0.1	2.7	0.7	4.2	1.5	5.6	0.2	3.2
15 Bannu	0.9	1.8	1.7	1.6	0.5	1.8	1.2	2.3	2.4	2.1	0.4	2.4
16 Quetta	0.1	2.2	0.3	-1.1	0.1	3.8	0.4	2.0	0.7	-1.2	0.1	4.3
17 Khuzdar	0.0	-0.9	-0.4	-2.2	0.2	-0.3	-0.2	-2.5	-0.4	-4.4	-0.1	-1.1

Table A6: City- wise CPI Inflation (YoY) November, 2015

City	High inflation cities			City	Low inflation cities		
	General	Food	Non-food		General	Food	Non-food
Jhang	5.6	8.4	3.8	Bahawalnagar	2.6	4.9	1.2
Sargodha	5.6	4.8	6.1	Bahawalpur	2.6	2.9	2.4
Nawabshah	5.6	4.8	6.1	Multan	2.6	2.8	2.4
Mardan	5.2	4.6	5.6	D. I. Khan	2.6	4.5	1.2
Rawalpindi	5.0	4.8	5.2	Gujranwala	2.5	1.3	3.4
Karachi	4.9	2.6	6.7	Faisalabad	2.5	2.4	2.5
Mingora	4.8	3.2	5.9	Jhelum	2.4	2.6	2.3
Peshawar	4.2	5.6	3.2	Bannu	2.3	2.1	2.4
Attock	4.1	2.2	5.4	Dadu	2.3	2.8	1.9
Sukkur	3.7	3.4	4.0	Muzaffargarh	2.1	1.9	2.2
Mithi	3.5	2.9	3.8	Rahim Yar Khan	2.0	0.8	2.9
Mir Pur Khas	3.1	3.1	3.1	Quetta	2.0	-1.2	4.3
Islamabad	3.1	5.3	1.5	Loralai & Cantt	2.0	1.6	2.2
D.G. Khan	3.0	2.1	3.6	Dera Mrd. Jamali	1.9	1.1	2.5
Wazirabad	3.0	4.2	2.1	Sialkot	1.7	1.2	2.1
Hyderabad	2.8	2.7	3.0	Vehari	1.5	4.2	-0.4
Sahiwal	2.8	1.2	3.8	Mianwali	1.5	-1.1	3.2
				Abbotabad	1.4	1.7	1.2
				Turbat	0.9	-2.3	3.0
				Lahore	0.4	-1.8	2.3
				Larkana	0.4	-1.0	1.3
				Gwadar	-2.1	-4.6	-0.4
				Khuzdar	-2.5	-4.4	-1.1

Note: High inflation refers to equal or above average inflation, and low inflation refers to below average

Table A7: Income Group-wise Inflation (percent)						
	MoM			YoY		
	Nov-14	Oct-15	Nov-15	Nov-14	Oct-15	Nov-15
<u>Up to Rs. 8000</u>						
General	-0.5	0.7	0.7	2.6	1.3	2.5
Food	-0.7	0.9	1.2	0.2	-0.2	1.7
Non-food	-0.1	0.6	0.1	5.8	3.2	3.5
<u>Rs. 8001- 12000</u>						
General	-0.4	0.6	0.7	3.0	1.6	2.8
Food	-0.6	0.7	1.2	0.9	-0.1	1.8
Non-food	-0.3	0.6	0.1	5.5	3.5	3.9
<u>Rs. 12001- 18000</u>						
General	-0.4	0.5	0.7	3.4	1.2	2.3
Food	-0.5	0.6	1.2	1.4	0.3	2.0
Non-food	-0.2	0.5	0.2	5.5	2.2	2.5
<u>Rs. 18001- 35000</u>						
General	-0.4	0.5	0.7	3.7	1.8	2.9
Food	-0.5	0.4	1.2	2.1	0.6	2.3
Non-food	-0.4	0.5	0.2	5.2	2.9	3.5
<u>Above Rs. 35000</u>						
General	-0.6	0.4	0.5	4.6	1.7	2.8
Food	-0.3	0.2	1.1	3.1	0.9	2.4
Non-food	-0.8	0.5	0.2	5.3	2.1	3.1
<u>All income groups</u>						
General	-0.5	0.5	0.6	4.0	1.6	2.7
Food	-0.4	0.4	1.2	2.1	0.5	2.2
Non-food	-0.6	0.5	0.2	5.4	2.4	3.1

Table A8: SPI Item-wise Price Movements

Sr.No.	Items	Unit	Prices	Percentage change	
			Nov-15	YoY	MoM
1	Wheat	10Kg.	347.7	-1.9	2.3
2	Wheat Flour Bag	10Kg.	396.3	-1.6	1.4
3	Rice Basmati Broken	Kg.	62.8	-15.7	-5.0
4	Rice Irri-6	Kg.	46.0	-12.0	-3.3
5	Bread Plain Med. Size (340-400 Gm.)	Each	40.8	0.0	0.0
6	Beef	Kg.	316.1	4.7	0.3
7	Mutton	Kg.	624.8	5.4	0.5
8	Chicken Live (Farm)	Kg.	136.0	-8.7	10.6
9	Milk Fresh	Litr	78.0	2.3	0.2
10	Curd	Kg.	92.1	2.8	0.4
11	Milk Powdered Nido	500G	377.7	7.9	2.5
12	Egg Hen (Farm)	Doz.	98.5	-14.1	7.3
13	Mustard Oil	Kg.	180.2	-2.9	0.1
14	Cooking Oil (Tin)	2.5Ltr	455.0	-15.2	-0.6
15	Veg. Ghee (Tin)	2.5Kg.	446.9	-12.5	-0.7
16	Veg. Ghee Loose	Kg.	137.2	-13.2	-1.2
17	Bananas	Doz.	59.3	-4.1	-9.2
18	Masoor Pulse Washed	Kg.	145.7	7.1	0.5
19	Moong Pulse Washed	Kg.	160.1	0.7	-0.2
20	Mash Pulse Washed	Kg.	237.5	45.8	5.9
21	Gram Pulse Washed	Kg.	122.6	60.0	2.2
22	Potatoes	Kg.	33.4	-44.4	3.5
23	Onions	Kg.	61.0	95.6	8.9
24	Tomatoes	Kg.	81.0	73.1	16.2
25	Sugar	Kg.	59.6	4.9	-3.2
26	Gur	Kg.	89.4	5.5	-6.1
27	Salt Powdered Loose (Lahori)	Kg.	10.4	4.2	0.1
28	Red Chillies Powder Loose	Kg.	270.9	2.3	-0.9
29	Garlic	Kg.	185.5	36.3	3.5
30	Tea (Yellow Label)	200Gm.	189.3	48.2	4.9
31	Cooked Beef Plate	Each	85.6	3.9	0.9
32	Cooked Dal Plate	Each	52.2	9.1	2.8
33	Tea Prepared (Sada)	Cup	19.5	4.8	2.2
34	Cigarettes K-2 (20'S)	20'S	54.8	20.6	0.0
35	Long Cloth (Coarse Latha)	Mtr.	202.8	1.6	0.0
36	Shirting	Mtr.	161.9	3.3	0.0
37	Lawn	Mtr.	243.0	1.6	0.0
38	Georgette (Voil Printed)	Mtr.	123.1	0.0	0.0
39	Sandal Gents Bata	Pair	699.0	0.0	0.0
40	Chappal Spong. Bata (Gents)	Pair	179.0	0.0	0.0
41	Sandal Ladies Bata	Pair	499.0	0.0	0.0
42	Electric Charges 1-50	Unit	2.0	0.0	0.0
43	Gas Charges upto 3.3719	Mmbtu	128.7	3.6	0.0
44	Kerosene	Litr	84.3	-22.8	0.8
45	Firewood	40Kg	590.0	5.6	0.6
46	Energy Savor 14 Watts	Each	166.6	0.7	0.0
47	Washing Soap (200-250 Gm.)	Cake	24.7	1.6	0.0
48	Match Box	Each	2.0	12.6	1.0
49	Petrol	Litr	77.2	-19.0	3.5
50	Diesel	Litr	84.8	-17.2	2.3
51	L.P.G.(11 Kg Cylinder.)	Each	1105.3	-27.0	1.6
52	Tele. Local Call	Call	3.9	0.0	0.0
53	Bath Soap Lifebuoy (Standard)	Cake	36.7	2.0	0.1
Maximum				95.6	16.2
Median				1.6	0.1
Minimum				-44.4	-9.2

