

Inflation Monitor

October 2015



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Review

Inflation in Brief

1. Headline CPI inflation (2007-08=100) is recorded at 1.6 percent on year-on-year basis in October 2015 compared to 1.3 percent in the previous month and 5.8 percent in the corresponding month of last year.
2. CPI inflation on month-on-month basis is recorded at 0.5 percent in October 2015 compared to -0.1 percent in the previous month and 0.2 percent during the corresponding month of last year. Seasonally adjusted month-on-month CPI inflation is recorded at 0.24 percent in October 2015 compared to -0.06 percent in the previous month.
3. Core inflation (trimmed) on year-on-year basis remained at level of 2.8 percent in October 2015 as in the previous month and lower than 6.0 percent during the corresponding month of last year.
4. On month-on-month basis, the Core inflation (trimmed) is recorded at 0.4 percent in October 2015 compared to 0.1 percent in the previous month and was at the same level in the corresponding month of last year.
5. Non-food, non-energy inflation measured by CPI Core (NFNE) on year-on-year basis recorded at 3.4 percent in October 2015 as in the previous month. It was 7.8 percent in the corresponding month of last year.
6. Core NFNE inflation on month-on-month basis recorded at 0.6 percent in October 2015 compared to 0.1 percent in the previous month. Core NFNE index was 0.6 percent in October 2014.
7. WPI inflation on year-on-year basis recorded at -2.7 percent in October 2015 compared to -3.5 percent in the previous month. During October 2014, WPI inflation was recorded at 1.3 percent.

8. WPI inflation on month-on-month basis recorded at 0.5 percent in October 2015 compared to -0.4 percent in the previous and -0.3 percent in the corresponding month of last year.
9. SPI inflation on year-on-year basis recorded at 0.2 percent in October 2015 compared to -0.8 percent in the previous month. It was 4.3 percent in the corresponding month of last year.
10. SPI inflation on month-on-month basis recorded at 0.8 percent in October 2015 compared to 0.4 percent in the previous month and -0.2 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 October 2015 are described below:

- Core RSC inflation on year-on-year basis is recorded at 4.0 percent in October 2015 compared to 4.1 percent in the previous month and 7.9 percent in the corresponding month of last year.
- Core RSC inflation on month-on-month basis is recorded at 0.5 percent in October 2015 compared to 0.4 percent in the previous month and 0.6 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
Oct-14	5.8	0.2	5.2	-0.2	6.2	0.5	7.8	0.6	6.0	0.4	7.9	0.6	1.3	-0.3	4.3	-0.2
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
* NFNE is Non-food non-energy ** Relatively Stable Component of CPI *** SPI for all income groups combined																

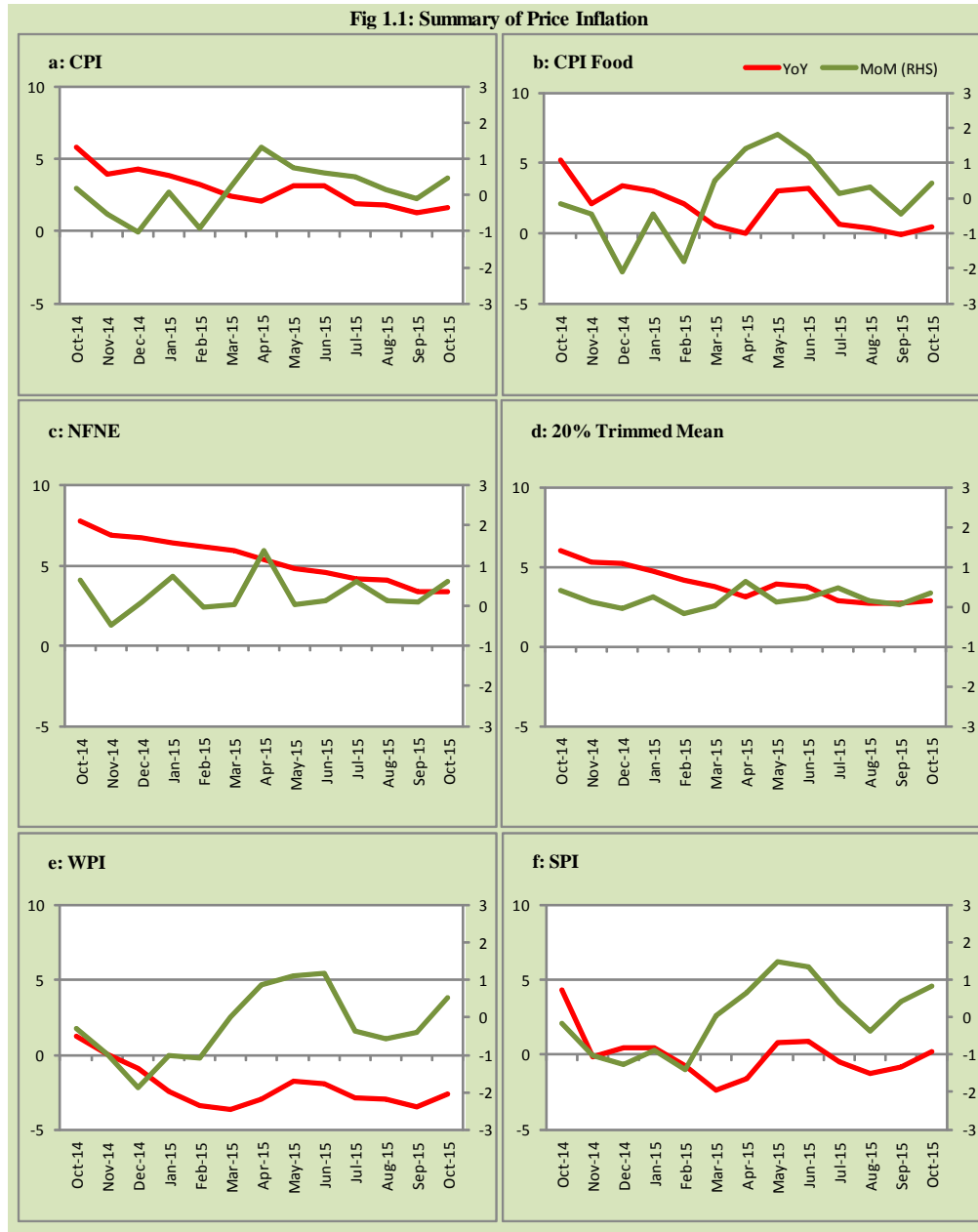
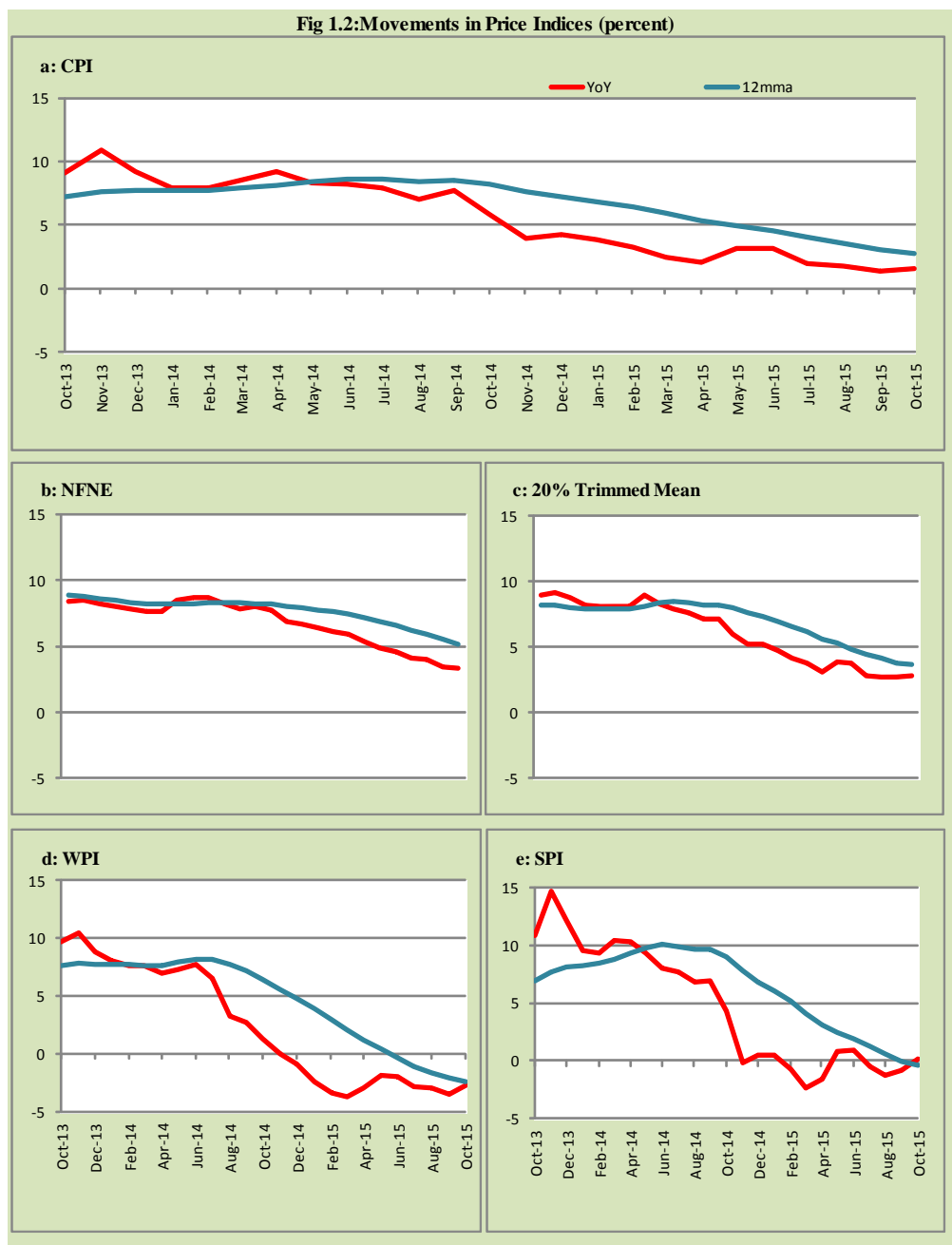


Fig 1.2: Movements in Price Indices (percent)



