

Inflation Monitor

February 2016



State Bank of Pakistan

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Review

Inflation in Brief

1. Headline CPI inflation (2007-08=100) is recorded at 4.0 percent on year-on-year basis in February 2016 compared to 3.3 percent in the previous month and 3.2 percent in the corresponding month of last year.
2. CPI inflation on month-on-month basis is recorded at -0.3 percent in February 2016 compared to 0.2 percent in the previous month and -0.9 percent during the corresponding month of last year. Seasonally adjusted month-on-month CPI inflation is recorded at 0.58 percent in February 2016 compared to 0.05 percent in the previous month.
3. Core inflation (trimmed) on year-on-year basis increased to 3.6 percent in February 2016 compared to 3.0 percent in the previous month and 4.2 percent during the corresponding month of last year.
4. On month-on-month basis, the Core inflation (trimmed) decreased to 0.1 percent in February 2016 compared to 0.6 percent in the previous month and -0.2 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 4.5 percent in February 2016 compared to 4.3 percent in the previous month. It was 6.2 percent in the corresponding month of last year.
6. Core NFNE inflation on month-on-month basis recorded at 0.2 percent in February 2016 compared to 0.9 percent in the previous month. Core NFNE inflation witnessed negligible decrease in February 2015.
7. WPI inflation on year-on-year basis recorded at 0.6 percent in February 2016 compared to 0.1 percent in the previous month. During February 2015, WPI inflation was recorded at -3.4 percent.

8. WPI inflation on month-on-month basis recorded at -0.6 percent in February 2016 compared to -0.5 percent in the previous and -1.1 percent in the corresponding month of last year.
9. SPI inflation on year-on-year basis recorded at 4.2 percent in February 2016 compared to 3.6 percent in the previous month. It was -0.7 percent in the corresponding month of last year.
10. SPI inflation on month-on-month basis recorded at -0.8 percent in February 2016 compared to -0.5 percent in the previous and -1.4 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 February 2016 are described below:

- Core RSC inflation on year-on-year basis is recorded at 5.1 percent in February 2016 compared to 4.9 percent in the previous month and 6.4 percent in the corresponding month of last year.
- Core RSC inflation on month-on-month basis is recorded at 0.2 percent in February 2016 compared to 0.7 percent in the previous and negligible increase during February, 2015.

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
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
Dec-15	3.2	-0.6	2.7	-1.6	3.6	0.2	4.1	0.2	2.7	0.2	4.8	0.5	-0.4	-0.6	3.2	-0.4
Jan-16	3.3	0.2	2.5	-0.6	3.9	0.8	4.3	0.9	3.0	0.6	4.9	0.7	0.1	-0.5	3.6	-0.5
Feb-16	4.0	-0.3	3.7	-0.7	4.2	0.0	4.5	0.2	3.6	0.1	5.1	0.2	0.6	-0.6	4.2	-0.8
* NFNE is Non-food non-energy ** Relatively Stable Component of CPI *** SPI for all income groups combined																

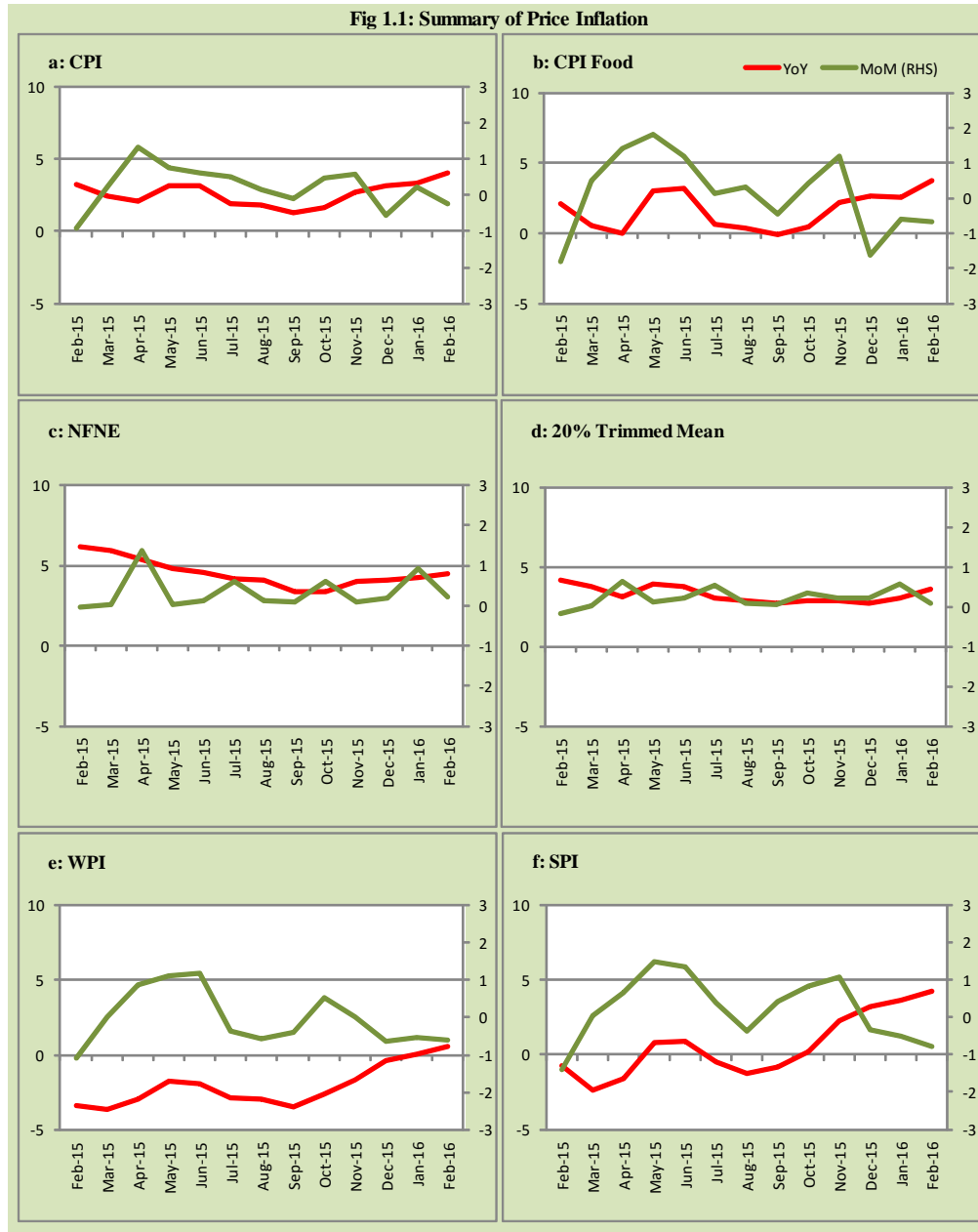
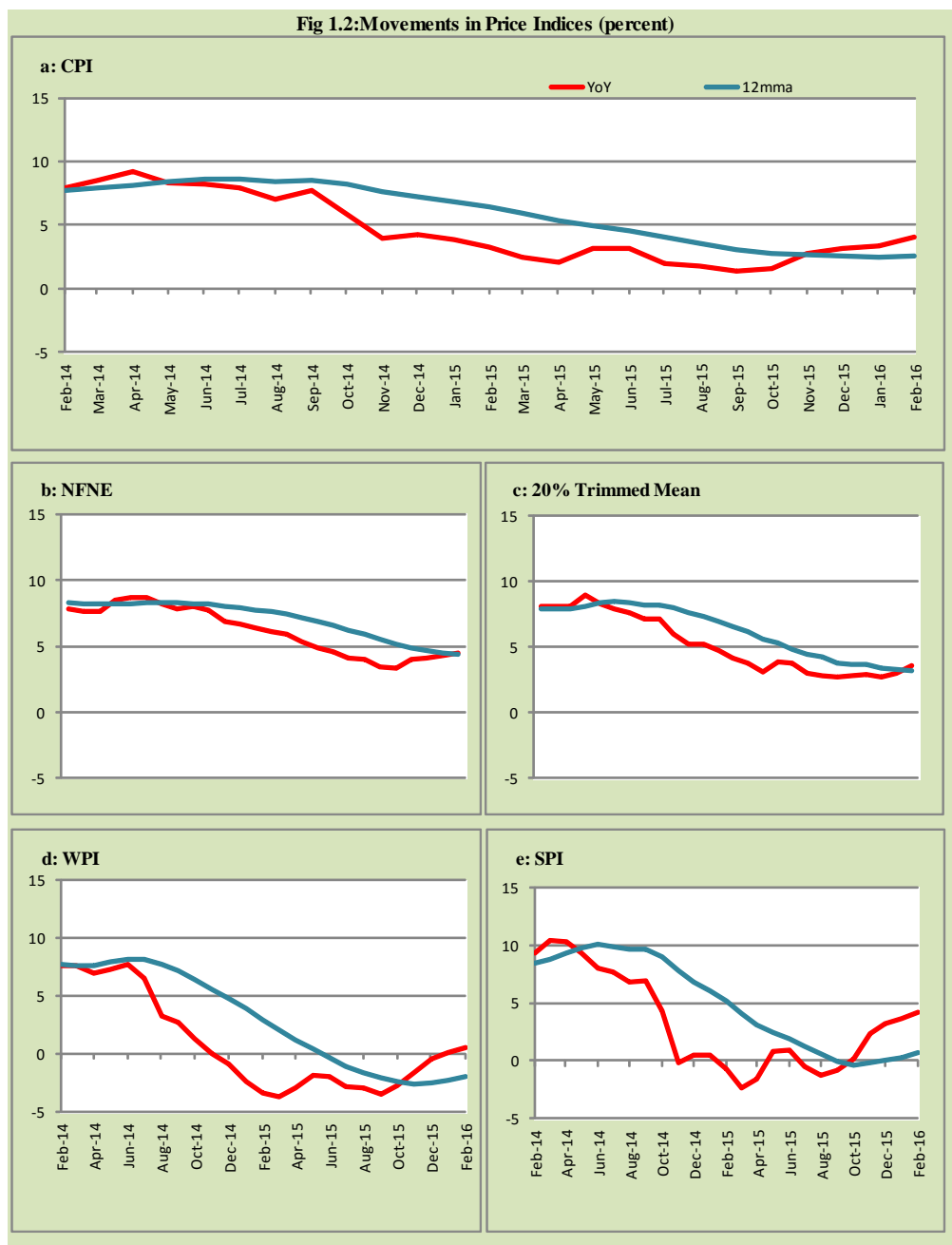