Table A9: Distribution of Price Changes (YoY) - WPI Items: November 2015				
Groups	Decrease or no change	Subdued increase (Greater than 0% but less than 5%)	Moderate increase (5% but less than 10%)	Double digit increase (10% or more)
Agriculture Forestry & Fishery Products	Edible Roots/Potatoes, Stimulant and Spice Crops, Rice, Eggs, Other Oil Seeds, Maize, Sorghum/Jowar, Fresh Fruits, Hides and Fur Skins- Raw, Wheat	Poultry, Raw Animal Material/Wool, Milk from Bovine Animals	Unmanufactured Tobacco, Sugar Crops, Fibre Crops, Fuel Wood in Logs	Cotton Seeds, Fish Live Fresh or Chilled, Pulses, Vegetables, Dry Fruits, Millet/Bajra
Ores & Minerals, Electricity Gas & Water	Coal not Agglomerated, Electrical Energy	Natural Gas Liquefied, Salt & Pure Sodium Chloride		
Food Products, Beverages and Tobacco, Textiles, Apparel and Leather Products	Vegetable Ghee, Nylon Yarn, Vegetable Oil Refined, Blended Yarn, Cotton Yarn, Other Leather N.E.C, Milk and Cream in Solid Form, Other Food Products, Wheat Flour, Spices, Ice Cream	Blankets, Quilts, Meat of Animals, Ready Made Garments, Fruit Juices, Leather Without Hairs, Dairy Products N.E.C, Sugar Refined, Bed Sheets, Towels, Synthetic Carpets, Footwear, Dried Fruits & Nuts, Vegetables & Fruit Juices, Chocolate, Processed Liquid Milk, Mineral Water, Cotton Fabrics, Beverages	Woolen Carpets, Oil Cakes, Hosiery Products, Other Fabrics, Silk and Rayon Fabrics	Other Cereal Flour, Coffee and Tea, Tobacco Products, Sugar Confectionary, Woven Fabrics
Other Transportable Goods except Metal Products, Machinery and Equipments	Furnace Oil, Kerosene Oil, Diesel Oil, Insecticides, Motor Sprit, Hard Board, Chemicals, Printing Paper, Cement, Mobil Oil, Coke	Auto Tyres, Soaps & Detergent, Dying Materials, Medicines, Bed Foams, Fertilizers	Plastic Products, Ceramics and Sanitary, Other Glass Articles, Bricks Blocks and Tiles, Paints & Varnishes	Pesticides, Matches, Timber, Glass Sheets
Metal Product Machinery & Equipment	Steel Bars & Sheets, Tractors, Cultivators, Motor Cycles, Steel Products, Pig Iron, Engines and Motors, Vacuum Pumps, Concrete Mixer, Radio and Television, Lathe Machines, Chuff Cutter, Motor Vehicles	Air Conditioners, Pipe Fittings, Bicycles, Refrige,Wash& Sew Mach,Iron,Fan, Lighting Equipments	Electrical Wires	

Table A10: Consumer Price Index Numbers by Major Groups and Composite Commodities

Items and specification	Weights	Index		
		Nov-14	Oct-15	Nov-15
General	100.00	198.79	203.03	204.22
Food & Non-Alcoholic Beverages.	34.83	220.25	220.40	223.17
1 Wheat	0.35	211.83	200.07	202.99
2 Wheat Flour	4.16	222.97	213.10	216.28
3 Wheat Product	0.10	219.98	214.59	216.05
4 Besan	0.15	172.67	250.61	259.87
5 Rice	1.58	196.10	164.50	158.55
6 Cereals	0.16	239.07	244.03	244.41
7 Bakery & Confectionary	1.16	206.65	209.83	210.04
8 Nimco	0.46	238.29	241.54	242.93
9 Meat	2.43	243.83	255.19	255.84
10 Chicken	1.36	173.51	143.98	174.41
11 Fish	0.30	217.91	214.66	219.78
12 Milk Fresh	6.68	247.74	256.89	257.02
13 Milk Product	0.63	242.95	248.48	249.39
14 Milk Powder	0.11	225.38	230.26	231.58
15 Egg	0.46	234.65	181.97	201.40
16 Mustard Oil	0.10	158.89	154.04	155.03
17 Cooking Oil	1.75	159.95	135.21	133.44
18 Vegetable Ghee	2.07	155.25	137.08	135.99
19 Dry Fruits	0.25	246.55	252.42	255.10
20 Fresh Fruits	1.86	218.51	217.91	200.95
21 Pulse Masoor	0.27	186.28	199.45	201.38
22 Pulse Moong	0.23	295.69	300.95	300.34
23 Pulse Mash (Washed)	0.21	229.35	308.24	317.19
24 Pulse Gram	0.24	172.33	262.84	269.43
25 Gram Whole	0.16	179.16	214.37	217.36
26 Beans	0.03	245.30	233.73	233.73
27 Potatoes	0.44	430.89	207.81	234.45
28 Onion	0.51	203.33	326.26	373.92
29 Tomatoes	0.41	141.15	233.56	275.88
30 Fresh Vegetable	1.77	253.04	257.22	265.60
31 Sugar	1.04	205.96	221.27	213.03
32 Gur	0.02	263.18	291.22	278.99
33 Honey	0.04	300.07	304.38	305.40
34 Sweet Meet	0.25	231.95	238.40	238.79
35 Beverages	1.20	206.90	217.86	217.39
36 Jam, Tomato Ketchup & Pickle	0.25	202.38	211.33	211.59
37 Condiments	0.27	251.93	258.82	259.27
38 Spices	0.54	234.33	237.30	237.23
39 Tea	0.84	214.72	265.12	273.45
Alcoholic Beverages, Tobacco	1.41	266.65	309.96	312.26
40 Cigarette	1.39	267.63	311.47	313.74
41 Betel Leaves & Nuts	0.02	207.58	218.45	222.55
Clothing & Footwear	7.57	213.01	221.89	222.75
42 Cotton Cloth	1.73	207.27	215.33	215.40
43 Woolen Cloth	0.88	230.53	236.95	237.76
44 Ready Made Garment	0.97	212.79	226.37	227.22
45 Woolen Readymade Garments	0.40	234.72	245.98	252.19
46 Hosiery	0.51	224.72	235.05	236.08
47 Dopatta	0.44	229.61	234.91	235.00
48 Cleaning & Laundering	0.21	235.28	245.70	246.39