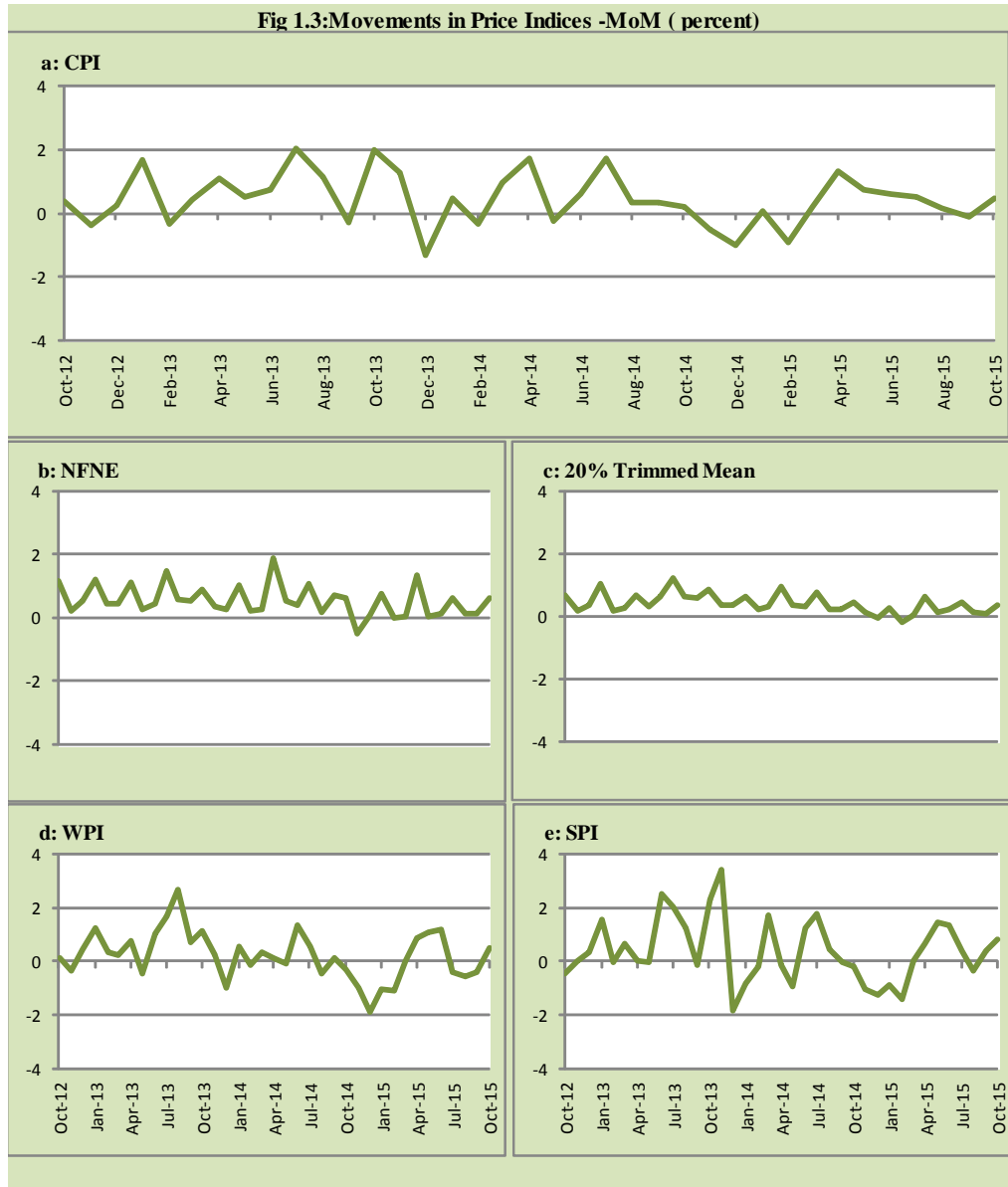
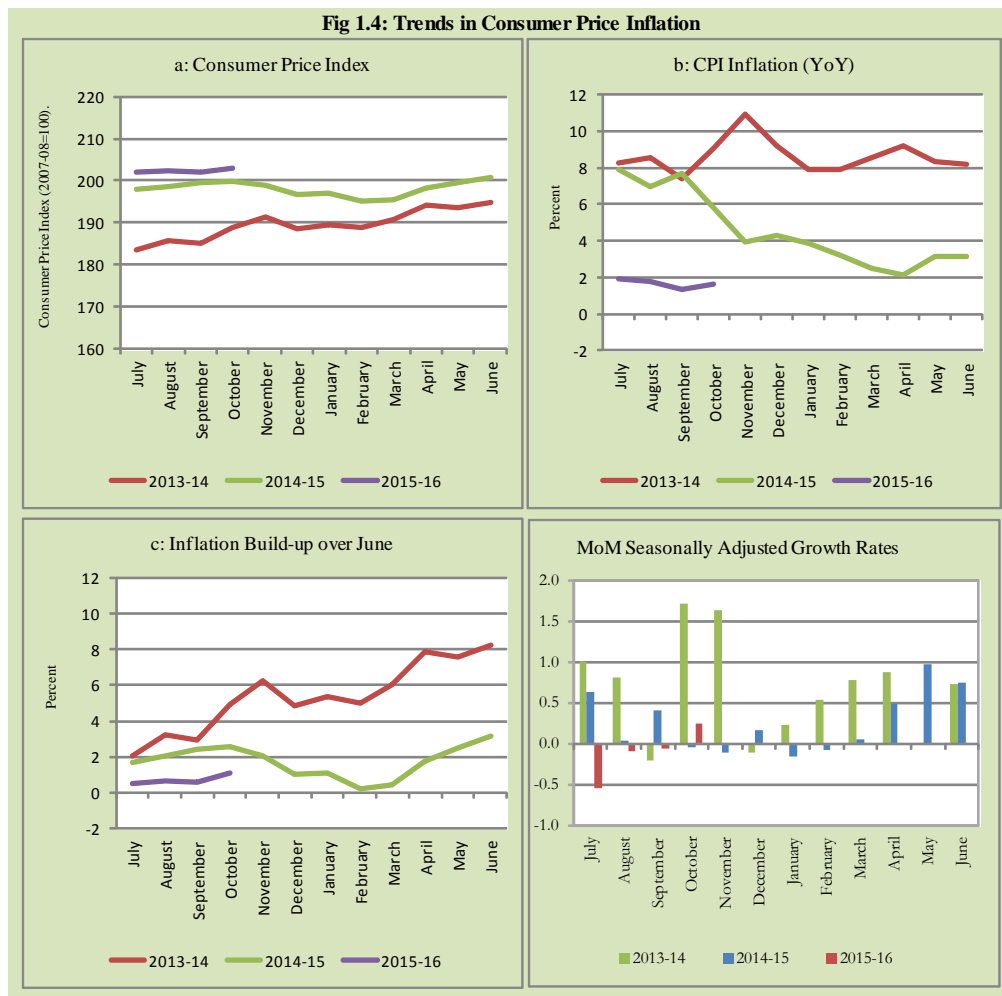


Fig 1.4: Trends in Consumer Price Inflation



2. City wise Inflation

CPI Inflation on year-on-year basis in federal and provincial capitals of Pakistan showed higher inflation compared to overall inflation during October 2015 except Lahore. Among these five cities, the lowest inflation was observed in Lahore at 0.2 percent while the highest inflation was observed in Karachi at 4.2 percent (Table A6 of annexure-A).

Table 2.1 City-wise Inflation of Selected Cities (percent)						
	Oct-14		Sep-15		Oct-15	
	MoM	YoY	MoM	YoY	MoM	YoY
Overall CPI	0.2	5.8	-0.1	1.3	0.5	1.6
Islamabad	0.4	7.6	-0.1	2.7	0.2	2.5
Karachi	0.0	6.8	-0.2	3.4	0.7	4.2
Lahore	0.8	8.3	0.0	1.2	-0.2	0.2
Peshawar	0.5	6.8	-0.1	3.2	0.9	3.6
Quetta	0.3	3.6	-1.1	-0.7	2.5	1.6

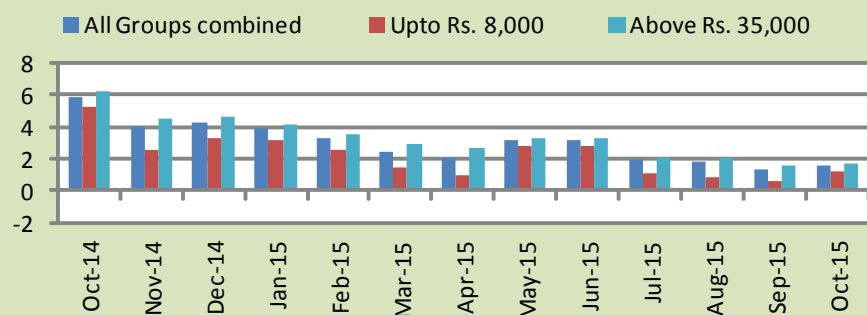
3. Income Group wise Inflation

Income group- wise data shows that income group above Rs. 35,000 witnessed higher inflation during October 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 October 2015 (Table A7 of annexure-A).

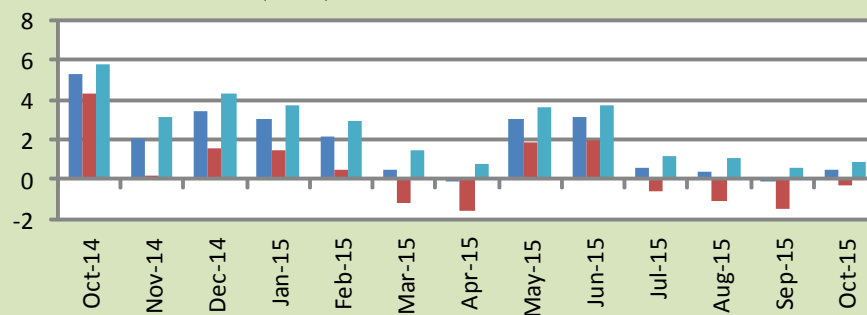
Table 3.1 Income Group- wise Inflation (YoY)									
Income Groups	General			Food			Non-food		
	Oct-14	Sep-15	Oct-15	Oct-14	Sep-15	Oct-15	Oct-14	Sep-15	Oct-15
All Groups Combined	5.8	1.3	1.6	5.2	-0.1	0.5	6.2	2.4	2.4
Up to Rs. 8,000	5.2	0.6	1.3	4.3	-1.4	-0.2	6.4	3.2	3.2
Rs. 8,001- 12,000	5.3	1.1	1.6	4.6	-1.0	-0.1	6.2	3.5	3.5
Rs. 12,001- 18,000	5.5	0.8	1.2	4.9	-0.6	0.3	6.0	2.1	2.2
Rs. 18,001- 35,000	5.6	1.5	1.8	5.3	-0.1	0.6	5.9	2.9	2.9
Above Rs. 35,000	6.2	1.6	1.7	5.7	0.6	0.9	6.4	2.1	2.1

Fig 3.1: Income Group- wise Inflation

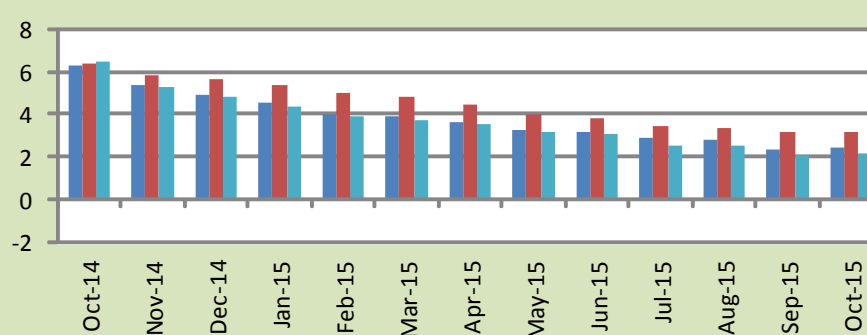
a: CPI Overall Inflation (YoY)



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 12.98 percent during October 2015 from -3.59 percent in September 2015. It was 37.95 percent in October 2014.

The weighted contribution of non-food group decreased to 87.02 percent in October 2015 from 103.59 percent in September 2015.

Table 4.1 Weighted Contribution to CPI Inflation (YoY)						
Period	Food	Clothing & Footwear	Housing, Water, Elect, Gas & Other Fuel	Transport	Education	Others
Oct-14	37.95	11.43	24.68	5.10	8.79	12.05
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

5. Inflation Diffusion Index

Table 5.1 Inflation Diffusion Index - based on MoM change

	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15
General	30.9	33.7	25.4	23.0	18.2	14.9	25.8	23.1	31.1	37.3	32.6	29.3	34.5
Food & Non-Alcoholic Beverages	38.3	35.7	2.7	18.6	-3.6	1.8	0.0	32.7	18.6	36.8	35.4	20.2	29.6
Alcoholic Beverages & Tobacco	33.3	33.3	-33.3	-33.3	33.3	-16.7	16.7	100.0	100.0	66.7	33.3	33.3	0.0
Clothing & Footwear	32.2	67.8	55.9	49.2	23.7	35.6	49.2	30.5	50.8	55.9	57.6	49.2	54.2
Housing, Water, Elect, Gas & other Fuels	30.6	25.0	11.1	27.8	0.0	11.1	38.9	13.9	30.6	55.6	27.8	41.7	44.4
Furnishing & Household Equip. Maintenance etc	43.5	65.2	56.5	56.5	59.4	33.3	52.2	42.0	73.9	71.0	50.7	56.5	59.4
Health	12.8	17.9	25.6	23.1	20.5	10.3	5.1	7.7	17.9	12.8	10.3	10.3	17.9
Transport	4.7	-7.0	4.7	-39.5	-16.3	-4.7	-2.3	4.7	11.6	9.3	0.0	4.7	11.6
Communication	8.3	16.7	33.3	8.3	33.3	0.0	25.0	0.0	8.3	16.7	8.3	8.3	0.0
Recreation & Culture	12.8	10.3	15.4	7.7	10.3	10.3	30.8	2.6	0.0	7.7	10.3	12.8	10.3
Education	18.8	0.0	0.0	0.0	0.0	6.3	37.5	0.0	0.0	0.0	12.5	0.0	18.8
Restaurant & Hotels	66.7	0.0	100.0	33.3	66.7	50.0	50.0	50.0	50.0	33.3	33.3	66.7	100.0
Miscellaneous	60.0	37.1	42.9	40.0	57.1	31.4	45.7	17.1	34.3	37.1	57.1	42.9	45.7
NFNE	29.6	34.3	34.3	26.9	25.7	19.8	33.7	18.6	33.7	37.0	33.4	33.7	36.4