Fig 1.2: Movements in Price Indices (percent)



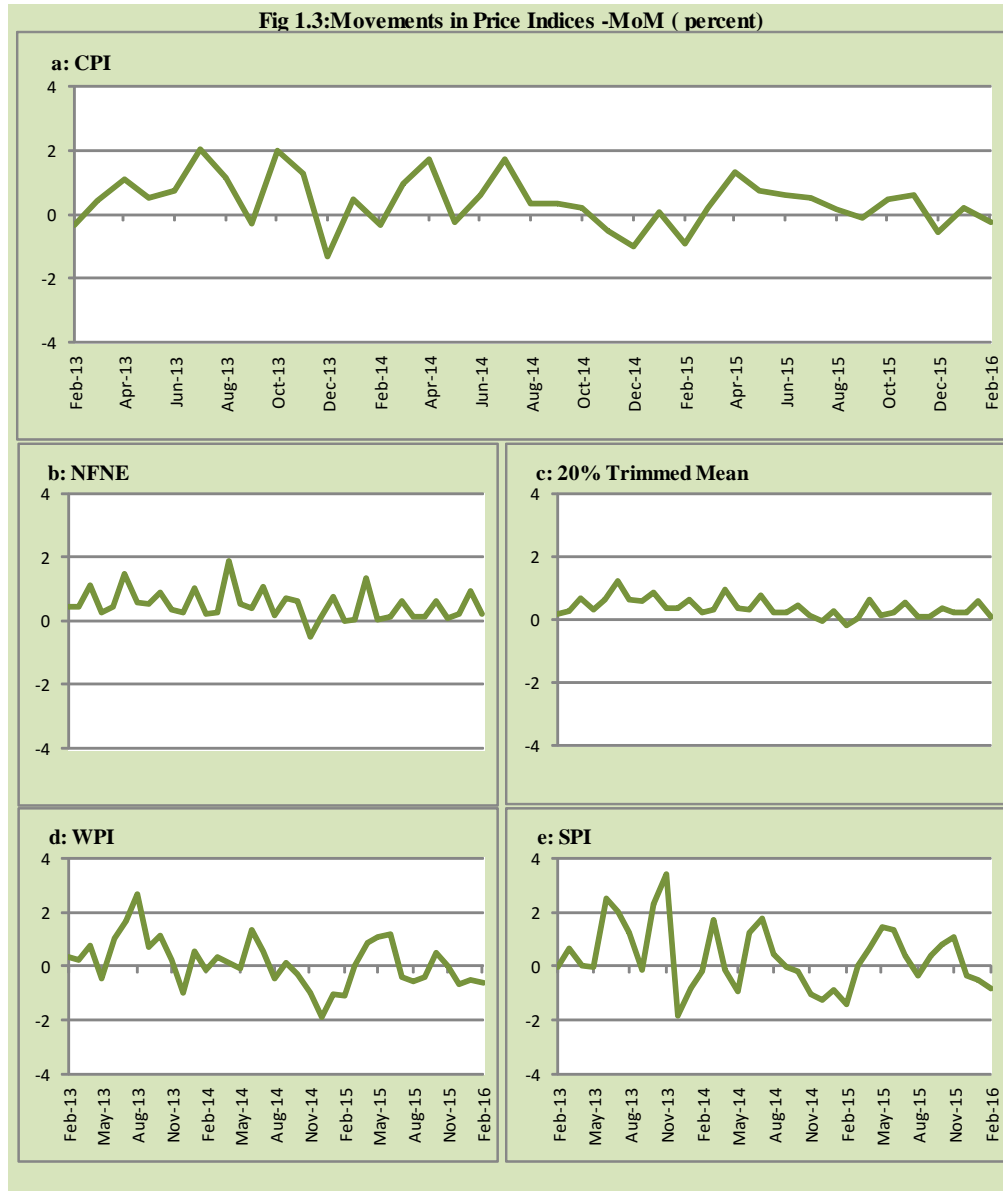
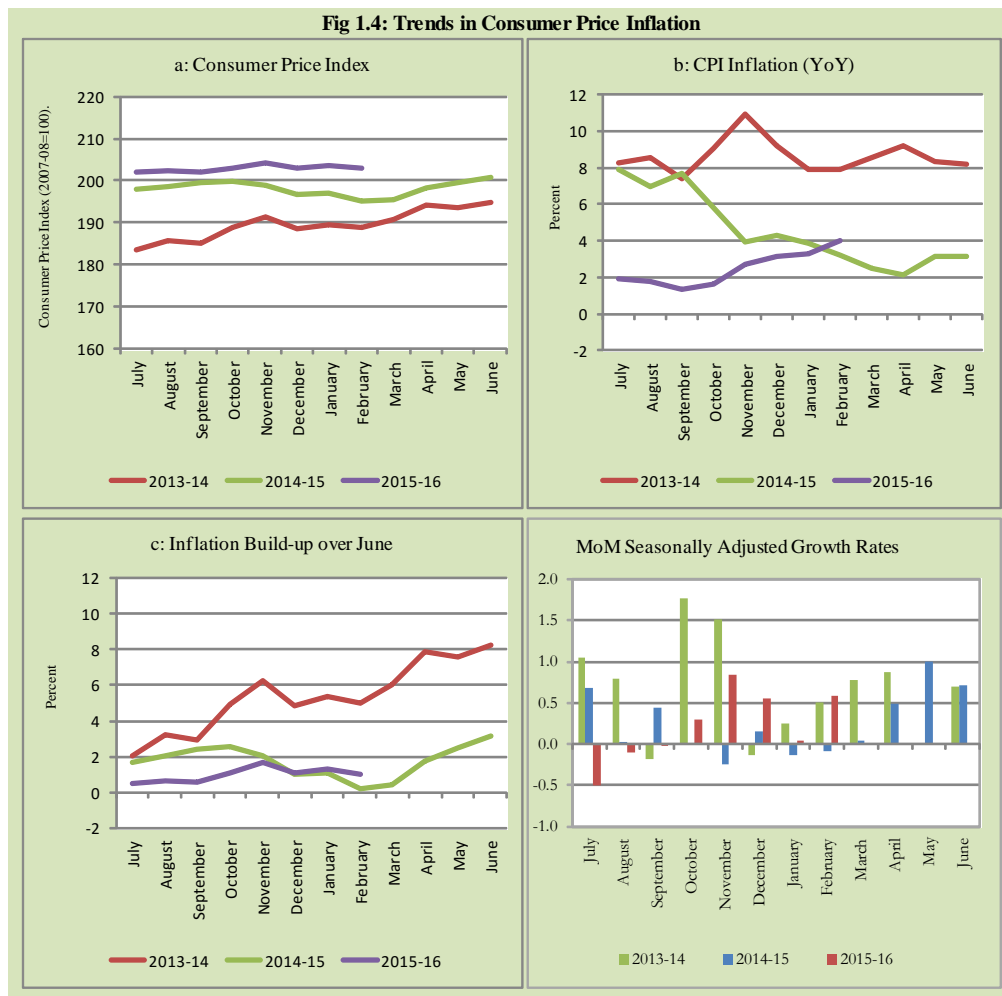


Fig 1.4: Trends in Consumer Price Inflation



2. City wise Inflation

CPI Inflation on year-on-year basis in federal and provincial capitals of Pakistan showed a mixed trend during February 2016. Among these five cities, the lowest inflation was observed in Lahore at 2.4 percent while the highest inflation was observed in Karachi at 5.8 percent (Table A6 of annexure-A).

Table 2.1 City-wise Inflation of Selected Cities (percent)						
	Feb-15		Jan-16		Feb-16	
	MoM	YoY	MoM	YoY	MoM	YoY
Overall CPI	-0.9	3.2	0.2	3.3	-0.3	4.0
Islamabad	-0.5	6.0	-0.2	2.8	-0.1	3.2
Karachi	-0.5	4.2	-0.2	5.6	-0.2	5.8
Lahore	-1.1	5.8	-0.3	1.6	-0.3	2.4
Peshawar	-0.8	4.7	-0.2	3.8	-0.4	4.2
Quetta	-0.5	0.8	0.4	4.2	-0.5	4.2

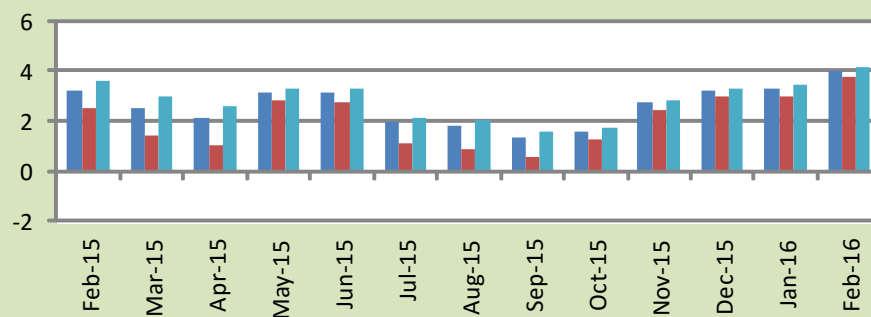
3. Income Group wise Inflation

Income group- wise data shows that income group above Rs. 35,000 witnessed higher inflation as compared to overall inflation during February 2016 in general and non-food groups. The lowest income group (Up to Rs. 8, 000) showed mixed trend for general, food and non-food groups among income groups during the month of February 2016 (Table A7 of annexure-A).