Table A10: Consumer Price Index Numbers by Major Groups and Composite Commodities				
Items and specification	Weights	Index		
		Nov-14	Oct-15	Nov-15
49 Tailoring	0.88	262.50	283.94	285.69
50 Footwear	1.55	164.29	165.10	165.14
Housing,Water,Elect,Gas & Other Fuel	29.41	174.01	182.62	182.66
51 House Rent	21.81	162.06	170.85	170.85
52 Construction Input Item	0.56	236.32	241.36	241.85
53 Construction Wage Rate	0.33	204.38	220.31	223.39
54 Water Supply	0.50	149.92	149.92	149.92
55 Electricity	4.40	231.52	238.10	238.10
56 Gas	1.58	143.81	158.08	158.08
57 Kerosene Oil	0.01	260.32	208.72	211.04
58 Fire Wood Whole	0.23	268.99	278.99	279.21
Furnished H.Hold Equip.& Maint. Etc	4.21	208.26	215.49	215.78
59 Furniture	0.33	200.00	206.70	207.09
60 Household Textile	0.65	205.12	213.29	214.08
61 Household Equipment	0.59	172.08	175.73	175.89
62 Utensils	0.32	209.64	218.25	218.40
63 Plastic Products	0.25	199.79	204.85	204.88
64 Washing Soap & Detergent	0.79	222.79	225.68	225.85
65 Sewing Needle & Dry Cell	0.15	183.61	200.81	201.89
66 Household Servant	1.04	226.02	237.20	237.20
67 Marriage Hall Charges	0.08	230.24	232.49	234.20
Health	2.19	175.37	179.67	180.59
68 Drug Medicine	1.27	147.26	149.02	149.14
69 Medical Equipment	0.01	221.31	226.26	226.66
70 Doctor (MBBS) Clinic Fee	0.59	236.75	244.44	247.40
71 Medical Test	0.32	172.27	180.37	180.65
Transport	7.20	190.59	175.80	177.09
72 Motor Vehicle	0.66	163.75	163.02	163.03
73 Motor Vehicle Accessories	0.24	229.63	227.21	227.45
74 Motor Fuel	3.03	175.69	147.50	150.43
75 Mechanical Service	0.46	209.51	218.85	219.41
76 Motor Vehicle Tax	0.11	210.18	210.18	210.18
77 Transport Services	2.70	206.36	197.35	197.38
Communication	3.22	129.99	130.36	130.39
78 Postal Services	0.07	221.37	229.93	229.93
79 Communication & Apparatus	3.15	128.07	128.27	128.31
Recreation & Culture	2.02	189.55	193.55	193.66
80 Recreation & Culture	0.86	128.04	128.26	128.29
81 Text Books	0.57	280.89	290.62	290.62
82 News Papers	0.19	175.42	175.42	175.42
83 Stationery	0.40	198.96	204.88	205.39
Education	3.94	192.41	209.25	209.25
84 Education	3.94	192.41	209.25	209.25
Restaurants And Hotels	1.23	242.78	253.30	254.36
85 Ready Made Food	1.23	242.78	253.30	254.36
Miscellaneous Goods And Services	2.76	220.35	225.79	225.02
86 Personal Care	1.49	204.40	209.29	209.48
87 Cosmetics	0.39	185.73	193.11	193.11
88 Blades	0.03	185.42	190.75	190.75
89 Personal Equipments	0.84	265.71	271.23	268.39

Table A11: Wholesale Price Index Numbers by Major Groups and Composite Commodities

Items and Specifications	Index		
	Nov-14	Oct-15	Nov-15
General	212.26	208.69	208.72
Agriculture Forestry & Fishery	219.26	228.36	226.06
1 Wheat	216.76	209.37	215.84
2 Maize	191.93	191.32	185.64
3 Rice	181.10	150.22	143.04
4 Sorghum/Jowar	280.16	293.25	271.60
5 Millet/Bajra	171.52	200.68	188.77
6 Vegetables	285.84	331.56	320.31
7 Fresh Fruits	210.77	253.80	206.96
8 Dry Fruits	220.92	238.92	243.32
9 Cotton Seeds	188.86	243.34	251.49
10 Other Oil Seeds	188.07	162.75	164.88
11 Edible Roots/ Potatoes	483.87	184.04	204.98
12 Stimulant And Spice Crops	362.38	306.38	269.27
13 Pulses	202.21	243.87	245.62
14 Sugar Crops	267.92	286.29	286.29
15 Fibre Crops	163.54	172.23	173.76
16 Unmanufactured Tobacco	212.62	228.38	229.69
17 Poultry	174.87	146.78	181.52
18 Milk From Bovine Animals	250.31	254.04	254.04
19 Eggs	241.19	193.56	205.67
20 Raw Animal Material/Wool	173.82	173.66	179.16
21 Hides And Fur Skins, Raw	156.37	155.85	153.62
22 Fuel Wood In Logs	250.46	263.57	263.57
23 Fishes Live Fresh Or Chilled	259.83	339.32	339.32
Ores/Minerals, Gas & Elect.	247.62	246.91	246.98
24 Coal Not Agglomerated	223.53	192.16	192.16
25 Natural Gas Liquefied	204.85	209.82	209.99
26 Salt & Pure Sodium Chloride	247.16	252.31	252.31
27 Electrical Energy	295.61	293.09	293.09
Food, Beverages, Tobacco, Textiles	207.90	211.04	212.98
28 Meat Of Animals	257.41	266.98	266.98
29 Vegetables & Fruit Juices	196.79	200.95	201.03
30 Dried Fruits & Nuts	227.45	230.84	232.47
31 Fruit Juices	171.93	177.53	177.53
32 Vegetable Oil Refined	163.13	150.19	149.09
33 Vegetable Ghee	137.39	118.43	118.02
34 Oil Cakes	198.27	202.18	212.90
35 Processed Liquid Milk	242.78	247.18	247.18
36 Milk And Cream In Solid Form	222.04	216.39	216.50
37 Ice Cream	219.91	219.91	219.91
38 Dairy Products N.E.C	237.72	244.60	244.60
39 Wheat Flour	202.78	197.66	202.06
40 Other Cereal Flour	140.16	220.69	224.57
41 Sugar Refined	218.74	233.67	224.95
42 Chocolate	99.19	101.06	101.06
43 Sugar Confectionary	102.28	118.83	118.83
44 Coffee And Tea	188.05	246.32	259.94
45 Spices	188.69	188.53	188.29
46 Other Food Products	296.60	292.02	292.02
47 Mineral Water	185.63	188.35	188.35
48 Beverages	171.52	171.95	171.95
49 Tobacco Products	290.52	356.45	356.45
50 Cotton Yarn	186.79	169.21	178.19
51 Nylon Yarn	161.23	147.08	147.08
52 Blended Yarn	194.74	183.55	183.29
53 Woven Fabrics	237.79	265.37	265.37
54 Cotton Fabrics	200.51	201.65	201.65
55 Other Fabrics	206.11	217.95	217.81