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	Oct-14		Sep-15		Oct-15	
			YoY	MoM	YoY	MoM	YoY	MoM
1	Wheat	10 Kg	-0.87	0.60	-7.40	-0.08	-5.01	3.19
2	Wheat Flour Bag	10 Kg	0.57	0.49	-6.60	0.32	-5.35	1.84
3	Rice Basmati Sup. Qlty.	Kg	3.84	-0.14	-13.40	-1.66	-15.60	-2.68
4	Pulse Masoor (Washed)	Kg	14.71	1.04	8.81	0.66	9.05	1.26
5	Pulse Moong (Washed)	Kg	20.48	0.33	5.67	-0.87	7.29	1.88
6	Pulse Mash (Washed)	Kg	21.05	1.59	19.66	4.22	36.08	15.53
7	Pulse Gram	Kg	3.26	1.01	48.98	1.47	55.49	5.42
8	Vegetable Ghee (Loose)	Kg	0.07	0.18	-12.65	-1.92	-12.98	-0.19
9	Sugar Refined	Kg	6.15	-2.45	5.26	-1.54	3.89	-3.73
10	Milk Fresh (Unboiled)	Ltr	6.76	0.57	4.57	0.45	4.07	0.09
11	Tea- Tapal Danedar	200 Gm	-20.96	2.31	30.85	5.77	28.87	0.77
12	Beef With Bone Av. Qlty.	Kg	6.80	0.18	4.27	0.83	4.21	0.13
13	Mutton Av. Qlty.	Kg	5.50	0.25	6.53	1.24	6.38	0.11
14	Chicken Farm Broiler (Live)	Kg	-0.66	-4.22	-12.07	-17.00	-16.07	-8.58
15	Eggs Farm	Doz	8.52	0.69	-11.63	-3.44	-15.69	-3.93
16	Potatoes	Kg	57.95	-1.51	-60.03	3.56	-55.42	9.85
17	Onion	Kg	-22.43	-2.47	20.62	25.19	30.38	5.42
18	Tomatoes	Kg	-15.29	-12.12	-22.99	-11.65	17.39	33.96
19	Ginger	Kg	43.46	-0.59	-20.23	0.40	-26.68	-8.62
20	Garlic	Kg	2.44	0.42	23.83	8.84	30.16	5.56

7. Global Commodity Prices

Table 7.1 Changes in Major Global Indices (percent)

Item/ Group	Oct-14		Sep-15		Oct-15	
	YoY	MoM	YoY	MoM	YoY	MoM
Overall	-13.6	-6.5	-38.8	-1.0	-34.6	-0.2
Food	-7.6	-1.2	-15.0	-4.4	-14.4	-0.5
Metals	-12.3	-2.9	-25.3	1.2	-24.8	-2.2
Energy	-17.2	-9.1	-49.5	-0.2	-44.2	0.4
Agricultural Raw Material	-0.6	-0.3	-18.1	0.1	-18.0	-0.2
Cotton	-21.3	-4.1	-6.3	-4.3	-1.9	0.4

Source: IMF

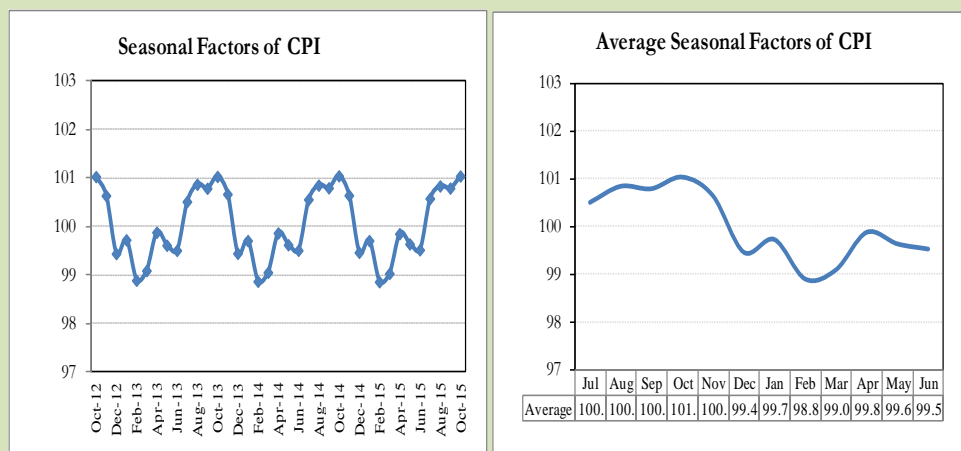
8. Seasonal Adjustment in CPI

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 October 2015 has been used for seasonal adjustment analysis. The seasonal analysis is carried out without taking trading-day or Islamic calendar month's effects.

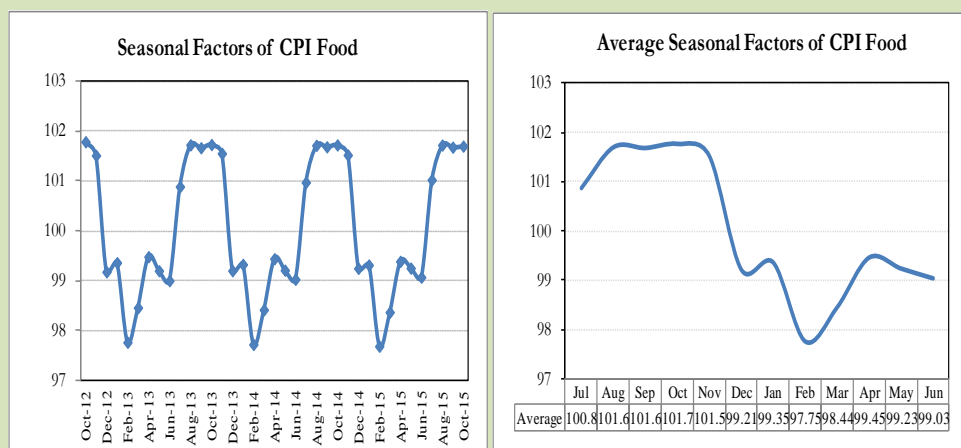
Figure 8.1 reveals that seasonality in CPI has been increasing over the period of last four years. Average seasonal factors reveal strong seasonality during the calendar year. There is an upward seasonality during the months from July to November and downward seasonality in the remaining months of the 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

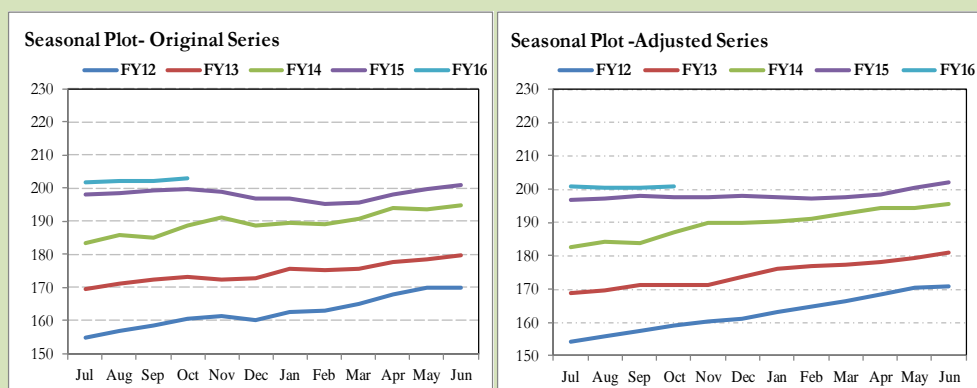
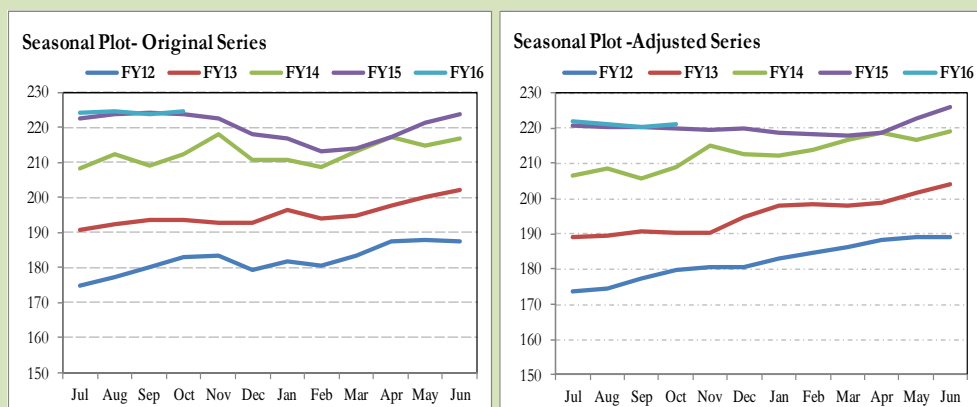


Fig. 8.4 Seasonal Plots of CPI (Food)



Seasonally adjusted CPI for October 2015 stood at 200.94 against 203.03 in original series showing a decrease of 2.09 on account of adjustment of upward seasonality in October 2015.

Seasonally adjusted CPI food group for October 2015 stood at 221.10 against 224.86 in original series showing a decrease of 3.76 on account of adjustment of upward seasonality in October 2015.

Month-on-month change of seasonally adjusted CPI series stood at 0.24% reflecting increase during October 2015 over September 2015 and an increase of 0.49% in original series.

Month-on-month change of seasonally adjusted CPI food group series stood at 0.42% reflecting increase during October 2015 over September 2015 and an increase of 0.44% 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 October 2015 (corresponding to the seasonally adjusted month-on-month rate) is 2.95 percent.

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

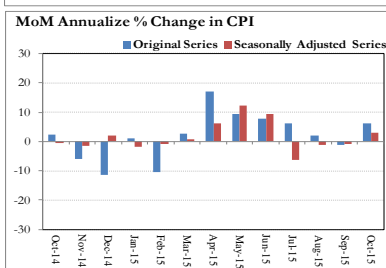
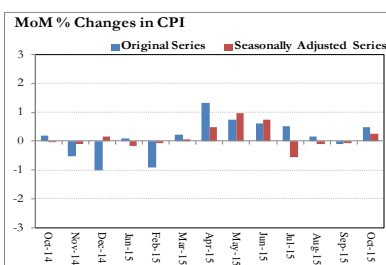
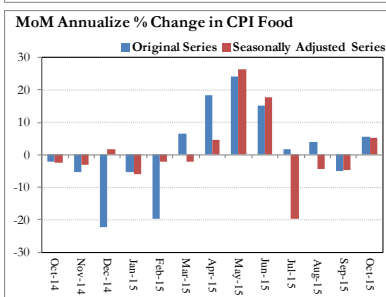
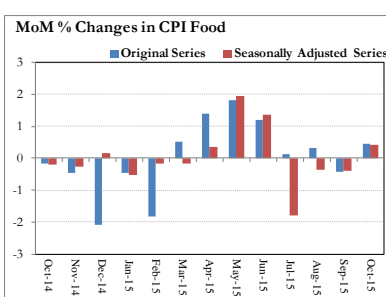


Fig. 8.6 Month-on-Month Percent Changes in CPI Food



Annexure A

Table A1: CPI Inflation by Groups (percent)							
	Weight	MoM change			YoY change		
		Oct-14	Sep-15	Oct-15	Oct-14	Sep-15	Oct-15
I. Food Group	37.5	-0.2	-0.4	0.4	5.2	-0.1	0.5
Food & Non-Alcoholic Beverages	34.8	-0.2	-0.5	0.5	4.4	-1.1	-0.4
Alcoholic Beverages & Tobacco	1.4	0.0	0.0	0.0	22.2	16.3	16.3
Restaurant & Hotels	1.2	0.3	0.4	0.8	8.5	3.8	4.3
II. Non-Food Group	62.5	0.5	0.1	0.5	6.2	2.4	2.4
Clothing & Footwear	7.6	0.1	0.2	0.5	8.5	4.6	5.1
Housing, Water, Elect, Gas & other Fuels	29.4	1.0	0.4	0.8	5.6	5.5	5.3
Furnishing & Household Equip. Maintenance etc	4.2	0.1	0.3	0.3	7.8	3.7	3.9
Health	2.2	0.3	0.3	0.1	5.9	2.9	2.7
Transport	7.2	-0.1	-1.4	0.1	3.9	-14.4	-14.2
Communication	3.2	0.0	0.0	0.0	0.1	0.4	0.4
Recreation & Culture	2.0	0.0	0.2	0.1	4.0	2.1	2.2
Education	3.9	0.3	0.0	0.0	14.6	9.0	8.8
Miscellaneous	2.8	0.4	0.3	0.5	5.8	2.4	2.5
Headline	100.0	0.2	-0.1	0.5	5.8	1.3	1.6

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)	
		Oct-14	Oct-15	Oct-14	Oct-15	Oct-14	Oct-15	Oct-14	Oct-15	Oct-14	Oct-15
I. Food Group	0.5	130	130	27	37	34	43	31	28	38	22
Food & Non-Alcoholic Beverages	-0.4	118	118	27	37	32	39	26	24	33	18
Alcoholic Beverages & Tobacco	16.3	6	6	0	0	1	1	1	1	4	4
Restaurant & Hotels	4.3	6	6	0	0	1	3	4	3	1	0
II. Non-Food Group	2.4	348	348	82	111	89	143	112	78	65	16
Clothing & Footwear	5.1	59	59	8	8	4	24	27	24	20	3
Housing, Water, Elect, Gas & other Fuels	5.3	36	36	13	6	3	12	16	16	4	2
Furnishing & Household Equip. Maintenance etc	3.9	69	69	1	4	18	43	32	21	18	1
Health	2.7	39	39	19	21	9	13	4	4	7	1
Transport	-14.2	43	43	16	36	17	5	7	2	3	0
Communication	0.4	12	12	7	6	3	5	2	0	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	2.5	35	35	5	4	13	23	12	6	5	2
Overall	1.6	478	478	109	148	123	186	143	106	103	38

Note: Prices of 9 seasonal items were not reported during the month.