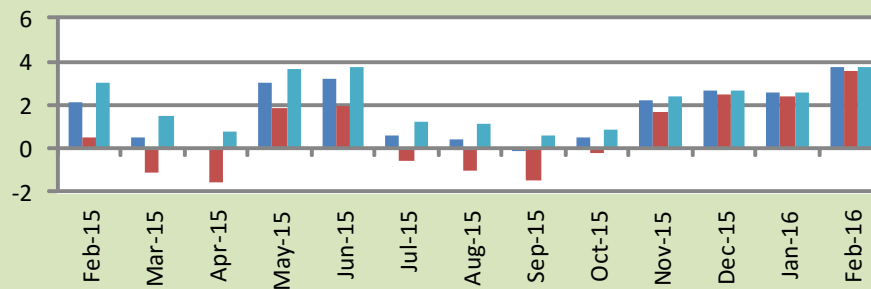
Table 3.1 Income Group- wise Inflation (YoY)									
Income Groups	General			Food			Non-food		
	Feb-15	Jan-16	Feb-16	Feb-15	Jan-16	Feb-16	Feb-15	Jan-16	Feb-16
All Groups Combined	3.2	3.3	4.0	2.1	2.5	3.7	4.0	3.9	4.2
Up to Rs. 8,000	2.5	3.0	3.8	0.5	2.4	3.6	5.0	3.7	4.0
Rs. 8,001- 12,000	2.7	3.3	4.1	1.1	2.4	3.6	4.6	4.3	4.6
Rs. 12,001- 18,000	3.0	2.8	3.5	1.6	2.5	3.7	4.3	3.1	3.4
Rs. 18,001- 35,000	3.0	3.5	4.3	2.1	2.7	3.9	3.8	4.2	4.6
Above Rs. 35,000	3.6	3.5	4.1	3.0	2.5	3.7	3.9	4.0	4.3

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 37.91 percent during February 2016 from 31.38 percent in January 2016. It was 26.97 percent in February 2015.

The weighted contribution of non-food group decreased to 62.09 percent in February 2016 from 68.62 percent in January 2016.

Table 4.1 Weighted Contribution to CPI Inflation (YoY)						
Period	Food	Clothing & Footwear	Housing, Water, Elect, Gas & Other Fuel	Transport	Education	Others
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
Dec-15	34.75	11.80	40.58	-8.59	10.63	10.84
Jan-16	31.38	11.62	39.80	-3.59	10.22	10.56
Feb-16	37.91	10.11	33.65	-1.23	8.91	10.65

5. Inflation Diffusion Index

Table 5.1 Inflation Diffusion Index - based on MoM change

	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16
General	18.2	14.9	25.8	23.1	31.1	37.3	32.6	29.3	34.5	34.7	36.4	37.0	26.2
Food & Non-Alcoholic Beverages	-3.6	1.8	0.0	32.7	18.6	36.8	35.4	20.2	29.6	30.4	22.3	29.2	22.1
Alcoholic Beverages & Tobacco	33.3	-16.7	16.7	100.0	100.0	66.7	33.3	33.3	0.0	66.7	100.0	100.0	100.0
Clothing & Footwear	23.7	35.6	49.2	30.5	50.8	55.9	57.6	49.2	54.2	66.1	64.4	59.3	59.3
Housing, Water, Elect, Gas & other Fuels	0.0	11.1	38.9	13.9	30.6	55.6	27.8	41.7	44.4	33.3	16.7	36.1	0.0
Furnishing & Household Equip. Maintenance etc	59.4	33.3	52.2	42.0	73.9	71.0	50.7	56.5	59.4	58.0	71.0	55.1	39.1
Health	20.5	10.3	5.1	7.7	17.9	12.8	10.3	10.3	17.9	15.4	7.7	12.8	17.9
Transport	-16.3	-4.7	-2.3	4.7	11.6	9.3	0.0	4.7	11.6	18.6	16.3	30.2	-23.3
Communication	33.3	0.0	25.0	0.0	8.3	16.7	8.3	8.3	0.0	16.7	41.7	25.0	-33.3
Recreation & Culture	10.3	10.3	30.8	2.6	0.0	7.7	10.3	12.8	10.3	20.5	7.7	17.9	17.9
Education	0.0	6.3	37.5	0.0	0.0	0.0	12.5	0.0	18.8	0.0	18.8	12.5	31.3
Restaurant & Hotels	66.7	50.0	50.0	50.0	50.0	33.3	33.3	66.7	100.0	66.7	66.7	50.0	100.0
Miscellaneous	57.1	31.4	45.7	17.1	34.3	37.1	57.1	42.9	45.7	20.0	65.7	48.6	57.1
NFNE	25.7	19.8	33.7	18.6	33.7	37.0	33.4	33.7	36.4	35.2	40.8	39.9	26.6

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	Feb-15		Jan-16		Feb-16	
			YoY	MoM	YoY	MoM	YoY	MoM
1	Wheat	10 Kg	-11.96	-0.01	0.01	0.36	0.77	0.75
2	Wheat Flour Bag	10 Kg	-6.27	-0.53	-1.11	0.14	-1.22	-0.63
3	Rice Basmati Sup. Qlty.	Kg	-5.47	-1.89	-14.83	-0.50	-12.27	1.06
4	Pulse Masoor (Washed)	Kg	8.84	-0.01	6.33	0.45	5.36	-0.93
5	Pulse Moong (Washed)	Kg	19.65	0.38	-2.94	0.01	-4.34	-1.06
6	Pulse Mash (Washed)	Kg	18.49	0.60	52.61	2.89	52.80	0.73
7	Pulse Gram	Kg	4.94	-0.32	51.48	0.46	49.68	-1.51
8	Vegetable Ghee (Loose)	Kg	-7.82	-2.20	-11.24	-0.35	-8.78	0.52
9	Sugar Refined	Kg	5.61	0.66	10.65	5.98	14.68	4.33
10	Milk Fresh (Unboiled)	Ltr	6.05	0.00	3.93	0.17	4.01	0.08
11	Tea- Tapal Danedar	200 Gm	-10.80	1.17	39.09	4.13	37.70	0.16
12	Beef With Bone Av. Qlty.	Kg	4.66	0.18	5.20	0.17	5.69	0.64
13	Mutton Av. Qlty.	Kg	5.43	0.81	7.42	0.78	6.81	0.23
14	Chicken Farm Broiler (Live)	Kg	-12.83	-17.95	-9.18	3.03	-10.98	-19.58
15	Eggs Farm	Doz	-0.56	-13.85	-13.70	-1.48	-1.37	-1.55
16	Potatoes	Kg	-15.71	-17.00	-29.10	-29.40	-24.70	-11.84
17	Onion	Kg	-30.64	-5.89	80.10	-14.17	76.92	-7.55
18	Tomatoes	Kg	57.80	0.68	-27.37	-38.21	-32.96	-7.07
19	Ginger	Kg	-15.44	-8.21	-16.85	-0.55	-15.01	-6.19
20	Garlic	Kg	7.71	-0.38	54.27	16.11	59.63	3.08

7. Global Commodity Prices

Table 7.1 Changes in Major Global Indices (percent)

Item/ Group	Feb-15		Jan-16		Feb-16	
	YoY	MoM	YoY	MoM	YoY	MoM
Overall	-34.0	5.3	-27.6	-8.4	-29.8	2.0
Food	-15.6	-3.6	-12.4	1.4	-8.6	0.5
Metals	-20.2	-2.2	-26.1	-1.3	-20.7	5.0
Energy	-43.9	12.0	-37.1	-16.2	-42.3	2.7
Agricultural Raw Material	-6.8	0.3	-16.5	-0.6	-16.7	0.1
Cotton	-25.7	3.7	2.1	-2.3	-4.7	-3.2

Source: IMF

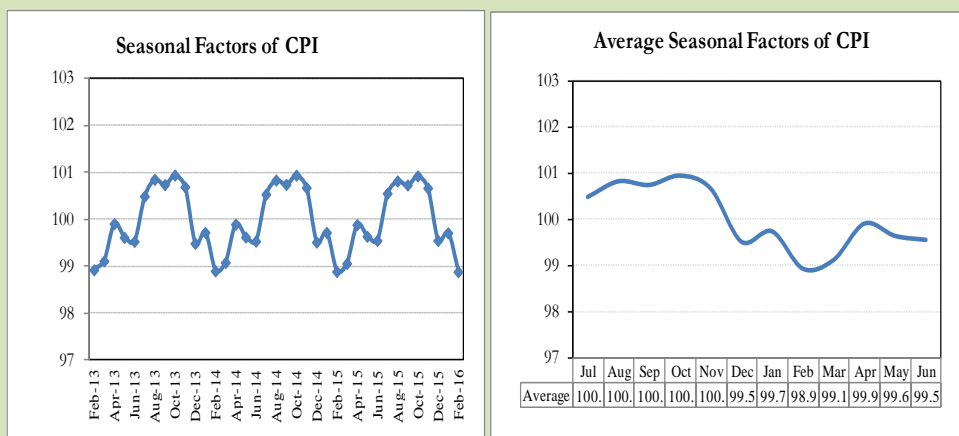
8. Seasonal Adjustment in CPI

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 February 2016 has been used for seasonal adjustment analysis. The seasonal analysis is carried out without taking trading-day or Islamic calendar month's effects.