Inflation Monitor, November 2015

Table A11: Wholesale Price Index Numbers by Major Groups and Composite Commodities				
Items and Specifications		Index		
		Nov-14	Oct-15	Nov-15
56	Silk And Rayon Fabrics	177.28	186.80	186.80
57	Towels	260.85	267.20	267.20
58	Blankets	232.93	235.86	243.93
59	Bed Sheets	249.35	256.29	256.29
60	Quilts	188.74	196.84	196.84
61	Woolen Carpets	132.14	132.14	142.86
62	Synthetic Carpets	126.27	126.27	129.25
63	Hosiery Products	210.35	222.88	222.88
64	Ready Made Garments	186.77	193.27	193.27
65	Leather With Out Hairs	215.02	221.97	221.97
66	Other Leather N.E.C	215.39	206.27	206.27
67	Footwear's	134.22	134.22	137.38
Other Transportable Goods		206.62	176.74	176.87
68	Timber	190.70	213.18	214.43
69	Printing Paper	169.34	164.56	164.56
70	Hard Board	229.17	197.92	197.92
71	Coke	163.45	163.45	163.45
72	Motor Sprit	159.11	124.58	128.80
73	Diesel Oil	235.67	170.11	172.03
74	Kerosene Oil	254.18	152.12	152.12
75	Furnace Oil	157.65	79.32	75.72
76	Mobil Oil	201.53	199.78	199.78
77	Chemicals	198.36	186.09	185.92
78	Dying Materials	143.77	146.55	146.55
79	Fertilizers	270.69	274.03	273.25
80	Pesticides	266.71	312.37	312.37
81	Insecticides	177.41	138.59	134.66
82	Paints & Varnishes	280.05	295.36	295.36
83	Medicines	144.94	146.38	146.67
84	Soaps & Detergent	177.83	180.67	181.33
85	Auto Tyres	188.28	192.83	192.83
86	Plastic Products	214.92	231.05	231.05
87	Glass Sheets	209.86	231.30	231.30
88	Other Glass Articles	230.45	243.63	243.63
89	Ceramics And Sanitary	212.17	227.13	227.13
90	Bricks Blocks And Tiles	205.47	216.83	217.09
91	Cement	209.76	206.70	206.79
92	Bed Foams	155.17	156.67	156.67
93	Matches	143.20	162.62	162.62
Metal Product Machinery & Equip		172.72	171.31	171.09
94	Pig Iron	128.97	128.97	128.97
95	Steel Bars & Sheets	148.95	129.32	127.63
96	Pipe Fittings	191.94	192.08	195.10
97	Steel Products	173.80	173.54	173.54
98	Engines And Motors	109.07	109.07	109.07
99	Vacuum Pumps	115.39	115.39	115.39
100	Air Conditioners	195.53	200.18	200.18
101	Cultivators	226.90	219.76	219.76
102	Chuff Cutter	149.20	149.20	149.20
103	Tractors	214.54	205.43	205.43
104	Lathe Machines	208.81	208.81	208.81
105	Concrete Mixer	138.83	138.83	138.83
106	Refrige,Wash& Sew Mach, Iron,Fan	197.85	200.25	200.43
107	Electrical Wires	184.79	195.19	195.19
108	Lighting Equipments	165.30	167.30	167.30
109	Radio And Television	126.49	126.49	126.49
110	Motor Vehicles	183.03	183.03	183.03
111	Motor Cycles	126.92	125.89	125.89
112	Bicycles	182.84	185.63	185.63

Table A12: Price Indices - Base 2007-08 = 100

Period		CPI			WPI			SPI *
		Overall	Food	Non-food	Overall	Food	Non-Food	
2008-09		117.03	123.12	113.38	118.93	119.68	118.45	123.26
2009-10		128.85	139.05	122.73	135.40	136.85	134.48	139.84
2010-11		146.45	164.10	135.87	164.17	159.26	167.28	164.02
2011-12		162.57	182.20	150.80	181.28	181.32	181.26	178.67
2012-13		174.53	195.18	162.16	194.61	197.21	192.95	189.64
2013-14		189.58	212.74	175.69	210.48	213.04	208.85	208.66
2014-15		198.16	220.20	184.95	209.85	226.22	199.47	212.61
2013	May	178.65	200.00	165.85	197.23	201.14	194.75	191.96
	Jun	179.94	202.11	166.65	199.21	204.60	195.79	196.75
	Jul	183.58	208.19	168.83	202.49	209.34	198.15	200.80
	Aug	185.71	212.27	169.79	207.85	211.45	205.57	203.29
	Sep	185.18	209.09	170.85	209.33	211.29	208.09	203.05
	Oct	188.82	212.61	174.56	211.70	213.26	210.71	207.69
	Nov	191.21	218.16	175.06	212.22	215.77	209.97	214.76
	Dec	188.68	210.89	175.37	210.11	210.28	210.00	210.78
2014	Jan	189.60	210.81	176.89	211.23	209.87	212.10	208.99
	Feb	189.00	208.74	177.17	210.94	208.67	212.38	208.54
	Mar	190.82	213.11	177.46	211.66	212.89	210.88	212.08
	Apr	194.06	217.33	180.11	211.88	216.70	208.82	211.78
	May	193.55	214.75	180.84	211.71	215.95	209.02	209.80
	Jun	194.74	216.98	181.41	214.60	221.06	210.50	212.40
	Jul	198.05	222.80	183.21	215.76	225.52	209.57	216.14
	Aug	198.70	224.05	183.50	214.73	227.26	206.78	217.08
	Sep	199.40	224.12	184.58	215.06	228.41	206.59	217.06
	Oct	199.81	223.74	185.47	214.39	229.02	205.11	216.67
	Nov	198.79	222.74	184.44	212.26	227.29	202.73	214.45
	Dec	196.79	218.08	184.03	208.25	223.48	198.59	211.76
2015	Jan	196.95	217.10	184.87	206.11	223.48	195.09	209.89
	Feb	195.13	213.15	184.33	203.86	222.26	192.19	206.98
	Mar	195.57	214.25	184.37	203.89	222.11	192.33	207.05
	Apr	198.16	217.26	186.71	205.65	225.38	193.13	208.42
	May	199.66	221.22	186.74	207.92	228.09	195.12	211.48
	Jun	200.89	223.84	187.13	210.37	232.39	196.40	214.29
	Jul	201.91	224.14	188.59	209.58	233.68	194.29	215.13
	Aug	202.25	224.86	188.70	208.42	236.00	190.92	214.33
	Sep	202.04	223.87	188.95	207.60	234.37	190.61	215.23
	Oct	203.03	224.86	189.95	208.69	234.47	192.34	217.02
	Nov	204.22	227.55	190.23	208.72	232.83	193.43	219.37