Table A3: Top and Bottom 15 Contributors to CPI Inflation (YoY) in October 2015					
Top 15 Contributors		Weights	YoY Change		Weighted Contribution
Items/ Contributors	Oct-14		Oct-15		
Ranked by Weighted Contribution					
1	House Rent	21.81	7.62	5.42	59.55
2	Education	3.94	14.59	8.75	20.62
3	Milk Fresh	6.68	7.04	4.00	20.52
4	Cigarette	1.39	22.38	16.38	18.93
5	Electricity	4.40	0.00	4.69	14.56
6	Tea	0.84	-16.48	25.02	13.80
7	Onion	0.51	-22.43	30.37	12.02
8	Meat	2.43	6.36	4.94	9.07
9	Fresh Vegetable	1.75	-4.51	6.14	8.10
10	Gas	1.58	0.00	9.92	6.98
11	Tailoring	0.88	10.99	9.72	6.91
12	Pulse Gram	0.24	3.26	55.48	6.88
13	Pulse Mash (Washed)	0.21	21.05	36.08	5.32
14	Cotton Cloth	1.73	14.10	4.08	4.53
15	Tomatoes	0.42	-15.29	17.38	4.48
Total		48.81			212.29
Bottom 15 Contributors					
1	Motor Fuel	3.03	-4.15	-21.18	-37.26
2	Potatoes	0.45	57.95	-55.42	-35.72
3	Transport Services	2.70	11.56	-14.90	-29.01
4	Rice	1.58	1.99	-16.11	-15.53
5	Cooking Oil	1.75	0.47	-16.52	-14.58
6	Vegetable Ghee	2.07	0.55	-12.63	-12.75
7	Wheat Flour	4.16	0.60	-4.36	-12.56
8	Chicken	1.36	-0.65	-16.07	-11.64
9	Egg	0.46	8.53	-15.69	-4.79
10	Fresh Fruits	1.86	14.82	-2.79	-3.63
11	Wheat	0.35	-0.87	-5.01	-1.14
12	Wheat Product	0.10	8.29	-2.47	-0.16
13	Motor Vehicle Accessories	0.24	4.21	-0.90	-0.16
14	Motor Vehicle	0.66	2.08	-0.43	-0.15
15	Mustard Oil	0.10	0.94	-3.05	-0.14
Total		20.87			-179.21

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

<u>Top 15 Contributors</u>		<u>MoM Change</u>			Weighted Contribution
Items/ Contributors	Weights	Sep-15	Oct-15		
Ranked by Weighted Contribution					
1	House Rent	21.81	0.00	1.17	43.63
2	Tomatoes	0.42	-11.65	33.96	24.95
3	Wheat Flour	4.16	0.13	2.20	19.27
4	Pulse Mash (Washed)	0.21	4.21	15.53	8.78
5	Onion	0.51	25.18	5.42	8.63
6	Potatoes	0.45	3.56	9.85	8.38
7	Tailoring	0.88	0.09	1.80	4.48
8	Pulse Gram	0.24	1.47	5.42	3.22
9	Personal Equipments	0.84	0.28	1.17	2.68
10	Ready Made Food	1.23	0.41	0.80	2.49
11	Tea	0.84	4.08	1.08	2.39
12	Wheat	0.35	-0.08	3.19	2.17
13	Woolen Readymade Garments	0.40	0.00	2.13	2.05
14	Besan	0.15	1.35	4.38	1.59
15	Milk Fresh	6.68	0.43	0.09	1.48
Total		39.17			136.21
<u>Bottom 15 Contributors</u>					
1	Chicken	1.36	-17.00	-8.58	-18.55
2	Rice	1.58	-1.99	-3.55	-9.68
3	Sugar	1.04	-1.54	-3.73	-9.04
4	Cooking Oil	1.75	-2.59	-1.96	-4.78
5	Fresh Fruits	1.86	-8.44	-0.87	-3.60
6	Egg	0.46	-3.44	-3.93	-3.43
7	Vegetable Ghee	2.07	-1.53	-0.80	-2.32
8	Fresh Vegetable	1.75	1.95	-0.46	-2.11
9	Spices	0.54	0.15	-0.48	-0.63
10	Construction Input Item	0.56	0.16	-0.01	-0.01
11	Betel Leaves & Nuts	0.02	1.92	-0.05	0.00
12	Motor Vehicle	0.66	-0.23	0.00	0.00
13	Water Supply	0.50	0.00	0.00	0.00
14	News Papers	0.19	0.00	0.00	0.00
15	Motor Vehicle Tax	0.11	0.00	0.00	0.00
Total		14.48			-54.16

Table A3.2: Top Fifteen Contributors to CPI Inflation (YoY) in October 2015					
Items/ Contributors		Weights	YoY Change		Weighted Contribution
			Oct-14	Oct-15	
A. Ranked by Percentage Change					
1	Pulse Gram	0.24	3.26	55.48	6.88
2	Besan	0.15	0.18	46.16	3.69
3	Pulse Mash (Washed)	0.21	21.05	36.08	5.32
4	Onion	0.51	-22.43	30.37	12.02
5	Tea	0.84	-16.48	25.02	13.80
6	Gram Whole	0.16	2.47	19.94	1.79
7	Tomatoes	0.42	-15.29	17.38	4.48
8	Cigarette	1.39	22.38	16.38	18.93
9	Woolen Readymade Garments	0.40	11.96	12.02	3.25
10	Gas	1.58	0.00	9.92	6.98
11	Tailoring	0.88	10.99	9.72	6.91
12	Sewing Needle & Dry Cell	0.15	7.47	9.71	0.83
13	Pulse Masoor	0.27	14.32	9.13	1.41
14	Education	3.94	14.59	8.75	20.62
15	Gur	0.02	-2.87	8.59	0.16
Total		11.15			107.07
B. Ranked by Weights					
1	House Rent	21.81	7.62	5.42	59.55
2	Milk Fresh	6.68	7.04	4.00	20.52
3	Electricity	4.40	0.00	4.69	14.56
4	Wheat Flour	4.16	0.60	-4.36	-12.56
5	Education	3.94	14.59	8.75	20.62
6	Communication & Apparatus	3.15	0.13	0.18	0.23
7	Motor Fuel	3.03	-4.15	-21.18	-37.26
8	Transport Services	2.70	11.56	-14.90	-29.01
9	Meat	2.43	6.36	4.94	9.07
10	Vegetable Ghee	2.07	0.55	-12.63	-12.75
11	Fresh Fruits	1.86	14.82	-2.79	-3.63
12	Fresh Vegetable	1.75	-4.51	6.14	8.10
13	Cooking Oil	1.75	0.47	-16.52	-14.58
14	Cotton Cloth	1.73	14.10	4.08	4.53
15	Rice	1.58	1.99	-16.11	-15.53
Total		63.07			11.87
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 1.6 percent in October, 2015.					

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

Items/ Contributors		Weights	YoY Change		Weighted Contribution
			Oct-14	Oct-15	
A. Ranked by Weighted Contribution					
1	Milk Fresh	6.68	7.04	4.00	20.52
2	Cigarette	1.39	22.38	16.38	18.93
3	Tea	0.84	-16.48	25.02	13.80
4	Onion	0.51	-22.43	30.37	12.02
5	Meat	2.43	6.36	4.94	9.07
6	Fresh Vegetable	1.75	-4.51	6.14	8.10
7	Pulse Gram	0.24	3.26	55.48	6.88
8	Pulse Mash (Washed)	0.21	21.05	36.08	5.32
9	Tomatoes	0.42	-15.29	17.38	4.48
10	Ready Made Food	1.23	8.50	4.33	4.01
Total		15.69			103.15
B. Ranked by Percentage Change					
1	Pulse Gram	0.24	3.26	55.48	6.88
2	Besan	0.15	0.18	46.16	3.69
3	Pulse Mash (Washed)	0.21	21.05	36.08	5.32
4	Onion	0.51	-22.43	30.37	12.02
5	Tea	0.84	-16.48	25.02	13.80
6	Gram Whole	0.16	2.47	19.94	1.79
7	Tomatoes	0.42	-15.29	17.38	4.48
8	Cigarette	1.39	22.38	16.38	18.93
9	Pulse Masoor	0.27	14.32	9.13	1.41
10	Gur	0.02	-2.87	8.59	0.16
Total		4.21			68.48
C. Ranked by Weights					
1	Milk Fresh	6.68	7.04	4.00	20.52
2	Wheat Flour	4.16	0.60	-4.36	-12.56
3	Meat	2.43	6.36	4.94	9.07
4	Vegetable Ghee	2.07	0.55	-12.63	-12.75
5	Fresh Fruits	1.86	14.82	-2.79	-3.63
6	Fresh Vegetable	1.75	-4.51	6.14	8.10
7	Cooking Oil	1.75	0.47	-16.52	-14.58
8	Rice	1.58	1.99	-16.11	-15.53
9	Cigarette	1.39	22.38	16.38	18.93
10	Chicken	1.36	-0.65	-16.07	-11.64
Total		25.05			-14.05
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 0.5 percent in October, 2015.					

Table A3.4: Top Ten Contributors to CPI Non-food Inflation (YoY) in October 2015					
Items/ Contributors		Weights	YoY Change		Weighted Contribution
			Oct-14	Oct-15	
A. Ranked by Weighted Contribution					
1	House Rent	21.81	7.62	5.42	59.55
2	Education	3.94	14.59	8.75	20.62
3	Electricity	4.40	0.00	4.69	14.56
4	Gas	1.58	0.00	9.92	6.98
5	Tailoring	0.88	10.99	9.72	6.91
6	Cotton Cloth	1.73	14.10	4.08	4.53
7	Ready Made Garment	0.97	10.26	6.59	4.23
8	Household Servant	1.04	10.92	5.02	3.67
9	Woolen Readymade Garments	0.40	11.96	12.02	3.25
10	Personal Care	1.49	6.92	2.58	2.44
Total		38.25			126.75
B. Ranked by Percentage Change					
1	Woolen Readymade Garments	0.40	11.96	12.02	3.25
2	Gas	1.58	0.00	9.92	6.98
3	Tailoring	0.88	10.99	9.72	6.91
4	Sewing Needle & Dry Cell	0.15	7.47	9.71	0.83
5	Education	3.94	14.59	8.75	20.62
6	Construction Wage Rate	0.33	8.07	7.98	1.68
7	Ready Made Garment	0.97	10.26	6.59	4.23
8	Postal Services	0.07	0.17	6.32	0.28
9	Hosiery	0.51	10.54	5.74	2.02
10	Mechanical Service	0.46	5.56	5.57	1.63
Total		9.29			48.43
C. Ranked by Weights					
1	House Rent	21.81	7.62	5.42	59.55
2	Electricity	4.40	0.00	4.69	14.56
3	Education	3.94	14.59	8.75	20.62
4	Communication & Apparatus	3.15	0.13	0.18	0.23
5	Motor Fuel	3.03	-4.15	-21.18	-37.26
6	Transport Services	2.70	11.56	-14.90	-29.01
7	Cotton Cloth	1.73	14.10	4.08	4.53
8	Gas	1.58	0.00	9.92	6.98
9	Footwear	1.55	-3.07	0.56	0.44
10	Personal Care	1.49	6.92	2.58	2.44
Total		45.39			43.09
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 2.4 percent in October, 2015.					