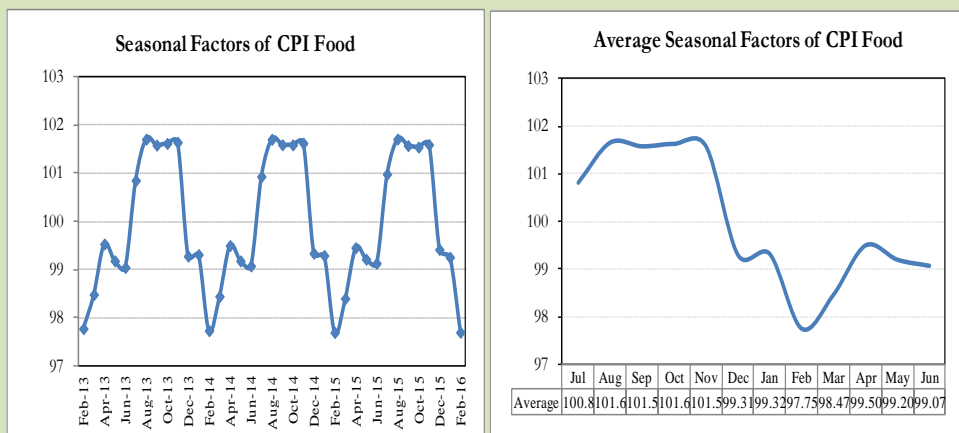
Figure 8.1 reveals that seasonality in CPI has been increasing over the period of last four years. Average seasonal factors reveal strong seasonality during the calendar year. There is an upward seasonality during the months from July to November and downward seasonality in the remaining months of the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

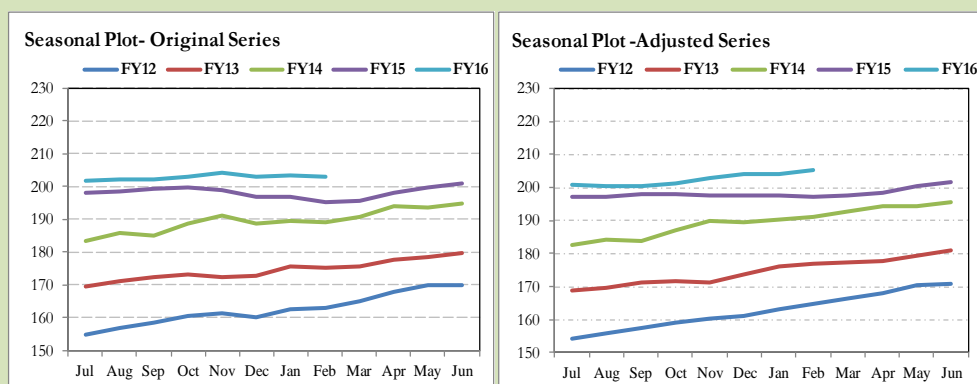
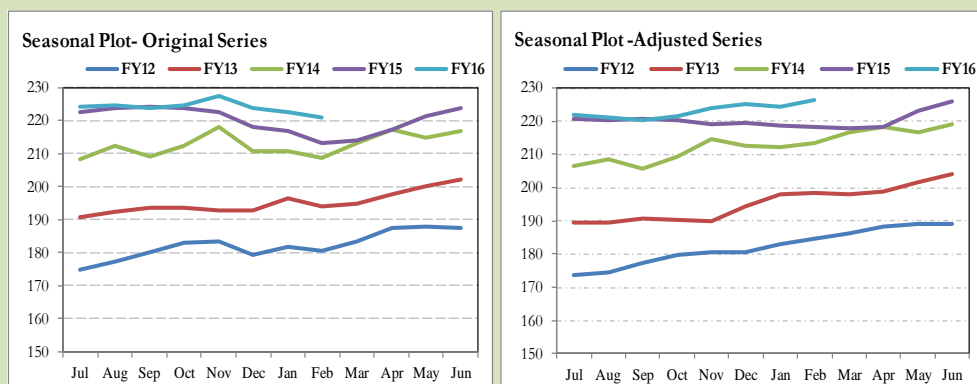


Fig. 8.4 Seasonal Plots of CPI (Food)



Seasonally adjusted CPI for February 2016 stood at 205.27 against 202.98 in original series showing an increase of 2.29 on account of adjustment of downward seasonality in February 2016.

Seasonally adjusted CPI food group for February 2016 stood at 226.28 against 221.07 in original series showing an increase of 5.21 on account of adjustment of downward seasonality in February 2016.

Month-on-month change of seasonally adjusted CPI series stood at 0.58% reflecting increase during February 2016 over January 2016 and a decrease of 0.25% in original series.

Month-on-month change of seasonally adjusted CPI food group series stood at 0.91% reflecting increase during February 2016 over January 2016 and a decrease of 0.68% 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 February 2016 (corresponding to the seasonally adjusted month-on-month rate) is 7.24 percent.

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

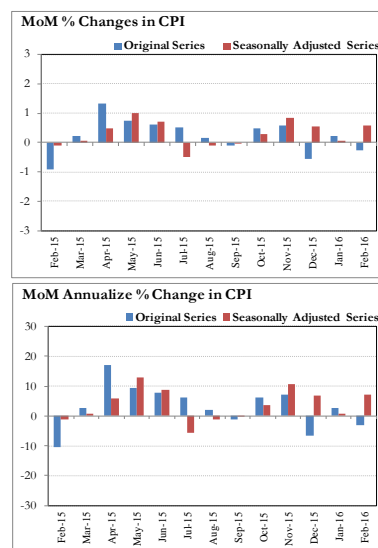
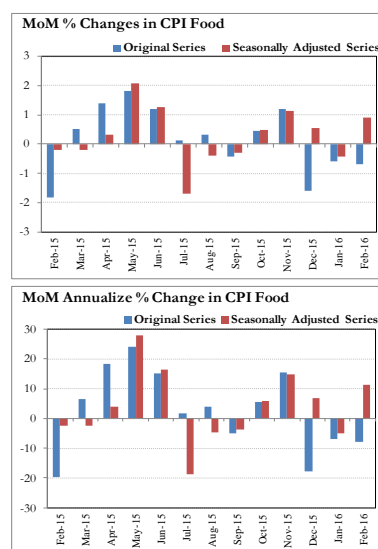


Fig. 8.6 Month-on-Month Percent Changes in CPI Food



Annexure A

Table A1: CPI Inflation by Groups (percent)							
	Weight	MoM change			YoY change		
		Feb-15	Jan-16	Feb-16	Feb-15	Jan-16	Feb-16
I. Food Group	37.5	-1.8	-0.6	-0.7	2.1	2.5	3.7
Food & Non-Alcoholic Beverages	34.8	-2.0	-0.7	-0.8	1.2	1.2	2.5
Alcoholic Beverages & Tobacco	1.4	0.0	0.7	0.1	20.2	26.4	26.6
Restaurant & Hotels	1.2	0.5	0.5	0.9	5.5	5.0	5.3
II. Non-Food Group	62.5	-0.3	0.8	0.0	4.0	3.9	4.2
Clothing & Footwear	7.6	0.1	0.3	0.3	7.7	4.7	4.9
Housing, Water, Elect, Gas & other Fuels	29.4	0.0	1.5	0.1	5.7	5.0	5.1
Furnishing & Household Equip. Maintenance etc	4.2	0.2	0.2	0.7	6.0	3.8	4.3
Health	2.2	0.1	0.3	1.5	5.8	2.5	4.0
Transport	7.2	-3.2	0.2	-2.2	-11.1	-1.8	-0.8
Communication	3.2	0.1	0.0	0.0	0.3	0.4	0.2
Recreation & Culture	2.0	0.0	0.1	0.3	3.4	2.2	2.5
Education	3.9	0.0	0.0	0.4	14.2	8.8	9.2
Miscellaneous	2.8	0.7	0.5	1.2	4.9	2.7	3.3
Headline	100.0	-0.9	0.2	-0.3	3.2	3.3	4.0

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)	
		Feb-15	Feb-16	Feb-15	Feb-16	Feb-15	Feb-16	Feb-15	Feb-16	Feb-15	Feb-16
I. Food Group	3.7	124	124	34	40	33	45	24	18	33	21
Food & Non-Alcoholic Beverages	2.5	112	112	34	40	31	43	19	14	28	15
Alcoholic Beverages & Tobacco	26.6	6	6	0	0	0	0	1	0	5	6
Restaurant & Hotels	5.3	6	6	0	0	2	2	4	4	0	0
II. Non-Food Group	4.2	348	348	80	96	113	156	125	78	30	18
Clothing & Footwear	4.9	59	59	8	7	12	22	32	29	7	1
Housing, Water, Elect, Gas & other Fuels	5.1	36	36	10	5	11	11	15	17	0	3
Furnishing & Household Equip. Maintenance etc	4.3	69	69	2	2	25	53	39	13	3	1
Health	4.0	39	39	16	20	7	13	10	4	6	2
Transport	-0.8	43	43	22	29	15	11	4	3	2	0
Communication	0.2	12	12	5	5	4	6	2	0	1	1
Recreation & Culture	2.5	39	39	12	16	18	16	6	4	3	3
Education	9.2	16	16	0	6	6	6	5	0	5	4
Miscellaneous	3.3	35	35	5	6	15	18	12	8	3	3
Overall	4.0	472	472	114	136	146	201	149	96	63	39

Note: Prices of 15 seasonal items were not reported during the month.