*: all groups combined

Table A13: International Commodity Prices/ Indices				
	Aug-15	Sep-15	Oct-15	Nov-15
Energy				
Crude Oil (US\$ per barrel) *	45.7	46.3	47.0	43.1
IMF Energy Index (2005 = 100)	89.1	89.3	89.4	83.1
WB Energy Index (2010 = 100) @	59.5	59.7	59.7	55.2
Food				
Rice (\$/MT)	375.6	358.8	360.5	358.4
Wheat (\$/MT)	173.5	163.8	165.4	157.7
Sugar (US cent/ pound)	10.7	12.1	14.1	14.9
Palm Oil (\$/MT)	484.7	483.5	530.2	503.2
Soybean Oil (\$/MT)	628.7	590.3	623.8	614.7
Non-Food Non-Energy				
Cotton Outlook 'A' Index #	71.8	68.7	69.0	69.2
IMF Metal Price Index (2005 = 100)	119.2	120.6	118.0	109.1
Copper (\$/MT)	5,127.3	5,217.3	5,216.1	4,799.9
Aluminum (\$/MT)	1,548.1	1,589.6	1,516.5	1,467.9
Iron Ore (\$ cents/dry MT)	55.4	56.4	52.7	46.2
Tin (\$/MT)	15,163.8	15,453.3	15,794.6	14,745.3
Nickle (\$/MT)	10,386.0	9,937.5	10,316.8	9,244.3
Zinc (\$/MT)	1,807.6	1,720.2	1,724.3	1,583.3
Lead (\$/MT)	1,703.6	1,684.3	1,720.1	1,618.3
Uranium (\$/MT)	36.1	36.9	37.0	35.7
DAP (\$/MT)	464.0	460.0	442.0	416.0
Urea (\$/MT)	273.0	259.0	255.0	257.0
Source: IMF and World Bank				
\$/MT = US\$ per metric ton.				
* Crude Oil (Petroleum), simple average of three spot prices; Dated Brent, West Texas Intermediate, and the Dubai fateh				
# Middling 1-3/32 inch staple, Liverpool Index "A", average of the cheapest Cts/lb five of fourteen styles, CIF Liverpool (Cotton Outlook, Liverpool). From January 1968 to May 1981 strict middling 1-1/16 inch staple. Prior to 1968, Mexican 1-1/16.2/				
DAP: Diammonium Phosphate				
@ World Bank commodity index for low and middle income countries				

Table 14. CPI Data Series Original and Seasonally Adjusted					
Original Series					
Period	FY12	FY13	FY14	FY15	FY16
Jul	154.72	169.57	183.58	198.05	201.91
Aug	156.88	171.09	185.71	198.70	202.25
Sep	158.50	172.44	185.18	199.40	202.04
Oct	160.79	173.10	188.82	199.81	203.03
Nov	161.25	172.42	191.21	198.79	204.22
Dec	160.12	172.82	188.68	196.79	
Jan	162.58	175.70	189.60	196.95	
Feb	163.07	175.11	189.00	195.13	
Mar	164.98	175.82	190.82	195.57	
Apr	168.00	177.74	194.06	198.16	
May	169.93	178.65	193.55	199.66	
Jun	169.99	179.94	194.74	200.89	
Seasonally Adjusted Series					
Jul	154.12	168.81	182.65	196.96	200.75
Aug	155.65	169.68	184.13	197.05	200.60
Sep	157.30	171.16	183.80	197.90	200.54
Oct	159.22	171.44	187.02	197.91	201.13
Nov	160.22	171.27	189.86	197.43	202.84
Dec	160.98	173.76	189.69	197.80	
Jan	163.00	176.17	190.13	197.50	
Feb	164.82	177.04	191.12	197.34	
Mar	166.38	177.39	192.59	197.42	
Apr	168.16	177.89	194.25	198.37	
May	170.56	179.35	194.30	200.40	
Jun	170.78	180.81	195.68	201.84	

Table 15. CPI Food Data Series Original and Seasonally Adjusted					
Original Series					
Period	FY12	FY13	FY14	FY15	FY16
Jul	174.80	190.72	208.19	222.80	224.14
Aug	177.32	192.47	212.27	224.05	224.86
Sep	180.16	193.80	209.09	224.12	223.87
Oct	183.07	193.66	212.61	223.74	224.86
Nov	183.26	193.03	218.16	222.74	227.55
Dec	179.21	192.97	210.89	218.08	
Jan	181.90	196.58	210.81	217.10	
Feb	180.69	194.05	208.74	213.15	
Mar	183.46	195.06	213.11	214.25	
Apr	187.43	197.74	217.33	217.26	
May	187.75	200.00	214.75	221.22	
Jun	187.35	202.11	216.98	223.84	
Seasonally Adjusted Series					
Jul	173.70	189.27	206.37	220.66	221.87
Aug	174.56	189.34	208.71	220.32	221.11
Sep	177.29	190.74	205.80	220.57	220.36
Oct	179.87	190.42	209.21	220.22	221.42
Nov	180.52	189.98	214.60	219.14	223.93
Dec	180.64	194.53	212.54	219.67	
Jan	183.00	197.82	212.21	218.57	
Feb	184.68	198.45	213.56	218.15	
Mar	186.17	198.04	216.45	217.70	
Apr	188.32	198.65	218.39	218.42	
May	189.25	201.69	216.57	223.03	
Jun	189.21	204.13	219.08	225.90	

Table 16: CPI Monthly & Average Seasonal Factors						
Period	FY12	FY13	FY14	FY15	FY16	Average
Jul	100.39	100.45	100.51	100.55	100.58	100.50
Aug	100.79	100.83	100.86	100.84	100.82	100.83
Sep	100.76	100.75	100.75	100.76	100.75	100.75
Oct	100.99	100.97	100.96	100.96	100.95	100.97
Nov	100.64	100.67	100.71	100.69	100.68	100.68
Dec	99.47	99.46	99.47	99.49		99.47
Jan	99.74	99.74	99.72	99.72		99.73
Feb	98.94	98.91	98.89	98.88		98.90
Mar	99.16	99.11	99.08	99.06		99.10
Apr	99.90	99.91	99.90	99.89		99.90
May	99.63	99.61	99.61	99.63		99.62
Jun	99.54	99.52	99.52	99.53		99.53

Table 17: CPI Food Monthly & Average Seasonal Factors						
Period	FY12	FY13	FY14	FY15	FY16	Average
Jul	100.63	100.77	100.88	100.97	101.02	100.86
Aug	101.58	101.66	101.71	101.69	101.70	101.67
Sep	101.62	101.61	101.60	101.61	101.59	101.61
Oct	101.78	101.70	101.63	101.60	101.56	101.65
Nov	101.52	101.60	101.66	101.65	101.62	101.61
Dec	99.21	99.20	99.23	99.27		99.23
Jan	99.40	99.38	99.34	99.33		99.36
Feb	97.84	97.78	97.74	97.71		97.77
Mar	98.55	98.50	98.46	98.42		98.48
Apr	99.53	99.54	99.51	99.47		99.51
May	99.21	99.16	99.16	99.19		99.18
Jun	99.02	99.01	99.04	99.09		99.04

Table 18: CPI Month-on-Month % Change Original & Seasonally Adjusted					
Original Series					
Period	FY12	FY13	FY14	FY15	FY16
Jul	1.27	-0.25	2.02	1.70	0.51
Aug	1.40	0.90	1.16	0.33	0.17
Sep	1.03	0.79	-0.29	0.35	-0.10
Oct	1.44	0.38	1.97	0.21	0.49
Nov	0.29	-0.39	1.27	-0.51	0.59
Dec	-0.70	0.23	-1.32	-1.01	
Jan	1.54	1.67	0.49	0.08	
Feb	0.30	-0.34	-0.32	-0.92	
Mar	1.17	0.41	0.96	0.23	
Apr	1.83	1.09	1.70	1.32	
May	1.15	0.51	-0.26	0.76	
Jun	0.04	0.72	0.61	0.62	
Seasonally Adjusted Series					
Jul	0.42	-1.15	1.01	0.65	-0.54
Aug	0.99	0.52	0.81	0.05	-0.07
Sep	1.06	0.87	-0.18	0.43	-0.03
Oct	1.22	0.16	1.75	0.00	0.29
Nov	0.63	-0.10	1.52	-0.24	0.85
Dec	0.47	1.46	-0.09	0.19	
Jan	1.26	1.38	0.23	-0.15	
Feb	1.12	0.50	0.52	-0.08	
Mar	0.95	0.20	0.77	0.04	
Apr	1.07	0.28	0.86	0.48	
May	1.43	0.82	0.03	1.02	
Jun	0.12	0.81	0.71	0.72	