Table A4: Distribution of Price Changes (YoY) - Selected CPI Items: October 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, Ginger, Cooking Oil (Pakwan), Rice Basmati Broken Av. Qlty, Rice Basmati 385/386	Turai, Coriander Seed (Loose), Jam Ahmed/Mitchelles, Mineral Water Nestle 1.5 Litre, Cornflakes Fauji 225 Gm.	Ice, Tomato Ketchup Ahmed/Mitchells, Pulse Masoor (Whole), Pulse Masoor (Washed), Gur Av.Qlty, Spinach	Pulse Gram, Besan Av. Qlty., Gram Whole Black Av Qlty., Pulse Mash (Washed), Tea Lipton Yellow Label 200 Gm, Chillies Green, Onion, Garlic, Tapal Danedar Tea 200 Gm, Arvi, Karaila, Bottlegourd, Brinjal, Tomatoes
Alcoholic Beverages & Tobacco		Betel Leaves	Betel Nuts	Cigarettes Capstan 20,S, Cigarettes Morven Gold 20,S, Cigarettes K-20,S, Cigarettes Gold Leaf 20,S
Clothing & Footwear	Gents Shoe, Art 1109 Servis, Child Shoe Power Lite Bata, Gents Shoes Paul Bata, Sports Shoes, Gents Spoung Chappal Bata	School Uni. Kameez-Shal. Girls, Socks Nylon (Pakistani), Brassier Av.Qlty, Washing Charges Paint & Shirt, Dry Cleaning Suit Coat Pant, Shirting Av.Qlty.	Tailoring Suit (Female), Frock W/Wear Girls, Tailoring Shirt, Awami-Suit W & W (Boys) 24"/26", Vest/Shameez (Women) Av.Qlty, Awami-Suit W&W (Gents)Av.Qlty	Secondhand Sweater For Men, Gloves Av.Qlty, Tailoring Awami-Suit (Male)
Housing, Water, Elect, Gas & other Fuels	Kerosene Oil, Iron Bar (M.S. Bar) 1/2", Elect. Charges 101 - 300 Units, Cement (Local), Elect. Charges Upto 50 Units	Electrician Wage Rate (P/Pnt), Elect. Charges Overall/ Combined, Firewood Whole, Timber Shesham Log, Gas Chrg Up To 100 Cub Mmbtu	Unskilled Labour Wage Rat, Gas Chrg Overall/ Combined, Plumber Wage Rate, Electrician Wage Rate (P/Day)	Gas Chrg All Over 500 Mmbtu, Gas Chrg Over 300 - 500 Mmbtu
Furnishing & Household Equip. Maintenance etc	Surf Excel 400 Gms Poly Bag, Washing Powder (Wheel/ Bonus), Electric Blub Energy Saver 14 Watt	Table Shesham Wood, Phenyl Typhoon/Finis/Carr 3 Ltr, Dining Table 6 Chairs, Chair Plastic (Chairman) Av. Qlty	Towel(3'X2') Av. Qlty, Robin Blue (35 Gms), Thermos Starvac 1 Ltr, Harpic, Lota Plastic (Med Size) Avg. Qlty, Frying Pan Steel Avg. Qlty	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, ECG Charges, O.R.S. (Nimcol), Doctor (Mbbs) Clinic Fee, Thermometer China	Gripe-Water Woodward's, X-Ray (Chest) Charges, Urine Test (Dr) Charges, Blood Test (Cp) Charges	Jouhar Joshanda
Transport	Gas Cylinder S. Size (L.P.G), Petrol Super, High Speed Diesel HSD, Minibus Fare Max.Within City	Motor Cycle Service Charges, Car Service Charges, Cycle Overhauling Charges, Bicycle With Tyres & Tube, Car Toyota 1300 CC	Tyre Puncture Charges, Air Fare Economy Class	
Communication	Postal Envelope Domestic, Mobile Cell Charges, Telephone Charges Local Call	Internet Charges, Telephone Set Av. Qlty, Fax Charges (Local), Mobile Set Nokia/Sony/Ericsson Av.Qlty		T.C.S. Ch. Min.Within Zone
Recreation & Culture	Urdu Book Class IX/X (T.B.Board), English Book Class IX or X, Radio With C.Player National, V.C.P. Panasonic/LG/National, English Book BA/B.Sc	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	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		Chicken Biryani Full/Double, Cooked Beef (Av. Hotel), Bread Tandoori St. Size	Cooked Dal (Av. Hotel), Cooked Mutton (Av. Hotel), Tea Prepared (Ordinary)	
Miscellaneous	Toilet Soap Lux 95 Gms, Silver Tezabi 24 Ct, Gold Tezabi 24 Ct, Toothpaste Macleans 70 Gms	Hair Oil Amla/Chambeli, Beauty Cream (Fair & Lovely), Talc Powder Viceroy/Black Cat, Hair Color Bigen	Perfume Med. Size Medora/Broche, Suitcase Rexin (24"X16"X6"), Disposable Razor Gillette-II	Shaving Charges, Purse Ladies (Leather) Av. Qlty

Table A5: City- wise CPI Inflation by Income Groups, October 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	-1.2	0.8	-2.6	-2.5	0.5	5.1	-1.3	1.5	-3.1	-2.8	0.5	6.2
2 Islamabad	0.7	2.2	1.2	2.3	0.1	2.0	0.5	2.2	0.9	2.4	0.1	1.9
3 Lahore	0.0	-0.3	-0.1	-2.3	0.2	2.9	-0.1	-0.2	-0.3	-2.5	0.2	2.8
4 Gujranwala	0.9	1.7	1.4	-0.2	0.2	4.4	0.9	1.6	1.4	-0.4	0.3	4.0
5 Sialkot	0.3	0.0	0.2	-1.9	0.4	2.8	0.0	-0.2	-0.4	-2.5	0.4	2.6
6 Faisalabad	0.8	2.8	0.9	2.7	0.6	2.8	0.5	2.4	0.4	2.4	0.6	2.3
7 Multan	0.9	1.9	1.4	1.2	0.2	2.7	0.8	2.0	1.2	1.5	0.2	2.5
8 Sargodha	1.4	4.0	2.3	2.0	0.5	6.4	1.1	4.3	1.9	2.2	0.4	6.4
9 Bahawalpur	1.3	2.2	2.0	1.4	0.5	3.1	1.1	2.1	1.6	1.6	0.5	2.7
10 Karachi	0.9	3.6	0.6	0.9	1.3	7.4	0.8	3.7	0.6	1.0	1.0	6.8
11 Hyderabad	0.4	1.9	0.4	0.8	0.3	3.4	0.4	2.3	0.5	1.1	0.2	3.9
12 Sukkur	1.0	0.9	1.7	-1.2	0.2	3.5	0.7	1.5	1.2	-0.9	0.2	4.1
13 Larkana	0.4	-1.5	0.3	-4.0	0.4	1.4	0.3	-0.8	0.2	-3.2	0.4	1.6
14 Peshawar	1.1	3.5	1.2	3.1	1.0	4.0	1.0	4.0	1.0	3.6	1.0	4.4
15 Bannu	1.1	-0.4	1.6	-2.2	0.5	1.9	1.0	-0.5	1.3	-2.6	0.7	1.8
16 Quetta	2.8	0.9	1.8	-2.9	4.0	5.8	2.6	1.2	1.7	-2.5	3.5	5.5
17 Khuzdar	1.1	-2.6	1.7	-5.5	0.4	1.4	1.1	-3.1	1.6	-5.3	0.4	-0.6
	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	-0.9	1.8	-2.3	-1.6	0.3	5.1	-0.6	2.4	-1.8	-0.2	0.3	4.6
2 Islamabad	0.4	1.8	0.7	2.4	0.2	1.2	0.4	1.9	0.6	2.8	0.2	1.2
3 Lahore	-0.1	-0.4	-0.5	-2.3	0.2	1.8	-0.2	-0.3	-0.6	-2.1	0.2	1.5
4 Gujranwala	0.8	1.4	1.2	-0.1	0.4	3.1	0.8	1.4	1.3	0.2	0.3	2.5
5 Sialkot	0.0	-0.8	-0.3	-2.8	0.4	1.4	0.0	-0.1	-0.3	-2.0	0.3	1.5
6 Faisalabad	0.4	2.3	0.2	2.3	0.7	2.2	0.2	1.7	-0.4	2.0	0.7	1.5
7 Multan	0.7	1.8	1.0	1.6	0.3	2.0	0.6	2.0	0.9	2.0	0.3	1.9
8 Sargodha	1.0	3.9	1.7	2.0	0.5	5.7	0.8	3.7	1.4	2.2	0.4	4.9
9 Bahawalpur	1.0	2.0	1.4	1.8	0.6	2.2	0.7	1.8	1.0	1.9	0.5	1.8
10 Karachi	0.8	3.8	0.7	1.3	1.0	6.4	0.8	3.7	0.6	1.4	0.9	5.8
11 Hyderabad	0.4	2.1	0.5	1.4	0.3	3.0	0.4	2.1	0.4	1.7	0.3	2.6
12 Sukkur	0.7	1.6	1.2	-0.5	0.2	3.8	0.5	2.0	1.0	0.1	0.2	3.6
13 Larkana	0.3	-0.6	0.2	-2.8	0.4	1.4	0.2	0.1	0.1	-2.0	0.3	1.8
14 Peshawar	1.0	3.9	0.9	3.5	1.1	4.4	0.9	3.9	0.7	3.9	1.0	4.0
15 Bannu	0.9	-0.5	1.3	-2.6	0.6	1.5	1.1	0.3	1.4	-2.1	0.8	2.4
16 Quetta	2.6	1.2	1.6	-2.0	3.5	4.5	2.5	1.6	1.5	-1.5	3.4	4.2
17 Khuzdar	0.9	-3.0	1.3	-4.4	0.4	-1.5	0.8	-2.1	1.4	-3.7	0.3	-0.8
	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	-0.5	3.4	-1.9	0.1	0.2	5.0	-0.6	2.9	-2.0	-0.4	0.3	5.3
2 Islamabad	0.1	2.6	0.0	3.0	0.2	2.4	0.2	2.5	0.1	2.9	0.2	2.3
3 Lahore	-0.2	0.6	-1.0	-1.6	0.2	1.8	-0.2	0.2	-0.7	-2.0	0.2	2.0
4 Gujranwala	0.7	2.0	1.2	0.7	0.4	2.7	0.8	1.7	1.3	0.2	0.4	2.9
5 Sialkot	0.0	0.2	-0.4	-1.6	0.3	1.1	0.0	0.0	-0.3	-2.0	0.3	1.5
6 Faisalabad	0.2	1.5	-0.9	1.5	0.7	1.4	0.3	2.0	-0.1	2.2	0.6	1.9
7 Multan	0.4	1.8	0.5	2.5	0.3	1.4	0.5	1.9	0.9	2.0	0.3	1.8
8 Sargodha	0.6	4.2	1.4	2.3	0.3	5.1	0.9	4.1	1.6	2.2	0.5	5.3
9 Bahawalpur	0.5	2.0	0.8	2.2	0.4	1.9	0.8	2.1	1.3	1.9	0.5	2.2
10 Karachi	0.7	4.5	0.7	1.2	0.7	6.2	0.7	4.2	0.6	1.2	0.8	6.5
11 Hyderabad	0.4	2.0	0.4	1.9	0.4	2.1	0.4	2.2	0.4	1.6	0.3	2.6
12 Sukkur	0.3	2.4	0.6	0.4	0.1	3.4	0.6	1.9	1.1	-0.2	0.2	3.4
13 Larkana	0.3	0.6	0.1	-1.4	0.3	1.6	0.3	-0.4	0.2	-2.6	0.3	1.1
14 Peshawar	0.8	3.2	0.3	3.6	1.0	3.0	0.9	3.6	0.7	3.6	1.0	3.6
15 Bannu	0.7	-0.3	0.9	-1.7	0.6	0.4	1.0	-0.2	1.3	-2.2	0.7	1.3
16 Quetta	2.4	1.9	1.3	-1.1	3.0	3.5	2.5	1.6	1.5	-1.7	3.2	4.0
17 Khuzdar	0.7	-1.3	1.2	-2.1	0.5	-0.8	0.9	-2.5	1.5	-4.5	0.6	-1.0

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

City	High inflation cities			City	Low inflation cities		
	General	Food	Non-food		General	Food	Non-food
Mingora	5.0	3.7	5.7	Bahawalnagar	1.5	2.9	0.6
Karachi	4.2	1.2	6.5	Jhelum	1.4	0.6	2.0
Sargodha	4.1	2.2	5.3	Abbotabad	1.4	0.9	1.7
Peshawar	3.6	3.6	3.6	Mianwali	1.1	-2.2	3.3
Mithi	3.3	2.8	3.6	Turbat	1.0	-1.7	2.8
Nawabshah	3.1	-0.1	5.2	Vehari	0.4	3.3	-1.6
Rawalpindi	2.9	-0.4	5.3	Loralai & Cantt	0.4	-0.9	1.2
Wazirabad	2.8	3.8	2.0	Dera Mrd.Jamali	0.3	-2.0	1.9
Islamabad	2.5	2.9	2.3	Lahore	0.2	-2.0	2.0
Mardan	2.5	-1.1	4.5	Sialkot	0.0	-2.0	1.5
Jhang	2.4	3.7	1.6	Bannu	-0.2	-2.2	1.3
Attock	2.4	-1.7	5.3	Dadu	-0.2	-1.5	0.8
D.G. Khan	2.4	1.0	3.3	Larkana	-0.4	-2.6	1.1
Hyderabad	2.2	1.6	2.6	Khuzdar	-2.5	-4.5	-1.0
Mir Pur Khas	2.1	1.6	2.5	Gwadar	-2.9	-5.8	-0.9
Bahawalpur	2.1	1.9	2.2				
Muzaffargarh	2.1	1.9	2.2				
Rahim Yar Khan	2.1	0.8	3.0				
Faisalabad	2.0	2.2	1.9				
Multan	1.9	2.0	1.8				
Sukkur	1.9	-0.2	3.4				
Sahiwal	1.8	-0.9	3.5				
Gujranwala	1.7	0.2	2.9				
D. I. Khan	1.7	4.5	-0.3				
Quetta	1.6	-1.7	4.0				