Table A3: Top and Bottom 15 Contributors to CPI Inflation (YoY) in February 2016					
Top 15 Contributors		YoY Change			Weighted Contribution
Items/ Contributors	Weights	Feb-15	Feb-16		
Ranked by Weighted Contribution					
1	House Rent	21.81	7.46	5.46	25.09
2	Cigarette	1.39	20.39	26.80	12.71
3	Education	3.94	14.20	9.22	8.91
4	Milk Fresh	6.68	6.43	3.88	8.24
5	Onion	0.54	-30.65	76.92	7.43
6	Tea	0.84	-7.67	30.14	6.99
7	Meat	2.43	4.92	6.07	4.60
8	Sugar	1.04	5.61	14.68	3.81
9	Electricity	4.40	1.79	2.84	3.69
10	Pulse Mash (Washed)	0.21	18.49	52.80	3.22
11	Gas	1.58	0.00	9.92	2.86
12	Pulse Gram	0.24	4.94	49.68	2.68
13	Tailoring	0.88	10.95	8.93	2.68
14	Household Servant	1.04	8.87	7.66	2.31
15	Ready Made Food	1.23	5.53	5.35	2.06
Total		48.26			97.28
Bottom 15 Contributors					
1	Rice	1.58	-6.03	-14.16	-5.21
2	Cooking Oil	1.75	-5.49	-13.84	-4.74
3	Vegetable Ghee	2.07	-5.52	-9.18	-3.63
4	Tomatoes	0.45	57.80	-32.96	-3.24
5	Chicken	1.36	-12.83	-10.98	-3.18
6	Potatoes	0.48	-15.71	-24.69	-2.46
7	Motor Fuel	3.03	-24.11	-1.81	-1.03
8	Transport Services	2.70	-5.45	-0.92	-0.63
9	Pulse Moong	0.23	19.65	-4.34	-0.41
10	Motor Vehicle Accessories	0.24	3.19	-4.02	-0.29
11	Egg	0.46	-0.56	-1.37	-0.16
12	Fish	0.30	3.89	-1.72	-0.14
13	Wheat Product	0.10	-3.31	-1.14	-0.03
14	Mustard Oil	0.10	-1.24	-1.22	-0.02
15	Kerosene Oil	0.01	-29.69	-8.85	-0.01
Total		14.85			-25.17

Table A3.1: Top and Bottom 15 Contributors to CPI Inflation (MoM) in February 2016

<u>Top 15 Contributors</u>		<u>MoM Change</u>		Weighted Contribution	
Items/ Contributors	Weights	Jan-16	Feb-16		
Ranked by Weighted Contribution					
1	Sugar	1.04	5.98	4.33	19.01
2	Personal Equipments	0.84	0.78	2.33	10.46
3	Household Servant	1.04	0.26	2.12	10.39
4	Water Supply	0.50	2.28	5.06	7.56
5	Meat	2.43	0.38	0.50	6.15
6	Education	3.94	0.02	0.38	6.11
7	Ready Made Food	1.23	0.52	0.89	5.49
8	Drug Medicine	1.27	0.09	1.38	5.12
9	Fresh Fruits	1.86	5.24	0.59	4.35
10	Tailoring	0.88	0.41	0.87	4.35
11	Personal Care	1.49	0.30	0.68	4.19
12	Doctor (MBBS) Clinic Fee	0.59	0.70	1.39	4.03
13	Bakery & Confectionary	1.16	0.10	0.73	3.46
14	Ready Made Garment	0.97	0.16	0.71	3.11
15	Milk Fresh	6.68	0.16	0.08	2.75
Total		25.94			96.53
<u>Bottom 15 Contributors</u>					
1	Chicken	1.36	3.03	-19.58	-96.53
2	Motor Fuel	3.03	-0.14	-4.22	-37.69
3	Onion	0.54	-14.17	-7.55	-21.48
4	Potatoes	0.48	-29.40	-11.84	-15.52
5	Transport Services	2.70	0.07	-1.38	-14.47
6	Tomatoes	0.45	-38.21	-7.06	-7.70
7	Woolen Readymade Garments	0.40	0.98	-2.29	-4.63
8	Fish	0.30	1.23	-3.08	-4.02
9	Motor Vehicle Accessories	0.24	0.15	-3.01	-3.28
10	Egg	0.46	-1.47	-1.54	-2.84
11	Tea	0.84	1.71	-0.51	-2.37
12	Besan	0.15	0.98	-2.84	-2.22
13	Wheat Flour	4.16	0.09	-0.11	-1.96
14	Fresh Vegetable	1.66	-5.38	-0.31	-1.92
15	Pulse Gram	0.24	0.46	-1.50	-1.90
Total		17.00			-218.52

Table A3.2: Top Fifteen Contributors to CPI Inflation (YoY) in February 2016					
Items/ Contributors		Weights	YoY Change		Weighted Contribution
			Feb-15	Feb-16	
A. Ranked by Percentage Change					
1	Onion	0.54	-30.65	76.92	7.43
2	Pulse Mash (Washed)	0.21	18.49	52.80	3.22
3	Pulse Gram	0.24	4.94	49.68	2.68
4	Besan	0.15	2.20	44.71	1.53
5	Tea	0.84	-7.67	30.14	6.99
6	Cigarette	1.39	20.39	26.80	12.71
7	Gram Whole	0.16	1.11	23.37	0.87
8	Sugar	1.04	5.61	14.68	3.81
9	Betel Leaves & Nuts	0.02	8.77	11.25	0.07
10	Sewing Needle & Dry Cell	0.15	4.47	10.42	0.37
11	Gas	1.58	0.00	9.92	2.86
12	Education	3.94	14.20	9.22	8.91
13	Tailoring	0.88	10.95	8.93	2.68
14	Construction Wage Rate	0.33	8.03	7.82	0.69
15	Household Servant	1.04	8.87	7.66	2.31
Total		12.52			57.12
B. Ranked by Weights					
1	House Rent	21.81	7.46	5.46	25.09
2	Milk Fresh	6.68	6.43	3.88	8.24
3	Electricity	4.40	1.79	2.84	3.69
4	Wheat Flour	4.16	-6.93	0.00	0.00
5	Education	3.94	14.20	9.22	8.91
6	Communication & Apparatus	3.15	0.17	0.10	0.05
7	Motor Fuel	3.03	-24.11	-1.81	-1.03
8	Transport Services	2.70	-5.45	-0.92	-0.63
9	Meat	2.43	4.92	6.07	4.60
10	Vegetable Ghee	2.07	-5.52	-9.18	-3.63
11	Fresh Fruits	1.86	13.42	2.60	1.23
12	Cooking Oil	1.75	-5.49	-13.84	-4.74
13	Cotton Cloth	1.73	12.25	4.22	1.93
14	Fresh Vegetable	1.66	-1.33	0.79	0.32
15	Rice	1.58	-6.03	-14.16	-5.21
Total		62.97			38.84
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 4.0 percent in February, 2016.					

Table A3.3: Top Ten Contributors to CPI Food Inflation (YoY) in February 2016

Table 1: Top 10 Contributors to CPI Food Inflation (2015 and February 2016)					
Items/ Contributors		Weights	YoY Change		Weighted Contribution
			Feb-15	Feb-16	
A. Ranked by Weighted Contribution					
1	Cigarette	1.39	20.39	26.80	12.71
2	Milk Fresh	6.68	6.43	3.88	8.24
3	Onion	0.54	-30.65	76.92	7.43
4	Tea	0.84	-7.67	30.14	6.99
5	Meat	2.43	4.92	6.07	4.60
6	Sugar	1.04	5.61	14.68	3.81
7	Pulse Mash (Washed)	0.21	18.49	52.80	3.22
8	Pulse Gram	0.24	4.94	49.68	2.68
9	Ready Made Food	1.23	5.53	5.35	2.06
10	Besan	0.15	2.20	44.71	1.53
Total		14.75			53.26
B. Ranked by Percentage Change					
1	Onion	0.54	-30.65	76.92	7.43
2	Pulse Mash (Washed)	0.21	18.49	52.80	3.22
3	Pulse Gram	0.24	4.94	49.68	2.68
4	Besan	0.15	2.20	44.71	1.53
5	Tea	0.84	-7.67	30.14	6.99
6	Cigarette	1.39	20.39	26.80	12.71
7	Gram Whole	0.16	1.11	23.37	0.87
8	Sugar	1.04	5.61	14.68	3.81
9	Betel Leaves & Nuts	0.02	8.77	11.25	0.07
10	Meat	2.43	4.92	6.07	4.60
Total		7.03			43.90
C. Ranked by Weights					
1	Milk Fresh	6.68	6.43	3.88	8.24
2	Wheat Flour	4.16	-6.93	0.00	0.00
3	Meat	2.43	4.92	6.07	4.60
4	Vegetable Ghee	2.07	-5.52	-9.18	-3.63
5	Fresh Fruits	1.86	13.42	2.60	1.23
6	Cooking Oil	1.75	-5.49	-13.84	-4.74
7	Fresh Vegetable	1.66	-1.33	0.79	0.32
8	Rice	1.58	-6.03	-14.16	-5.21
9	Cigarette	1.39	20.39	26.80	12.71
10	Chicken	1.36	-12.83	-10.98	-3.18
Total		24.95			10.34
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 3.7 percent in February, 2016.					

Table A3.4: Top Ten Contributors to CPI Non-food Inflation (YoY) in February 2016					
Items/ Contributors		Weights	YoY Change		Weighted Contribution
			Feb-15	Feb-16	
A. Ranked by Weighted Contribution					
1	House Rent	21.81	7.46	5.46	25.09
2	Education	3.94	14.20	9.22	8.91
3	Electricity	4.40	1.79	2.84	3.69
4	Gas	1.58	0.00	9.92	2.86
5	Tailoring	0.88	10.95	8.93	2.68
6	Household Servant	1.04	8.87	7.66	2.31
7	Ready Made Garment	0.97	7.63	7.65	2.02
8	Cotton Cloth	1.73	12.25	4.22	1.93
9	Personal Care	1.49	5.31	3.32	1.30
10	Doctor (MBBS) Clinic Fee	0.59	7.75	6.29	1.13
Total		38.45			51.93
B. Ranked by Percentage Change					
1	Sewing Needle & Dry Cell	0.15	4.47	10.42	0.37
2	Gas	1.58	0.00	9.92	2.86
3	Education	3.94	14.20	9.22	8.91
4	Tailoring	0.88	10.95	8.93	2.68
5	Construction Wage Rate	0.33	8.03	7.82	0.69
6	Household Servant	1.04	8.87	7.66	2.31
7	Ready Made Garment	0.97	7.63	7.65	2.02
8	Water Supply	0.50	0.23	7.46	0.71
9	Doctor (MBBS) Clinic Fee	0.59	7.75	6.29	1.13
10	Cleaning & Laundering	0.21	6.73	6.24	0.40
Total		10.20			22.08
C. Ranked by Weights					
1	House Rent	21.81	7.46	5.46	25.09
2	Electricity	4.40	1.79	2.84	3.69
3	Education	3.94	14.20	9.22	8.91
4	Communication & Apparatus	3.15	0.17	0.10	0.05
5	Motor Fuel	3.03	-24.11	-1.81	-1.03
6	Transport Services	2.70	-5.45	-0.92	-0.63
7	Cotton Cloth	1.73	12.25	4.22	1.93
8	Gas	1.58	0.00	9.92	2.86
9	Footwear	1.55	0.80	0.63	0.20
10	Personal Care	1.49	5.31	3.32	1.30
Total		45.39			42.39
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 4.2 percent in February, 2016.					