Table 19: CPI Food Month-on-Month % Change Original & Seasonally Adjusted					
Original Series					
Period	FY12	FY13	FY14	FY15	FY16
Jul	2.90	1.80	3.01	2.68	0.13
Aug	1.44	0.92	1.96	0.56	0.32
Sep	1.60	0.69	-1.50	0.03	-0.44
Oct	1.62	-0.07	1.68	-0.17	0.44
Nov	0.10	-0.33	2.61	-0.45	1.20
Dec	-2.21	-0.03	-3.33	-2.09	
Jan	1.50	1.87	-0.04	-0.45	
Feb	-0.66	-1.29	-0.98	-1.82	
Mar	1.53	0.52	2.10	0.52	
Apr	2.16	1.37	1.98	1.41	
May	0.17	1.15	-1.19	1.82	
Jun	-0.21	1.05	1.04	1.18	
Seasonally Adjusted Series					
Jul	1.25	0.03	1.10	0.72	-1.78
Aug	0.50	0.04	1.14	-0.15	-0.35
Sep	1.56	0.74	-1.40	0.11	-0.34
Oct	1.46	-0.16	1.66	-0.16	0.48
Nov	0.36	-0.23	2.58	-0.49	1.13
Dec	0.07	2.39	-0.96	0.25	
Jan	1.30	1.69	-0.15	-0.50	
Feb	0.92	0.32	0.64	-0.19	
Mar	0.80	-0.21	1.35	-0.21	
Apr	1.15	0.31	0.90	0.33	
May	0.49	1.53	-0.83	2.11	
Jun	-0.02	1.21	1.16	1.29	