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		
	Oct-14	Sep-15	Oct-15	Oct-14	Sep-15	Oct-15
<u>Up to Rs. 8000</u>						
General	0.0	0.0	0.7	5.2	0.6	1.3
Food	-0.4	-0.2	0.9	4.3	-1.4	-0.2
Non-food	0.6	0.2	0.6	6.4	3.2	3.2
<u>Rs. 8001- 12000</u>						
General	0.1	0.2	0.6	5.3	1.1	1.6
Food	-0.3	-0.3	0.7	4.6	-1.0	-0.1
Non-food	0.6	0.8	0.6	6.2	3.5	3.5
<u>Rs. 12001- 18000</u>						
General	0.1	-0.4	0.5	5.5	0.8	1.2
Food	-0.3	-0.4	0.6	4.9	-0.6	0.3
Non-food	0.5	-0.5	0.5	6.0	2.1	2.2
<u>Rs. 18001- 35000</u>						
General	0.1	0.1	0.5	5.6	1.5	1.8
Food	-0.2	-0.5	0.4	5.3	-0.1	0.6
Non-food	0.5	0.6	0.5	5.9	2.9	2.9
<u>Above Rs. 35000</u>						
General	0.3	0.0	0.4	6.2	1.6	1.7
Food	0.0	-0.5	0.2	5.7	0.6	0.9
Non-food	0.5	0.3	0.5	6.4	2.1	2.1
<u>All income groups</u>						
General	0.2	-0.1	0.5	5.8	1.3	1.6
Food	-0.2	-0.4	0.4	5.2	-0.1	0.5
Non-food	0.5	0.1	0.5	6.2	2.4	2.4

Table A8: SPI Item-wise Price Movements

Sr.No.	Items	Unit	Prices Oct-15	Percentage change	
				YoY	MoM
1	Wheat	10Kg.	339.8	-3.4	4.3
2	Wheat Flour Bag	10Kg.	390.6	-3.3	4.1
3	Rice Basmati Broken	Kg.	66.1	-11.3	-3.4
4	Rice Irri-6	Kg.	47.6	-9.9	-2.9
5	Bread Plain Med. Size (340-400 Gm.)	Each	40.8	0.0	0.0
6	Beef	Kg.	315.3	4.5	0.0
7	Mutton	Kg.	621.6	5.1	0.3
8	Chicken Live (Farm)	Kg.	122.9	-8.5	-7.1
9	Milk Fresh	Litr	77.8	2.6	0.2
10	Curd	Kg.	91.7	2.6	0.4
11	Milk Powdered Nido	500G	368.5	5.3	3.4
12	Egg Hen (Farm)	Doz.	91.8	-13.5	-2.3
13	Mustard Oil	Kg.	179.9	-2.9	0.1
14	Cooking Oil (Tin)	2.5Ltr	457.6	-14.8	-0.9
15	Veg. Ghee (Tin)	2.5Kg.	450.0	-11.9	-1.1
16	Veg. Ghee Loose	Kg.	138.9	-12.5	-0.2
17	Bananas	Doz.	65.3	-6.4	-6.8
18	Masoor Pulse Washed	Kg.	144.9	10.3	1.1
19	Moong Pulse Washed	Kg.	160.4	6.3	1.1
20	Mash Pulse Washed	Kg.	224.2	39.7	15.5
21	Gram Pulse Washed	Kg.	119.9	58.8	4.8
22	Potatoes	Kg.	32.2	-50.5	11.2
23	Onions	Kg.	56.0	39.4	5.6
24	Tomatoes	Kg.	69.8	-3.6	23.1
25	Sugar	Kg.	61.6	4.0	-4.9
26	Gur	Kg.	95.2	10.2	0.4
27	Salt Powdered Loose (Lahori)	Kg.	10.4	4.1	0.5
28	Red Chilies Powder Loose	Kg.	273.5	4.7	-1.0
29	Garlic	Kg.	179.3	34.2	5.9
30	Tea (Yellow Label)	200Gm.	180.5	41.7	2.1
31	Cooked Beef Plate	Each	84.8	3.0	0.0
32	Cooked Dal Plate	Each	50.8	6.7	1.1
33	Tea Prepared (Sada)	Cup	19.1	2.6	0.7
34	Cigarettes K-2 (20'S)	20'S	54.8	20.6	0.0
35	Long Cloth (Coarse Latha)	Mtr.	202.8	1.6	0.1
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	83.7	-28.2	0.0
45	Firewood	40Kg	586.7	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	0.6
48	Match Box	Each	1.9	12.8	0.0
49	Petrol	Litr	74.6	-29.0	0.0
50	Diesel	Litr	82.9	-23.7	0.0
51	L.P.G.(11 Kg Cylinder.)	Each	1087.5	-35.5	3.7
52	Tele. Local Call	Call	3.9	0.0	0.0
53	Bath Soap Lifebuoy (Standard)	Cake	36.7	1.9	0.1
Maximum				58.8	23.1
Median				1.6	0.0
Minimum				-50.5	-7.1

Table A9: Distribution of Price Changes (YoY) - WPI Items: October 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, Poultry, Other Oil Seeds, Eggs, Wheat, Maize, Raw Animal Material/Wool	Sorghum/Jowar, Milk from Bovine Animals, Fresh Fruits, Fibre Crops, Hides and Fur Skins-Raw	Unmanufactured Tobacco, Vegetables, Dry Fruits, Fuel Wood in Logs, Sugar Crops	Fish Live Fresh or Chilled, Cotton Seeds, Pulses, Millet/Bajra
Ores & Minerals, Electricity Gas & Water	Coal not Agglomerated	Salt & Pure Sodium Chloride, Electrical Energy, Natural Gas Liquefied		
Food Products, Beverages and Tobacco, Textiles, Apparel and Leather Products	Vegetable Ghee, Cotton Yarn, Nylon Yarn, Vegetable Oil Refined, Blended Yarn, Other Leather N.E.C, Milk and Cream in Solid Form, Wheat Flour, Other Food Products, Oil Cakes, Spices, Footwear, Woolen Carpets, Ice Cream, Synthetic Carpets	Leather Without Hairs, Sugar Refined, Dried Fruits & Nuts, Meat of Animals, Bed Sheets, Ready Made Garments, Fruit Juices, Dairy Products N.E.C, Blankets, Vegetables & Fruit Juices, Chocolate, Processed Liquid Milk, Mineral Water, Cotton Fabrics, Beverages	Quilts, Towels, Hosiery Products, Silk and Rayon Fabrics, Other 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, Motor Sprit, Insecticides, Hard Board, Chemicals, Printing Paper, Cement, Mobil Oil, Coke	Bed Foams, Auto Tyres, Dying Materials, Soaps & Detergent, Fertilizers, Medicines	Plastic Products, Other Glass Articles, Ceramics and Sanitary, 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 Vehicles	Air Conditioners, Refrige,Wash& Sew Mach,Iron,Fan, Bicycles, Lighting Equipments, Pipe Fittings	Electrical Wires	

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

Items and specification	Weights	Index		
		Oct-14	Sep-15	Oct-15
General	100.00	199.81	202.04	203.03
Food & Non-Alcoholic Beverages.	34.83	221.33	219.41	220.40
1 Wheat	0.35	210.63	193.88	200.07
2 Wheat Flour	4.16	222.81	208.52	213.10
3 Wheat Product	0.10	220.03	212.74	214.59
4 Besan	0.15	171.46	240.09	250.61
5 Rice	1.58	196.10	170.56	164.50
6 Cereals	0.16	238.48	244.01	244.03
7 Bakery & Confectionary	1.16	206.17	209.68	209.83
8 Nimco	0.46	237.62	241.24	241.54
9 Meat	2.43	243.17	254.88	255.19
10 Chicken	1.36	171.55	157.49	143.98
11 Fish	0.30	213.95	212.73	214.66
12 Milk Fresh	6.68	247.00	256.67	256.89
13 Milk Product	0.63	241.78	248.48	248.48
14 Milk Powder	0.11	225.13	226.90	230.26
15 Egg	0.46	215.84	189.42	181.97
16 Mustard Oil	0.10	158.89	153.79	154.04
17 Cooking Oil	1.75	161.97	137.91	135.21
18 Vegetable Ghee	2.07	156.90	138.19	137.08
19 Dry Fruits	0.25	241.48	249.61	252.42
20 Fresh Fruits	1.86	224.17	219.82	217.91
21 Pulse Masoor	0.27	182.76	197.64	199.45
22 Pulse Moong	0.23	280.50	295.41	300.95
23 Pulse Mash (Washed)	0.21	226.52	266.81	308.24
24 Pulse Gram	0.24	169.05	249.32	262.84
25 Gram Whole	0.16	178.73	207.48	214.37
26 Beans	0.03	244.36	232.23	233.73
27 Potatoes	0.45	466.16	189.18	207.81
28 Onion	0.51	250.25	309.49	326.26
29 Tomatoes	0.42	198.97	174.35	233.56
30 Fresh Vegetable	1.75	242.35	258.41	257.22
31 Sugar	1.04	212.99	229.84	221.27
32 Gur	0.02	268.19	290.46	291.22
33 Honey	0.04	299.70	304.38	304.38
34 Sweet Meet	0.25	230.79	238.02	238.40
35 Beverages	1.20	207.93	217.39	217.86
36 Jam, Tomato Ketchup & Pickle	0.25	198.66	211.13	211.33
37 Condiments	0.27	251.20	258.47	258.82
38 Spices	0.54	232.46	238.44	237.30
39 Tea	0.84	212.06	262.29	265.12
Alcoholic Beverages, Tobacco	1.41	266.62	309.97	309.96
40 Cigarette	1.39	267.63	311.47	311.47
41 Betel Leaves & Nuts	0.02	205.62	218.57	218.45
Clothing & Footwear	7.57	211.10	220.68	221.89
42 Cotton Cloth	1.73	206.89	215.25	215.33
43 Woolen Cloth	0.88	229.10	236.31	236.95
44 Ready Made Garment	0.97	212.38	225.96	226.37
45 Woolen Readymade Garments	0.40	219.58	240.86	245.98
46 Hosiery	0.51	222.29	234.19	235.05
47 Dopatta	0.44	226.62	234.33	234.91
48 Cleaning & Laundering	0.21	234.46	242.25	245.70

Table A10: Consumer Price Index Numbers by Major Groups and Composite Commodities				
Items and specification	Weights	Index		
		Oct-14	Sep-15	Oct-15
49 Tailoring	0.88	258.78	278.92	283.94
50 Footwear	1.55	164.18	164.97	165.10
Housing,Water,Elect,Gas & Other Fuel	29.41	173.39	181.10	182.62
51 House Rent	21.81	162.06	168.87	170.85
52 Construction Input Item	0.56	236.73	241.38	241.36
53 Construction Wage Rate	0.33	204.03	218.33	220.31
54 Water Supply	0.50	149.92	149.92	149.92
55 Electricity	4.40	227.44	238.10	238.10
56 Gas	1.58	143.81	158.08	158.08
57 Kerosene Oil	0.01	274.86	207.65	208.72
58 Fire Wood Whole	0.23	266.60	275.90	278.99
Furnished H.Hold Equip.& Maint. Etc	4.21	207.48	214.88	215.49
59 Furniture	0.33	198.76	206.58	206.70
60 Household Textile	0.65	203.12	212.12	213.29
61 Household Equipment	0.59	171.71	175.57	175.73
62 Utensils	0.32	209.01	217.57	218.25
63 Plastic Products	0.25	198.24	204.10	204.85
64 Washing Soap & Detergent	0.79	222.35	224.73	225.68
65 Sewing Needle & Dry Cell	0.15	183.04	200.63	200.81
66 Household Servant	1.04	225.87	236.72	237.20
67 Marriage Hall Charges	0.08	227.81	232.49	232.49
Health	2.19	174.95	179.51	179.67
68 Drug Medicine	1.27	146.84	149.01	149.02
69 Medical Equipment	0.01	221.31	226.26	226.26
70 Doctor (MBBS) Clinic Fee	0.59	236.75	244.44	244.44
71 Medical Test	0.32	171.03	179.27	180.37
Transport	7.20	204.84	175.60	175.80
72 Motor Vehicle	0.66	163.73	163.02	163.02
73 Motor Vehicle Accessories	0.24	229.28	226.83	227.21
74 Motor Fuel	3.03	187.14	147.25	147.50
75 Mechanical Service	0.46	207.30	217.59	218.85
76 Motor Vehicle Tax	0.11	210.18	210.18	210.18
77 Transport Services	2.70	231.90	197.35	197.35
Communication	3.22	129.85	130.36	130.36
78 Postal Services	0.07	216.26	229.93	229.93
79 Communication & Apparatus	3.15	128.04	128.27	128.27
Recreation & Culture	2.02	189.39	193.41	193.55
80 Recreation & Culture	0.86	127.84	128.25	128.26
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	198.56	204.23	204.88
Education	3.94	192.41	209.22	209.25
84 Education	3.94	192.41	209.22	209.25
Restaurants And Hotels	1.23	242.78	251.29	253.30
85 Ready Made Food	1.23	242.78	251.29	253.30
Miscellaneous Goods And Services	2.76	220.36	224.64	225.79
86 Personal Care	1.49	204.03	209.07	209.29
87 Cosmetics	0.39	183.89	192.70	193.11
88 Blades	0.03	184.82	190.75	190.75
89 Personal Equipments	0.84	267.26	268.09	271.23