Table A4: Distribution of Price Changes (YoY) - Selected CPI Items: February 2016

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	Tomatoes, Potatoes, Chillies Green, Cabbage, Cooking Oil (Pakwan), Rice Basmati 385/386, Carrot, Ginger	Squash-Mitchell's, Tomato Ketchup Ahmed/Mitchells, Fruit Juice Tetra Pack, Nimco, Vinegar Synthetic (Sirka)	Ice, Pulse Masoor (Whole), Powder Milk Nido 400Gm., Guava, Toffee (Hilal), Mutton Av. Qlty., Rooh Afza, Jam-E-Shireen	Onion, Garlic, Pulse Mash (Washed), Pulse Gram, Besan Av. Qlty., Gram Whole Black Av Qlty., Tea Lipton Yellow Label 200 Gm, Tapal Danedar Tea 200 Gm, Kinnu, Tea Loose Kenya Av. Qlty 250 Gm, Peas, Sugar Refined
Alcoholic Beverages & Tobacco				Cigarettes Capstan 20,S, Cigarettes Morven Gold 20,S, Cigarettes K-20,S, Cigarettes Gold Leaf 20,S, Betel Nuts, Betel Leaves
Clothing & Footwear	Gents Shoe, Art 1109 Servis, Child Shoe Power Lite Bata, Sports Shoes, Gents Spoung Chappal Bata, Ladies Spoung Chappal Bata	Brassier Av. Qlty, Dry Cleaning Suit Coat Pant, Tropical Suiting Law. Pur, Shirting Av. Qlty., Heavy Wt Suiting Law. Pur Av. Qlty, Sewing Thread/Reel	Awami-Suit W & W (Boys) 24"/26", Tailoring Suit (Female), Tailoring Shirt, Shoe Polish Charges Avg, Shirt Boy 24"/26" Length, Tailoring Awami-Suit (Male)	Frock W/Wear Girls
Housing, Water, Elect, Gas & other Fuels	Iron Bar (M.S. Bar) 1/2", Kerosene Oil, Elect. Charges 101 - 300 Units, Cement (Local)	Elect. Charges 301 - 1000 Units, Elect. Charges Above 1000 Units, Gas Chrg Up To 100 Cub Mmbtu, Electrician Wage Rate(P/Pnt)	Gas Chrg Overall/ Combined, Plumber Wage Rate, Unskilled Labor Wage Rat, Timber Shesham Log, Water Charges Per House	Gas Chrg All Over 500 Mmbtu, Gas Chrg Over 300 - 500 Mmbtu, Electrician Wage Rate(P/Day)
Furnishing & Household Equip. Maintenance etc	Surf Excel 400 Gms Poly Bag, Washing Powder (Wheel/ Bonus	Cot Iron (With Niwar) Av. Qlty, Finis 500 Ml, Water Set Jug+6 Glasses, Pressure Cooker 4 Ltr., Lota Plastic (Med Size) Avg. Qlty	Towel(3'X2') Av. Qlty, Household Servant Female (Part Time), Non Stick Cooking Pan, Harpic, Table Spoon S.Steel Sup. Qlty	Match Box (Small)
Health	Brufen Tabs 200-Mg., Galxos-D (450 Gm), Amoxil Capsule 250 Mg., Renitec Tab. 5 Mg., Daonil Tab. 5 Mg.	Urine Test (Dr) Charges, Glycerine Small Bottle, Sugar Test (Random/Fasting), Gripe-Water Woodward's, Blood Test (Cp) Charges	Ventolin Tab. 2Mg., X-Ray (Chest) Charges, Doctor (MBBS) Clinic Fee, Jouhar Joshanda	Disprin Tab., Panadol Tab. Extra/Plain
Transport	Gas Cylinder S. Size (L.P.G), Motorcycle Honda Cd-70, Bus Fare Min (Within City), Tyre Car W/O Tube	Suzuki Fare Min. Within City, Car Service Charges, Motor Cycle Service Charges, Cycle Overhauling Charges, Taxi 4 Seater Fare, Petrol Super	Car Toyota 1300 CC, Tyre Puncture Charges, Full Tonga Charges	
Communication	Postal Envelope Domestic, Mobile Cell Charges, Telephone Charges Local Call	T.C.S. Ch. Min. Within Zone, Internet Charges, Telephone Set Av. Qlty, Fax Charges (Local)		Postal Registration Charges
Recreation & Culture	Dvd/Vcd Player Panasonic/Lg, T.V. 20" Colored Sony, T.V 20" Color China/Koria, Video Cassette Blank. Tdk/Sony	Exercise Book Lined 80/10, Urdu Book Class V (T.B.Board), Photostate Paper 70 Gm, Urdu Book 1st Year/ Inter, Fountain Pen Hero/Wings/China	Pencil Goldfish/Deer, Maths Book Class IX or X, Maths Book Calss V (T.B.Board), English Book Class VI	Cinema A/C High Class, Cinema Non-A/C High Class, Ball Pen (Local)
Education	Pvt Eng. College Fee (1st Year), Govt. Med. College Fee MBBS 1st Year, Govt. Engg. Coll. Fee 1st Year	I.T. Tuition Fees, 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, Bread Tandoori St. Size	Cooked Dal (Av. Hotel), Tea Prepared (Ordinary), Cooked Mutton (Av. Hotel)	
Miscellaneous	Toilet Soap Lux 95 Gms, Silver Tezabi 24 Ct, Toilet Soap Safeguard Bath Size, Gold Tezabi 24 Ct	Hair Removing Cream (Eu-Cream), Talc Powder Viceroy/Black Cat, Gel Medium Size, Wall Clock Quartz Av. Qlty	Suitcase Rexin (24"X16"X6"), Haircut Charges For Men, Artificial Jewellery Set, Blade Treet Ordinary (10)	Purse Ladies (Leather) Av. Qlty, Shaving Charges, Beauty Cream (Fair & Lovely)