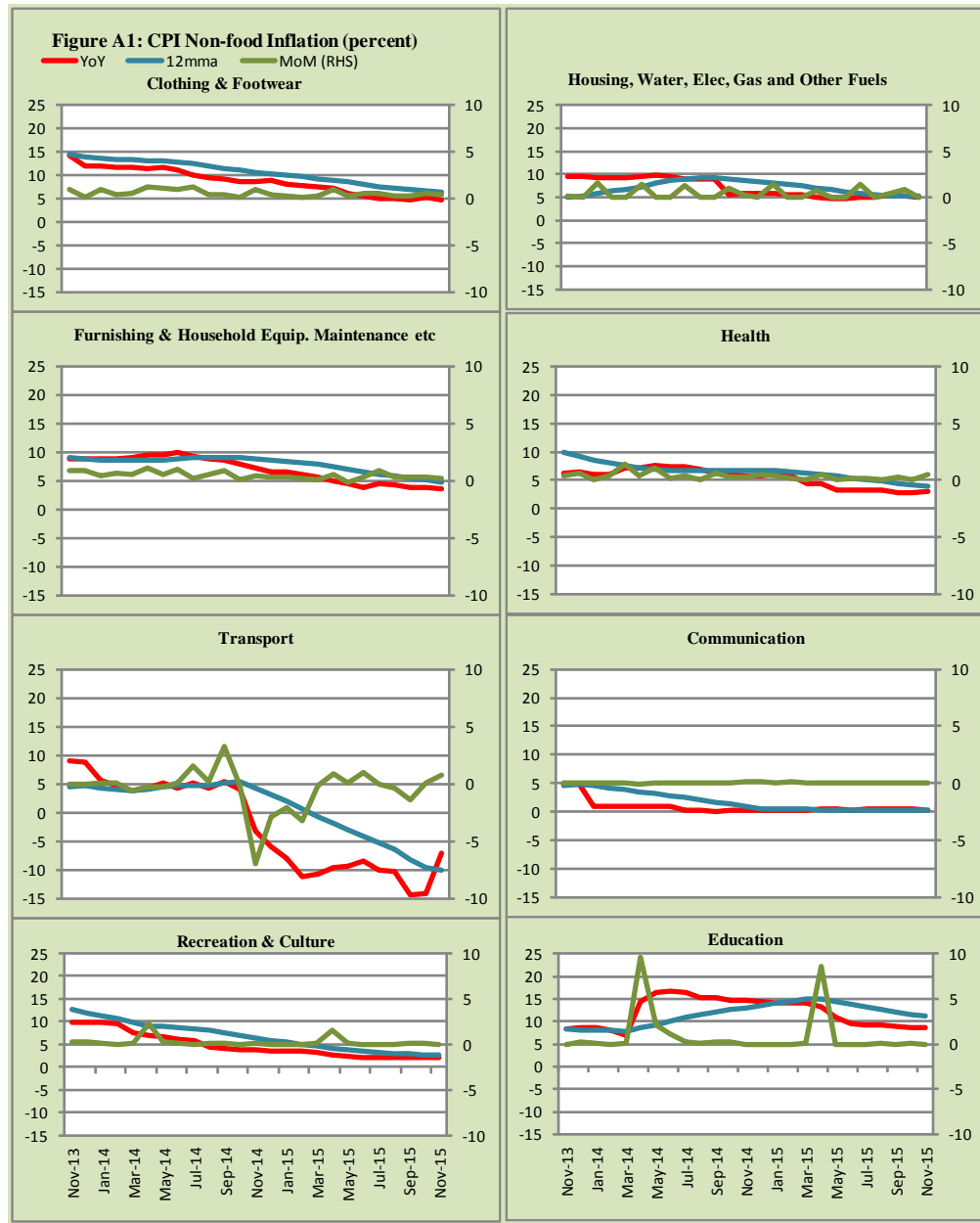


Figure A2: Frequency Distribution of Price Changes of CPI Items, November 2015

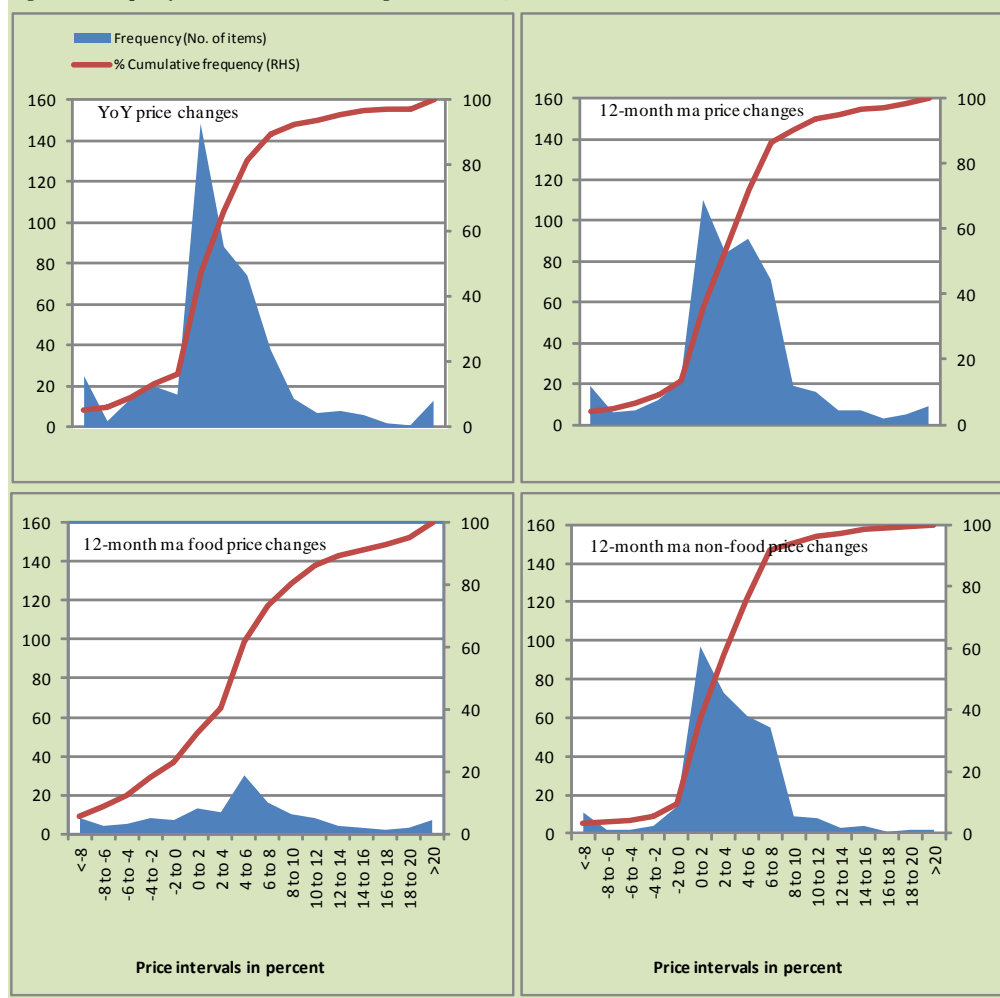


Figure A3: Frequency Distribution of Price Changes of WPI Commodities, November 2015

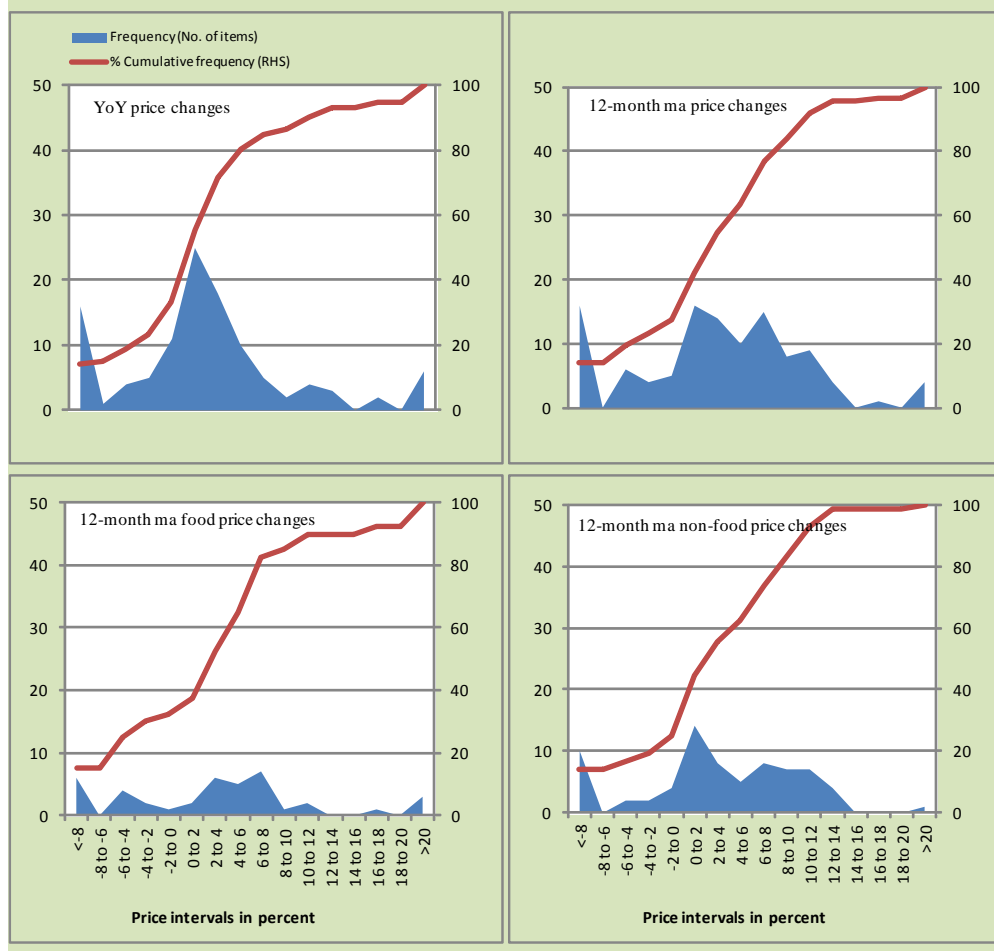
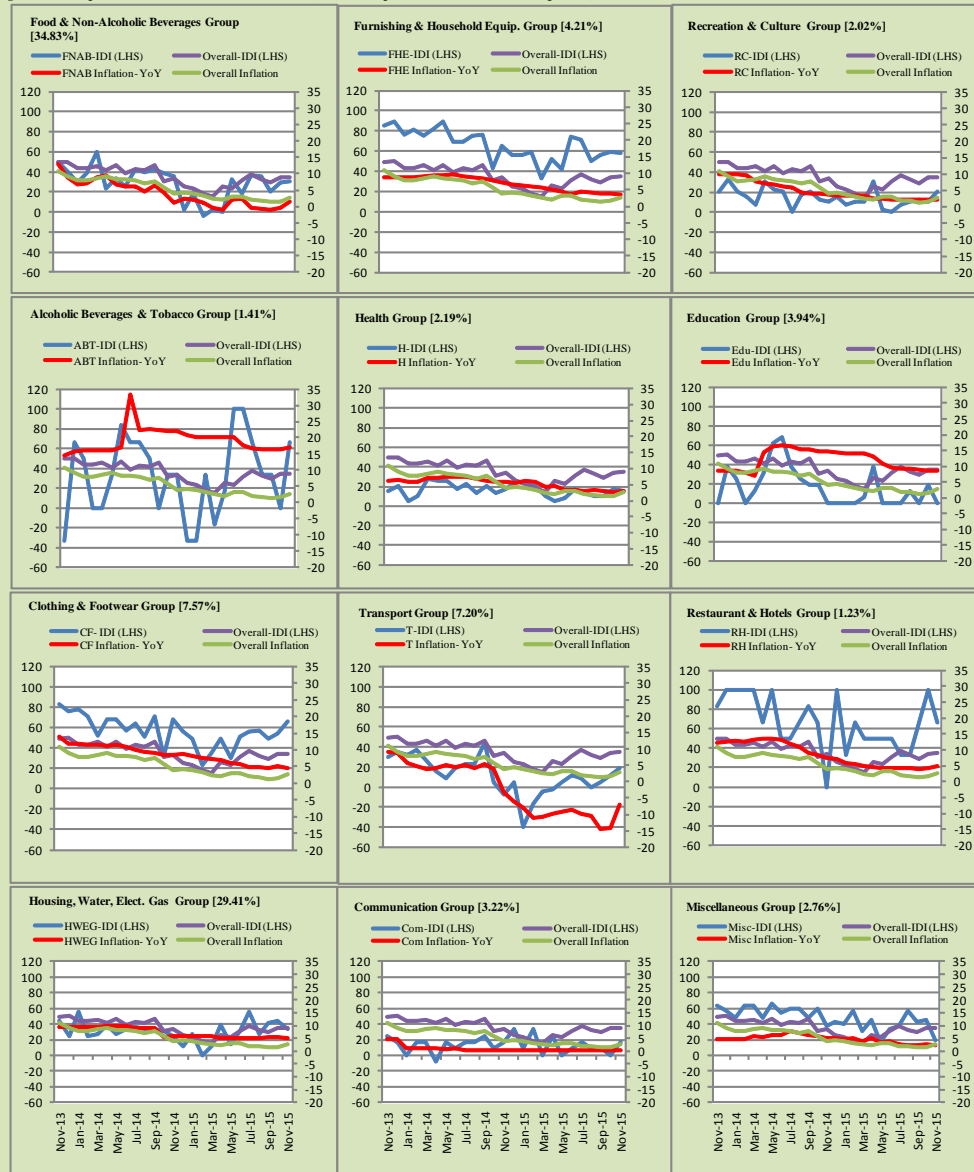