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

Items and Specifications	Index		
	Oct-14	Sep-15	Oct-15
General	214.39	207.60	208.69
Agriculture Forestry & Fishery	222.72	223.92	228.36
1 Wheat	215.03	202.23	209.37
2 Maize	193.55	197.73	191.32
3 Rice	182.99	154.60	150.22
4 Sorghum/Jowar	286.45	334.15	293.25
5 Millet/Bajra	177.35	204.45	200.68
6 Vegetables	302.11	330.75	331.56
7 Fresh Fruits	250.21	249.04	253.80
8 Dry Fruits	220.55	236.68	238.92
9 Cotton Seeds	186.82	228.37	243.34
10 Other Oil Seeds	186.54	159.36	162.75
11 Edible Roots/ Potatoes	535.17	172.56	184.04
12 Stimulant And Spice Crops	397.61	318.19	306.38
13 Pulses	193.91	234.67	243.87
14 Sugar Crops	267.92	286.29	286.29
15 Fibre Crops	170.48	154.16	172.23
16 Unmanufactured Tobacco	208.01	227.46	228.38
17 Poultry	172.75	160.74	146.78
18 Milk From Bovine Animals	248.92	253.18	254.04
19 Eggs	218.07	194.92	193.56
20 Raw Animal Material/Wool	173.82	173.66	173.66
21 Hides And Fur Skins, Raw	154.93	156.45	155.85
22 Fuel Wood In Logs	246.31	262.48	263.57
23 Fishes Live Fresh Or Chilled	247.49	338.86	339.32
Ores/Minerals, Gas & Elect.	244.75	249.12	246.91
24 Coal Not Agglomerated	223.53	235.29	192.16
25 Natural Gas Liquefied	206.65	208.83	209.82
26 Salt & Pure Sodium Chloride	247.16	252.31	252.31
27 Electrical Energy	287.44	293.09	293.09
Food, Beverages, Tobacco, Textiles	208.83	210.64	211.04
28 Meat Of Animals	257.41	265.13	266.98
29 Vegetables & Fruit Juices	196.79	200.95	200.95
30 Dried Fruits & Nuts	222.26	230.91	230.84
31 Fruit Juices	171.93	177.53	177.53
32 Vegetable Oil Refined	163.22	149.26	150.19
33 Vegetable Ghee	137.60	119.21	118.43
34 Oil Cakes	203.69	193.65	202.18
35 Processed Liquid Milk	242.78	248.71	247.18
36 Milk And Cream In Solid Form	221.48	216.31	216.39
37 Ice Cream	219.91	219.91	219.91
38 Dairy Products N.E.C	237.45	244.55	244.60
39 Wheat Flour	202.07	192.14	197.66
40 Other Cereal Flour	138.03	214.96	220.69
41 Sugar Refined	224.22	246.52	233.67
42 Chocolate	99.19	101.06	101.06
43 Sugar Confectionary	102.28	118.83	118.83
44 Coffee And Tea	186.74	240.86	246.32
45 Spices	188.66	188.73	188.53
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	190.52	167.64	169.21
51 Nylon Yarn	164.37	147.08	147.08
52 Blended Yarn	193.92	184.15	183.55
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	217.95

Inflation Monitor, October 2015

Table A11: Wholesale Price Index Numbers by Major Groups and Composite Commodities				
		Index		
Items and Specifications		Oct-14	Sep-15	Oct-15
56	Silk And Rayon Fabrics	176.47	186.80	186.80
57	Towels	250.33	267.20	267.20
58	Blankets	230.00	235.86	235.86
59	Bed Sheets	247.46	256.29	256.29
60	Quilts	179.47	196.84	196.84
61	Woolen Carpets	132.14	132.14	132.14
62	Synthetic Carpets	126.27	126.27	126.27
63	Hosiery Products	210.35	220.66	222.88
64	Ready Made Garments	186.77	193.27	193.27
65	Leather With Out Hairs	212.86	221.97	221.97
66	Other Leather N.E.C	214.36	206.27	206.27
67	Footwear's	134.22	134.22	134.22
Other Transportable Goods		212.36	176.38	176.74
68	Timber	189.35	208.04	213.18
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	175.05	124.58	124.58
73	Diesel Oil	254.48	170.11	170.11
74	Kerosene Oil	277.92	152.12	152.12
75	Furnace Oil	159.86	76.67	79.32
76	Mobil Oil	201.53	199.10	199.78
77	Chemicals	196.00	187.25	186.09
78	Dying Materials	143.77	146.55	146.55
79	Fertilizers	270.24	275.23	274.03
80	Pesticides	266.71	306.30	312.37
81	Insecticides	179.64	138.59	138.59
82	Paints & Varnishes	280.05	295.36	295.36
83	Medicines	144.59	145.71	146.38
84	Soaps & Detergent	177.77	180.67	180.67
85	Auto Tyres	188.28	192.83	192.83
86	Plastic Products	210.90	228.35	231.05
87	Glass Sheets	209.86	231.30	231.30
88	Other Glass Articles	227.13	243.63	243.63
89	Ceramics And Sanitary	212.17	227.13	227.13
90	Bricks Blocks And Tiles	204.18	209.99	216.83
91	Cement	210.17	206.87	206.70
92	Bed Foams	150.83	156.67	156.67
93	Matches	143.20	162.62	162.62
Metal Product Machinery & Equip		172.85	171.25	171.31
94	Pig Iron	128.97	128.97	128.97
95	Steel Bars & Sheets	150.97	130.45	129.32
96	Pipe Fittings	191.94	192.08	192.08
97	Steel Products	173.74	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	214.54	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	196.81	198.62	200.25
107	Electrical Wires	184.79	192.45	195.19
108	Lighting Equipments	164.95	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	Apr	177.74	197.74	165.75	198.09	199.00	197.51	192.02
	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

*: all groups combined

Table A13: International Commodity Prices/ Indices				
	Jul-15	Aug-15	Sep-15	Oct-15
Energy				
Crude Oil (US\$ per barrel) *	54.4	45.7	46.3	47.0
IMF Energy Index (2005 = 100)	102.8	89.1	88.8	89.2
WB Energy Index (2010 = 100) @	68.8	59.5	59.6	59.7
Food				
Rice (\$/MT)	387.7	375.6	358.8	360.5
Wheat (\$/MT)	199.2	173.5	163.8	165.4
Sugar (US cent/ pound)	11.9	10.7	12.1	14.1
Palm Oil (\$/MT)	575.7	484.7	483.5	530.2
Soybean Oil (\$/MT)	695.8	628.7	590.3	623.8
Non-Food Non-Energy				
Cotton Outlook 'A' Index #	72.3	71.8	68.7	69.0
IMF Metal Price Index (2005 = 100)	123.2	119.2	120.6	118.0
Copper (\$/MT)	5,456.8	5,127.3	5,217.3	5,216.1
Aluminum (\$/MT)	1,639.5	1,548.1	1,589.6	1,516.5
Iron Ore (\$ cents/dry MT)	51.5	55.4	56.4	52.7
Tin (\$/MT)	15,071.5	15,163.8	15,453.3	15,794.6
Nickle (\$/MT)	11,413.1	10,386.0	9,937.5	10,316.8
Zinc (\$/MT)	2,000.7	1,807.6	1,720.2	1,724.3
Lead (\$/MT)	1,763.0	1,703.6	1,684.3	1,720.1
Uranium (\$/MT)	36.0	36.1	36.9	37.0
DAP (\$/MT)	469.0	464.0	460.0	442.0
Urea (\$/MT)	273.0	273.0	259.0	255.0
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	
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	154.11	168.80	182.64	196.95	200.74
Aug	155.63	169.66	184.10	197.02	200.57
Sep	157.26	171.10	183.73	197.82	200.45
Oct	159.15	171.33	186.89	197.74	200.94
Nov	160.26	171.32	189.94	197.52	
Dec	160.99	173.79	189.73	197.84	
Jan	163.01	176.18	190.15	197.52	
Feb	164.84	177.07	191.15	197.37	
Mar	166.41	177.43	192.64	197.48	
Apr	168.20	177.95	194.32	198.45	
May	170.56	179.34	194.28	200.38	
Jun	170.79	180.83	195.69	201.85	

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	
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	173.69	189.26	206.35	220.64	221.86
Aug	174.53	189.30	208.66	220.26	221.05
Sep	177.20	190.62	205.65	220.40	220.17
Oct	179.76	190.25	208.98	219.94	221.10
Nov	180.63	190.15	214.82	219.39	
Dec	180.66	194.56	212.58	219.73	
Jan	183.02	197.84	212.23	218.59	
Feb	184.71	198.48	213.60	218.19	
Mar	186.21	198.11	216.53	217.80	
Apr	188.39	198.76	218.55	218.59	
May	189.19	201.61	216.45	222.88	
Jun	189.22	204.14	219.10	225.93	

Table 16: CPI Monthly & Average Seasonal Factors						
Period	FY12	FY13	FY14	FY15	FY16	Average
Jul	100.39	100.46	100.52	100.56	100.58	100.50
Aug	100.80	100.84	100.87	100.85	100.84	100.84
Sep	100.79	100.78	100.79	100.80	100.79	100.79
Oct	101.03	101.03	101.03	101.05	101.04	101.04
Nov	100.62	100.64	100.67	100.65		100.64
Dec	99.46	99.44	99.45	99.47		99.46
Jan	99.73	99.73	99.71	99.71		99.72
Feb	98.93	98.89	98.87	98.86		98.89
Mar	99.14	99.09	99.06	99.03		99.08
Apr	99.88	99.88	99.87	99.85		99.87
May	99.63	99.62	99.63	99.64		99.63
Jun	99.53	99.51	99.51	99.52		99.52

Table 17: CPI Food Monthly & Average Seasonal Factors						
Period	FY12	FY13	FY14	FY15	FY16	Average
Jul	100.64	100.77	100.89	100.98	101.03	100.86
Aug	101.60	101.68	101.73	101.72	101.73	101.69
Sep	101.67	101.67	101.67	101.69	101.68	101.68
Oct	101.84	101.79	101.74	101.73	101.70	101.76
Nov	101.46	101.52	101.56	101.53		101.51
Dec	99.20	99.18	99.20	99.25		99.21
Jan	99.39	99.37	99.33	99.32		99.35
Feb	97.82	97.77	97.72	97.69		97.75
Mar	98.52	98.46	98.42	98.37		98.44
Apr	99.49	99.49	99.44	99.39		99.45
May	99.24	99.20	99.21	99.26		99.23
Jun	99.01	99.00	99.03	99.07		99.03

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	
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	0.41	-1.16	1.00	0.64	-0.55
Aug	0.99	0.51	0.80	0.04	-0.09
Sep	1.05	0.85	-0.20	0.41	-0.06
Oct	1.20	0.14	1.72	-0.04	0.24
Nov	0.70	-0.01	1.63	-0.11	
Dec	0.46	1.44	-0.11	0.16	
Jan	1.25	1.38	0.22	-0.16	
Feb	1.12	0.50	0.53	-0.07	
Mar	0.95	0.20	0.77	0.05	
Apr	1.08	0.29	0.87	0.49	
May	1.40	0.78	-0.02	0.97	
Jun	0.13	0.83	0.73	0.74	

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	
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	1.24	0.02	1.08	0.70	-1.80
Aug	0.49	0.02	1.12	-0.17	-0.37
Sep	1.53	0.70	-1.44	0.06	-0.40
Oct	1.44	-0.19	1.62	-0.21	0.42
Nov	0.48	-0.06	2.79	-0.25	
Dec	0.02	2.32	-1.04	0.15	
Jan	1.30	1.68	-0.17	-0.52	
Feb	0.93	0.33	0.65	-0.18	
Mar	0.81	-0.19	1.37	-0.18	
Apr	1.17	0.33	0.93	0.37	
May	0.42	1.43	-0.96	1.96	
Jun	0.02	1.26	1.23	1.37	