Table A5: City- wise CPI Inflation by Income Groups, February 2016

	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	-0.3	4.9	-0.6	5.1	0.0	4.7	-0.3	5.1	-0.6	5.0	0.1	5.3
2 Islamabad	-0.2	4.0	-0.4	5.3	0.0	2.6	-0.2	3.8	-0.3	5.1	0.0	2.4
3 Lahore	-0.2	2.3	-0.9	1.6	0.8	3.4	-0.3	2.5	-1.0	1.5	0.6	3.8
4 Gujranwala	-0.4	3.1	-0.7	2.4	0.0	3.9	-0.4	3.1	-0.7	2.3	-0.1	3.9
5 Sialkot	-0.3	5.0	-0.6	5.7	0.1	4.1	-0.4	4.8	-0.7	5.2	-0.1	4.4
6 Faisalabad	-1.2	3.0	-2.0	1.5	-0.2	4.9	-1.2	2.9	-2.0	1.3	-0.3	4.5
7 Multan	-0.5	3.2	-0.9	3.1	0.0	3.3	-0.5	3.2	-0.9	3.2	-0.1	3.2
8 Sargodha	-0.5	6.7	-0.5	7.1	-0.5	6.3	-0.5	7.1	-0.5	7.3	-0.5	6.9
9 Bahawalpur	-0.1	3.8	-0.4	4.9	0.2	2.7	-0.3	3.7	-0.6	4.8	0.1	2.7
10 Karachi	0.0	6.2	-0.2	5.4	0.2	7.3	-0.1	5.9	-0.3	4.8	0.1	7.2
11 Hyderabad	-0.4	3.2	-1.0	2.3	0.5	4.4	-0.3	3.4	-1.0	2.3	0.5	4.8
12 Sukkur	0.1	4.3	0.0	6.4	0.2	1.9	0.1	4.2	0.0	5.8	0.2	2.5
13 Larkana	-0.3	1.0	-0.7	-0.4	0.1	2.5	-0.2	1.3	-0.6	-0.1	0.2	2.5
14 Peshawar	-0.4	5.1	-0.6	7.7	-0.2	2.4	-0.4	5.3	-0.5	7.9	-0.3	2.7
15 Bannu	-0.1	4.6	-0.1	4.6	-0.1	4.6	-0.2	4.6	-0.2	4.2	-0.2	5.0
16 Quetta	-0.5	3.9	-0.9	2.2	0.0	6.0	-0.5	4.1	-0.9	2.4	-0.1	6.0
17 Khuzdar	-0.3	0.4	-0.3	-1.5	-0.3	2.8	-0.3	0.2	-0.2	-0.8	-0.4	1.4
	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	-0.3	5.3	-0.6	5.0	0.0	5.6	-0.2	5.1	-0.5	5.0	0.0	5.1
2 Islamabad	-0.2	3.3	-0.4	4.6	-0.1	2.1	-0.2	3.2	-0.4	4.7	0.0	2.0
3 Lahore	-0.3	2.3	-1.1	1.5	0.5	3.2	-0.4	2.3	-1.1	1.7	0.3	2.9
4 Gujranwala	-0.4	3.1	-0.7	2.6	-0.1	3.6	-0.4	3.2	-0.7	3.1	-0.2	3.3
5 Sialkot	-0.4	4.8	-0.7	5.2	-0.2	4.5	-0.4	4.8	-0.6	5.6	-0.1	4.2
6 Faisalabad	-1.2	3.0	-2.0	1.3	-0.5	4.6	-1.1	3.1	-2.0	1.5	-0.3	4.6
7 Multan	-0.6	3.0	-1.1	3.2	-0.2	2.9	-0.7	2.9	-1.3	3.3	-0.2	2.6
8 Sargodha	-0.5	7.2	-0.4	7.6	-0.6	6.9	-0.5	7.4	-0.5	7.9	-0.6	7.0
9 Bahawalpur	-0.4	3.7	-0.8	4.8	0.0	2.8	-0.5	3.2	-1.2	4.8	0.0	2.0
10 Karachi	-0.2	6.0	-0.4	4.7	0.1	7.3	-0.3	5.8	-0.6	4.7	0.0	6.7
11 Hyderabad	-0.3	3.2	-0.9	2.1	0.4	4.3	-0.3	3.1	-1.0	2.1	0.3	4.0
12 Sukkur	0.0	4.0	0.0	5.8	0.1	2.4	0.1	4.2	0.2	5.9	0.1	2.8
13 Larkana	-0.1	1.6	-0.5	0.5	0.2	2.6	0.0	1.9	-0.3	1.0	0.2	2.6
14 Peshawar	-0.4	4.9	-0.5	7.9	-0.3	2.3	-0.4	4.6	-0.5	8.2	-0.2	2.0
15 Bannu	-0.4	4.8	-0.5	4.6	-0.2	4.9	-0.3	5.3	-0.4	5.1	-0.2	5.4
16 Quetta	-0.5	4.2	-0.9	2.6	-0.2	5.8	-0.5	4.1	-0.8	2.7	-0.2	5.4
17 Khuzdar	-0.3	0.6	0.2	0.0	-0.8	1.2	-0.2	1.1	0.4	0.6	-0.7	1.6
	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	-0.1	5.1	-0.4	4.5	0.0	5.3	-0.2	5.1	-0.5	4.7	0.1	5.4
2 Islamabad	0.0	3.2	-0.2	4.0	0.0	2.8	-0.1	3.2	-0.3	4.0	0.1	2.6
3 Lahore	-0.3	2.3	-1.2	1.1	0.2	3.0	-0.3	2.4	-1.1	1.4	0.3	3.2
4 Gujranwala	-0.3	3.5	-0.6	3.3	-0.1	3.6	-0.4	3.3	-0.7	2.9	-0.1	3.6
5 Sialkot	-0.4	5.0	-0.7	5.8	-0.2	4.6	-0.4	4.9	-0.7	5.6	-0.2	4.5
6 Faisalabad	-0.8	3.5	-2.0	1.4	-0.2	4.6	-1.0	3.2	-2.0	1.4	-0.4	4.5
7 Multan	-0.7	2.9	-1.6	3.1	-0.3	2.7	-0.6	3.0	-1.3	3.3	-0.2	2.8
8 Sargodha	-0.5	7.5	-0.5	7.9	-0.5	7.3	-0.5	7.3	-0.5	7.7	-0.5	7.0
9 Bahawalpur	-0.4	3.1	-1.4	4.5	0.0	2.5	-0.3	3.4	-0.9	4.9	0.0	2.6
10 Karachi	-0.2	5.8	-0.7	4.0	0.0	6.7	-0.2	5.8	-0.6	4.3	0.0	6.9
11 Hyderabad	-0.3	3.1	-1.3	1.8	0.3	3.9	-0.3	3.2	-1.1	2.1	0.3	4.1
12 Sukkur	0.3	4.0	0.6	5.7	0.2	3.2	0.1	4.2	0.2	5.9	0.1	3.0
13 Larkana	0.2	2.0	-0.4	0.5	0.5	2.7	-0.1	1.6	-0.4	0.5	0.1	2.3
14 Peshawar	-0.4	3.2	-0.8	7.4	-0.2	1.3	-0.4	4.2	-0.6	7.8	-0.2	1.9
15 Bannu	-0.3	4.1	-0.6	4.2	-0.2	4.0	-0.3	4.8	-0.4	4.8	-0.2	4.8
16 Quetta	-0.5	4.3	-1.0	2.7	-0.2	5.1	-0.5	4.2	-0.9	2.6	-0.2	5.3
17 Khuzdar	0.1	2.6	1.4	2.9	-0.5	2.4	-0.2	0.8	0.6	0.4	-0.9	1.0

Table A6: City- wise CPI Inflation (YoY) February, 2016

City	High inflation cities			City	Low inflation cities		
	General	Food	Non-food		General	Food	Non-food
Sargodha	7.3	7.7	7.0	Rahim Yar Khan	3.8	2.6	4.6
Jhang	7.0	10.8	4.7	Vehari	3.7	5.9	2.1
Turbat	6.1	-0.2	10.1	Loralai & Cantt	3.7	4.7	3.0
Mingora	5.9	6.3	5.7	Bahawalnagar	3.6	6.2	2.0
Karachi	5.8	4.3	6.9	Bahawalpur	3.4	4.9	2.6
Mardan	5.6	5.3	5.7	Sahiwal	3.3	1.9	4.2
Wazirabad	5.3	8.0	3.5	Gujranwala	3.3	2.9	3.6
Mithi	5.3	5.9	5.0	Faisalabad	3.2	1.4	4.5
Rawalpindi	5.1	4.7	5.4	D.G. Khan	3.2	2.1	4.0
Mir Pur Khas	5.0	5.6	4.6	Islamabad	3.2	4.0	2.6
Sialkot	4.9	5.6	4.5	Hyderabad	3.2	2.1	4.1
Nawabshah	4.8	6.0	4.1	Multan	3.0	3.3	2.8
Bannu	4.8	4.8	4.8	Dera Mrd. Jamali	2.9	2.3	3.3
Jhelum	4.7	5.2	4.3	Muzaffargarh	2.8	2.6	3.0
Quetta	4.2	2.6	5.3	Abbotabad	2.7	3.9	1.9
Peshawar	4.2	7.8	1.9	Lahore	2.4	1.4	3.2
Sukkur	4.2	5.9	3.0	Mianwali	2.2	3.4	1.5
Attock	4.1	2.5	5.1	D .I. Khan	2.1	1.3	2.7
				Larkana	1.6	0.5	2.3
				Dadu	0.9	-0.2	1.7
				Khuzdar	0.8	0.4	1.0
				Gwadar	-4.7	-9.2	-1.6

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		
	Feb-15	Jan-16	Feb-16	Feb-15	Jan-16	Feb-16
<u>Up to Rs. 8000</u>						
General	-1.0	-0.2	-0.3	2.5	3.0	3.8
Food	-1.7	-0.9	-0.6	0.5	2.4	3.6
Non-food	-0.1	0.8	0.1	5.0	3.7	4.0
<u>Rs. 8001- 12000</u>						
General	-1.0	0.0	-0.3	2.7	3.3	4.1
Food	-1.8	-0.8	-0.6	1.1	2.4	3.6
Non-food	-0.2	0.8	0.1	4.6	4.3	4.6
<u>Rs. 12001- 18000</u>						
General	-1.0	0.0	-0.3	3.0	2.8	3.5
Food	-1.8	-0.7	-0.6	1.6	2.5	3.7
Non-food	-0.3	0.8	0.0	4.3	3.1	3.4
<u>Rs. 18001- 35000</u>						
General	-1.0	0.1	-0.3	3.0	3.5	4.3
Food	-1.9	-0.6	-0.7	2.1	2.7	3.9
Non-food	-0.3	0.7	0.0	3.8	4.2	4.6
<u>Above Rs. 35000</u>						
General	-0.8	0.4	-0.2	3.6	3.5	4.1
Food	-1.8	-0.4	-0.7	3.0	2.5	3.7
Non-food	-0.3	0.8	0.0	3.9	4.0	4.3
<u>All income groups</u>						
General	-0.9	0.2	-0.3	3.2	3.3	4.0
Food	-1.8	-0.6	-0.7	2.1	2.5	3.7
Non-food	-0.3	0.8	0.0	4.0	3.9	4.2

Table A8: SPI Item-wise Price Movements

Sr.No.	Items	Unit	Prices Feb-16	Percentage change	
				YoY	MoM
1	Wheat	10Kg.	357.5	2.4	0.8
2	Wheat Flour Bag	10Kg.	397.6	1.5	-0.3
3	Rice Basmati Broken	Kg.	60.5	-15.5	-0.4
4	Rice Irri-6	Kg.	46.4	-8.8	0.3
5	Bread Plain Med. Size (340-400 Gm.)	Each	40.8	0.0	0.0
6	Beef	Kg.	318.0	5.1	0.0
7	Mutton	Kg.	633.8	6.7	0.2
8	Chicken Live (Farm)	Kg.	125.7	-4.3	-13.5
9	Milk Fresh	Litr	78.3	2.5	0.1
10	Curd	Kg.	92.4	3.1	0.1
11	Milk Powdered Nido	500G	378.8	7.4	0.1
12	Egg Hen (Farm)	Doz.	97.4	-0.2	-5.9
13	Mustard Oil	Kg.	179.8	-1.9	-0.1
14	Cooking Oil (Tin)	2.5Ltr	456.1	-10.0	-0.1
15	Veg. Ghee (Tin)	2.5Kg.	446.0	-9.6	-0.2
16	Veg. Ghee Loose	Kg.	136.5	-8.5	0.0
17	Bananas	Doz.	68.1	2.8	5.1
18	Masoor Pulse Washed	Kg.	147.0	6.4	-0.5
19	Moong Pulse Washed	Kg.	160.6	-4.7	-1.1
20	Mash Pulse Washed	Kg.	257.1	58.1	0.3
21	Gram Pulse Washed	Kg.	121.8	54.0	-2.2
22	Potatoes	Kg.	19.6	-21.5	-8.6
23	Onions	Kg.	41.5	73.3	-3.8
24	Tomatoes	Kg.	36.0	-32.2	-9.6
25	Sugar	Kg.	62.8	15.8	5.0
26	Gur	Kg.	85.9	5.1	-0.5
27	Salt Powdered Loose (Lahori)	Kg.	10.5	4.8	0.0
28	Red Chilies Powder Loose	Kg.	273.6	3.3	0.1
29	Garlic	Kg.	237.3	61.1	1.2
30	Tea (Yellow Label)	200Gm.	183.9	37.0	-2.9
31	Cooked Beef Plate	Each	88.6	6.6	0.8
32	Cooked Dal Plate	Each	54.0	10.4	0.8
33	Tea Prepared (Sada)	Cup	19.6	3.8	0.0
34	Cigarettes K-2 (20'S)	20'S	59.8	31.7	0.6
35	Long Cloth (Coarse Latha)	Mtr.	202.8	1.6	0.0
36	Shirting	Mtr.	161.9	2.4	0.0
37	Lawn	Mtr.	243.0	1.6	0.0
38	Georgette (Voil Printed)	Mtr.	123.2	0.1	0.1
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	501.9	0.6	0.0
42	Electric Charges 1-50	Unit	2.0	0.0	0.0
43	Gas Charges upto 3.3719	Mmbtu	128.4	3.4	0.0
44	Kerosene	Litr	75.4	-11.0	-5.4
45	Firewood	40Kg	605.2	4.8	0.4
46	Energy Savor 14 Watts	Each	167.2	1.0	0.3
47	Washing Soap (200-250 Gm.)	Cake	24.7	1.6	0.0
48	Match Box	Each	2.0	14.4	0.0
49	Petrol	Litr	72.1	1.2	-6.6
50	Diesel	Litr	76.7	-6.0	-6.5
51	L.P.G.(11 Kg Cylinder.)	Each	1065.1	-12.7	-10.7
52	Tele. Local Call	Call	3.9	0.0	0.0
53	Bath Soap Lifebuoy (Standard)	Cake	35.7	-0.7	-0.1
Maximum				73.3	5.1
Median				1.6	0.0
Minimum				-32.2	-13.5