Figure A4: Group-wise/ Overall Inflation Diffusion Index (IDI) and respective/ overall YoY Inflation (percent)



Numbers in square brackets show the weights of respective groups in the CPI baskets.

Annexure B

Technical Notes

1. All the three measures of inflation, viz. CPI, WPI and SPI are computed by the following Laspeyres Index formula:

$$I_t = \sum_j w_0^j \left(\frac{P_t^j}{P_0^j} \right)$$

Where I_t is price index, w_0^j is weight of commodity j in the overall basket, P_t^j is price of commodity j in period t and P_0^j is its price in the base year.

2. Base year for all the indices is the year 2007-08.
3. CPI basket contains 487 consumers' goods; WPI basket contains 463 items; SPI contains 53 items.
4. YoY inflation is the percent change of an index in a given month over the index in the same month of the last year. It is computed as follows:

$$\pi_t = \left(\frac{I_t}{I_{t-12}} - 1 \right) \times 100$$

5. Period average inflation is the percent change of the average index during the period from July to the given month of a fiscal year over the average index during the corresponding period of the last year. It is computed as follows:

$$\bar{\pi}_t = \left(\frac{\sum_{i=0}^{t-v} I_{t-i}}{\sum_{i=0}^{t-12-v} I_{t-12-i}} - 1 \right) \times 100$$

Where v is the serial number of the month of July of current fiscal year in a given time series.

6. Monthly inflation is the percent change of an index in a given month over the index in the preceding month. It is computed as follows:

$$\pi_t = \left(\frac{I_t}{I_{t-1}} - 1 \right) \times 100$$

7. 12-month moving average inflation (Long-run trend inflation) is the percent change of 12-month moving average of a price index; it is computed as follows:

$$\tilde{\pi}_t = \left(\frac{\sum_{i=0}^{11} I_{t-i}}{\sum_{i=0}^{11} I_{t-12-i}} - 1 \right) \times 100$$

8. Core Inflation is defined as the persistent component of measured inflation that excludes volatile and controlled prices. It reflects the normal supply and demand conditions in the economy. Core inflation is computed by the following three methods:

- a) Non-food, Non-energy inflation (NFNE inflation); it is computed by excluding food group and energy items (kerosene oil, petrol, diesel, CNG, electricity and natural gas) from the CPI basket.
- b) 20% trimmed-mean inflation; it is computed through the following steps:

steps:

- i. All CPI items are arranged in ascending order according to YoY/12-month moving average/monthly/period average changes in their price indices in a given month.
 - ii. 20 percent of the items showing extreme changes are excluded with 10 percent of the items at the top of the list (corresponding to cumulative weight of 90% or more) and 10 percent of the items at the bottom of the list (corresponding to cumulative weight of 10 percent or less).
 - iii. The weighted mean of the changes in price indices of the rest of the items is core inflation.
- c) Relatively Stable Component of CPI (RSC-CPI) developed by State Bank of Pakistan is a hybrid method based on permanent exclusion criteria. Volatile price items, to be excluded in the newly proposed

measure RSC-CPI, are identified by analyzing the list and frequency of commodities that have been trimmed frequently in the past while computing monthly weighted trimmed mean measure. Commodities that were trimmed out 13 and above times since July 2008 to February 2013 are selected for permanently excluding from the CPI basket. This newly developed component includes a mix of both food and non-food commodities that show persistent price behavior. Fifty Commodities included comprise relatively stable component (RSC-CPI) with a weight of 67.69. The detailed methodology of RSC-CPI and group wise items along their weights can be viewed at the following link;

<http://www.sbp.org.pk/publications/wpapers/2013/wp66.pdf>

9. Weighted contribution of different items (or sub-groups) to total inflation is worked out as below:

Let the overall index (I_t) is the weighted average of price indexes of individual items or sub-groups (I_{it}), i.e.

$$I_t = \sum_i w_i \cdot I_{it}$$

The weighted contribution of a single item (or a sub-group) to overall inflation is defined as below:

$$C_{it} = \alpha_{it-12} \cdot w_i \cdot \left(\frac{\pi_{it}}{\pi_t} \right)$$

Where C_{it} : Contribution of i^{th} item to the overall inflation

$$\alpha_{it-12} = \frac{I_{it-12}}{I_{t-12}}; \text{ i.e. ratio of item's index to overall index in the}$$

reference month

w_i : Weights of i^{th} item

π_{it} : Inflation of i^{th} item

π_t : Overall inflation

10. Annualized rate of inflation (based on a month-on-month rate π) is computed as follows

$$\text{Annualized } \pi = \left(\left(1 + \frac{\pi}{100} \right)^{12} - 1 \right) \times 100$$

Methodology for Estimating Inflation Diffusion Index for Pakistan

We constructed an index to measure the spread of inflation in the 487 commodities of the CPI basket. It is based on month-on-month (MoM) change in the prices of these commodities and can be obtained by estimating what is known as an ‘inflation diffusion index’ (IDI) as below:

$$\frac{\text{Number of Commodities with } \uparrow \text{ in MoM change} - \text{Number of Commodities with } \downarrow \text{ in MoM change}}{\text{Number of Commodities for which prices are reported}}$$

Thus, it is the difference between the share of items with increasing prices (i.e. depicting inflation) and the share of items with falling prices (i.e. depicting deflation) in CPI amongst the commodities for which prices have altered or remained constant¹.

Based upon commodity level price data from July 2001 to February 2011 we computed inflation diffusion indices overall (general) CPI basket and for all groups in CPI basket (except House Rent Index being single item). A simple analysis² suggests that IDI is a leading indicator for Pakistan’s YoY inflation.

¹ We do not observe the prices of certain commodities (like the seasonal items) during certain periods of time. To calculate the inflation diffusion index we consider the commodities for which prices have been reported (irrespective of changed or not) during the month under review.

² Formal test shows one way ‘Granger’ causality from IDI to YoY inflation.