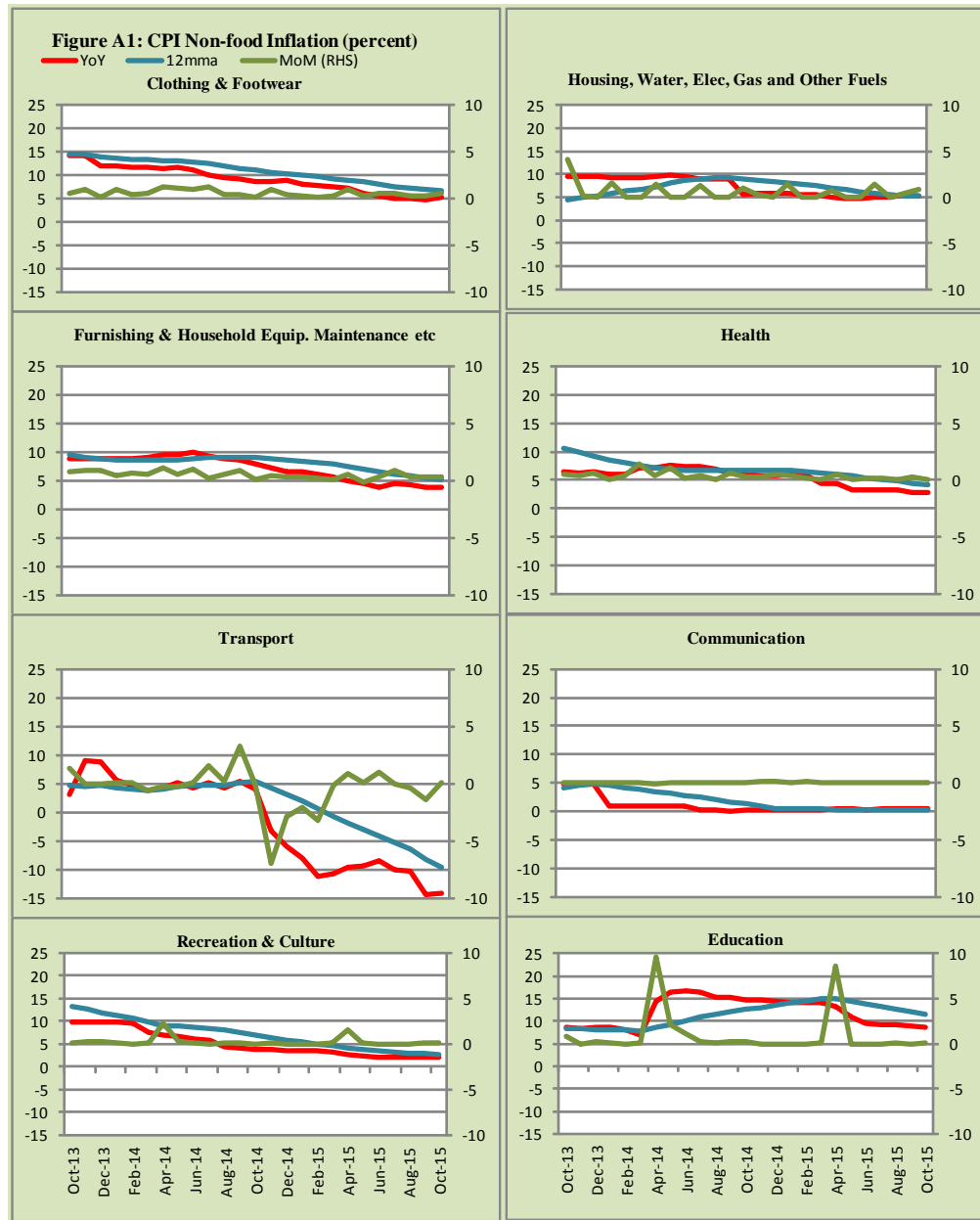


Figure A2: Frequency Distribution of Price Changes of CPI Items, October 2015

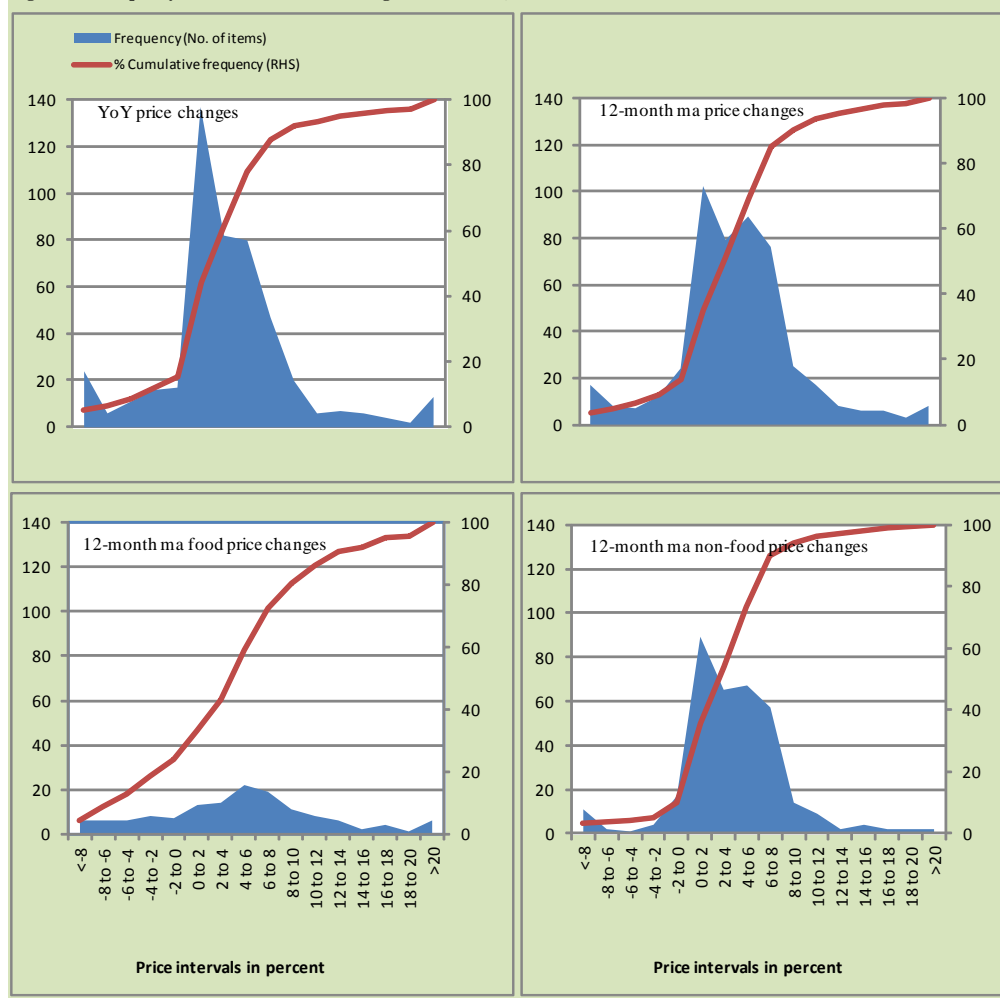


Figure A3: Frequency Distribution of Price Changes of WPI Commodities, October 2015

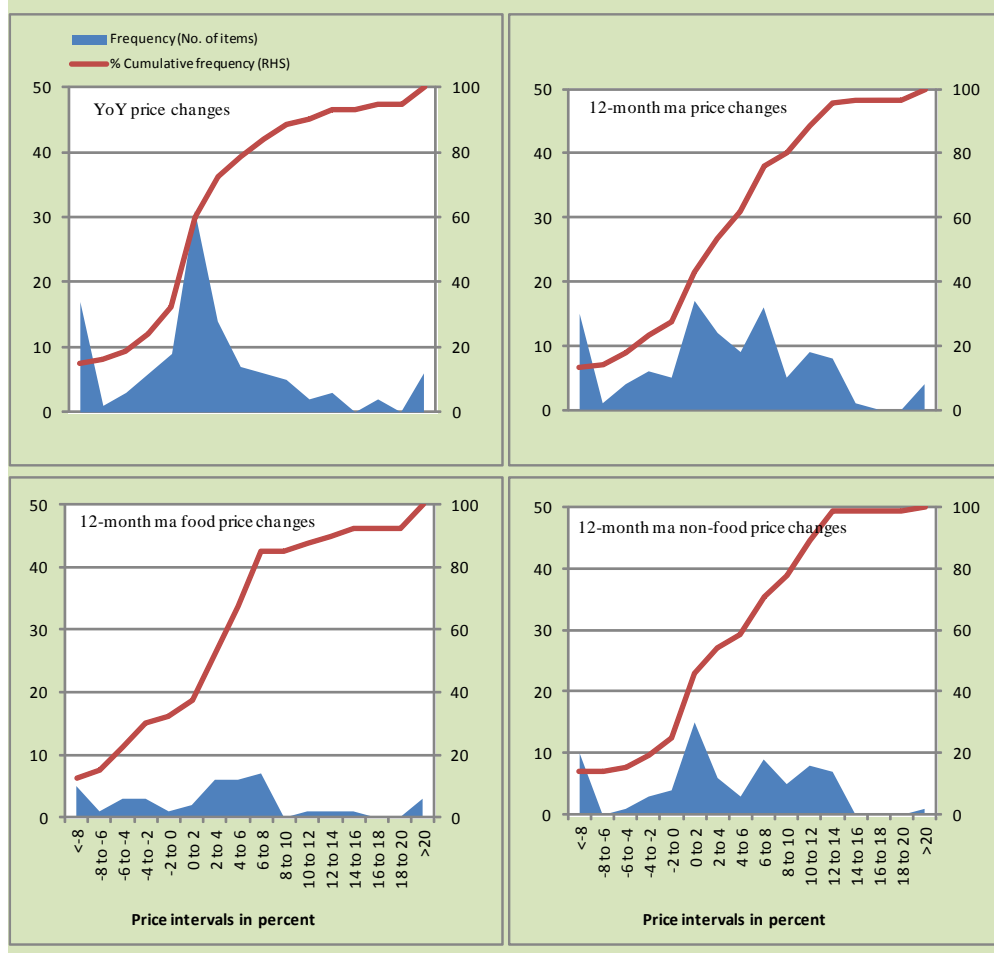
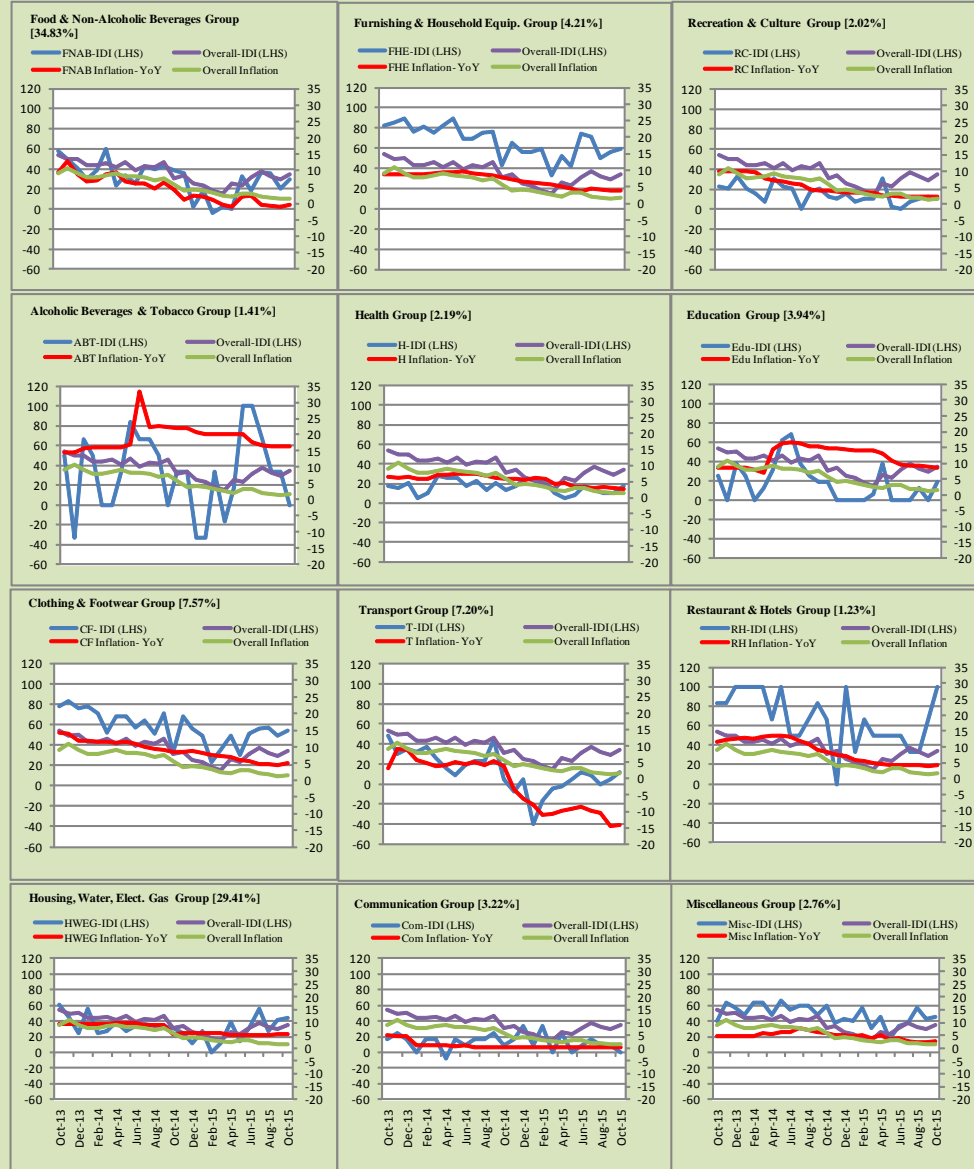


Figure A4: Group-wise/Overall Inflation Diffusion Index (IDI) and respective/overall YoY Inflation (percent)



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.