Table A9: Distribution of Price Changes (YoY) - WPI Items: February 2016				
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, Rice, Stimulant and Spice Crops, Other Oil Seeds, Sorghum/Jowar, Poultry, Hides and Fur Skins- Raw, Raw Animal Material/Wool, Sugar Crops, Eggs	Wheat, Fuel Wood in Logs, Milk from Bovine Animals, Maize	Dry Fruits, Fiber Crops, Millet/Bajra, Fresh Fruits, Unmanufactured Tobacco	Cotton Seeds, Fish Live Fresh or Chilled, Pulses, Vegetables
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, Vegetable Oil Refined, Blended Yarn, Nylon Yarn, Other Leather N.E.C., Other Food Products, Processed Liquid Milk, Milk and Cream in Solid Form, Spices	Silk and Rayon Fabrics, Other Fabrics, Dairy Products N.E.C., Ready Made Garments, Blankets, Meat of Animals, Leather Without Hairs, Hosiery Products, Cotton Yarn, Synthetic Carpets, Footwear, Quilts, Chocolate, Ice Cream, Vegetables & Fruit Juices, Fruit Juices, Wheat Flour, Bed Sheets, Mineral Water, Towels, Cotton Fabrics, Beverages,	Dried Fruits & Nuts, Woven Fabrics	Other Cereal Flour, Coffee and Tea, Tobacco Products, Woolen Carpets, Sugar Refined, Sugar Confectionary, Oil Cakes
Other Transportable Goods except Metal Products, Machinery and Equipments	Furnace Oil, Kerosene Oil, Diesel Oil, Hard Board, Chemicals, Insecticides, Printing Paper, Fertilizers, Auto Tyres, Mobil Oil, Cement, Coke, Dying Materials	Ceramics and Sanitary, Bricks Blocks and Tiles, Soaps & Detergent, Paints & Varnishes, Plastic Products, Motor Sprit, Glass Sheets, Other Glass Articles	Pesticides, Timber, Bed Foams, Medicines	Matches
Metal Product Machinery & Equipment	Steel Bars & Sheets, Tractors, Cultivators, Motor Cycles, Lighting Equipments, Pig Iron, Vacuum Pumps, Concrete Mixer, Radio and Television, Lathe Machines, Chuff Cutter, Bicycles	Electrical Wires, Air Conditioners, Steel Products, Motor Vehicles, Refrige, Wash & Sew Mach, Iron, Fan, Pipe Fittings, Engines and Motors		

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

Items and specification	Weights	Index		
		Feb-15	Jan-16	Feb-16
General	100.00	195.13	203.49	202.98
Food & Non-Alcoholic Beverages.	34.83	209.81	216.71	215.01
1 Wheat	0.35	207.57	207.61	209.18
2 Wheat Flour	4.16	217.05	217.29	217.05
3 Wheat Product	0.10	215.48	216.36	213.03
4 Besan	0.15	178.51	265.87	258.32
5 Rice	1.58	182.50	156.97	156.66
6 Cereals	0.16	239.75	244.57	245.93
7 Bakery & Confectionary	1.16	206.90	210.44	211.97
8 Nimco	0.46	238.91	245.20	246.64
9 Meat	2.43	245.12	258.70	259.99
10 Chicken	1.36	167.07	184.93	148.72
11 Fish	0.30	220.88	223.97	217.07
12 Milk Fresh	6.68	249.59	259.06	259.27
13 Milk Product	0.63	242.74	250.44	250.66
14 Milk Powder	0.11	225.79	233.68	234.30
15 Egg	0.46	205.49	205.86	202.68
16 Mustard Oil	0.10	157.49	154.93	155.57
17 Cooking Oil	1.75	153.35	132.05	132.13
18 Vegetable Ghee	2.07	149.70	135.63	135.96
19 Dry Fruits	0.25	252.44	261.69	262.54
20 Fresh Fruits	1.86	199.36	203.36	204.55
21 Pulse Masoor	0.27	191.16	204.23	202.55
22 Pulse Moong	0.23	313.75	303.36	300.13
23 Pulse Mash (Washed)	0.21	228.22	346.21	348.73
24 Pulse Gram	0.24	179.36	272.57	268.47
25 Gram Whole	0.16	180.95	224.00	223.24
26 Beans	0.03	236.81	233.35	233.25
27 Potatoes	0.48	163.90	140.00	123.43
28 Onion	0.54	139.95	267.82	247.60
29 Tomatoes	0.45	171.50	123.72	114.98
30 Fresh Vegetable	1.66	189.11	191.20	190.61
31 Sugar	1.04	194.97	214.31	223.59
32 Gur	0.02	253.51	267.27	266.92
33 Honey	0.04	303.39	307.36	307.75
34 Sweet Meet	0.25	233.47	239.94	241.33
35 Beverages	1.20	206.46	215.29	215.64
36 Jam, Tomato Ketchup & Pickle	0.25	205.02	212.15	212.12
37 Condiments	0.27	255.89	261.47	265.12
38 Spices	0.54	234.85	238.16	239.15
39 Tea	0.84	217.22	284.13	282.69
Alcoholic Beverages, Tobacco	1.41	266.63	337.14	337.57
40 Cigarette	1.39	267.63	338.92	339.36
41 Betel Leaves & Nuts	0.02	206.10	229.04	229.29
Clothing & Footwear	7.57	214.49	224.36	224.97
42 Cotton Cloth	1.73	207.71	215.77	216.48
43 Woolen Cloth	0.88	233.21	240.17	240.78
44 Ready Made Garment	0.97	213.47	228.16	229.79
45 Woolen Readymade Garments	0.40	240.93	260.80	254.84
46 Hosiery	0.51	225.91	238.25	238.88
47 Dopatta	0.44	231.18	238.99	239.78
48 Cleaning & Laundering	0.21	236.38	249.00	251.12

Table A10: Consumer Price Index Numbers by Major Groups and Composite Commodities				
Items and specification	Weights	Index		
		Feb-15	Jan-16	Feb-16
49 Tailoring	0.88	266.17	287.43	289.94
50 Footwear	1.55	164.41	165.25	165.44
Housing,Water,Elect,Gas & Other Fuel	29.41	176.51	185.36	185.49
51 House Rent	21.81	165.29	174.32	174.32
52 Construction Input Item	0.56	236.82	242.65	242.77
53 Construction Wage Rate	0.33	208.81	224.27	225.13
54 Water Supply	0.50	149.92	153.34	161.10
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	207.40	203.32	189.04
58 Fire Wood Whole	0.23	276.56	284.11	283.33
Furnished H.Hold Equip.& Maint. Etc	4.21	209.72	217.23	218.83
59 Furniture	0.33	202.10	207.96	208.62
60 Household Textile	0.65	207.67	216.16	217.54
61 Household Equipment	0.59	172.53	176.48	176.18
62 Utensils	0.32	212.31	219.40	219.75
63 Plastic Products	0.25	201.01	206.03	206.33
64 Washing Soap & Detergent	0.79	224.05	226.88	226.94
65 Sewing Needle & Dry Cell	0.15	184.21	202.56	203.40
66 Household Servant	1.04	227.11	239.42	244.50
67 Marriage Hall Charges	0.08	231.83	237.37	238.96
Health	2.19	177.16	181.45	184.18
68 Drug Medicine	1.27	148.15	149.28	151.34
69 Medical Equipment	0.01	222.66	226.88	227.00
70 Doctor (MBBS) Clinic Fee	0.59	238.49	250.01	253.49
71 Medical Test	0.32	177.69	181.17	185.26
Transport	7.20	175.39	177.96	174.05
72 Motor Vehicle	0.66	163.87	165.35	165.19
73 Motor Vehicle Accessories	0.24	230.17	227.78	220.92
74 Motor Fuel	3.03	146.87	150.56	144.21
75 Mechanical Service	0.46	212.34	222.39	222.80
76 Motor Vehicle Tax	0.11	210.18	210.18	210.18
77 Transport Services	2.70	197.55	198.46	195.73
Communication	3.22	130.27	130.61	130.57
78 Postal Services	0.07	227.44	235.86	235.86
79 Communication & Apparatus	3.15	128.23	128.40	128.36
Recreation & Culture	2.02	189.67	193.80	194.38
80 Recreation & Culture	0.86	128.09	128.53	128.58
81 Text Books	0.57	280.89	290.62	290.62
82 News Papers	0.19	175.42	175.42	175.49
83 Stationery	0.40	199.45	205.59	208.44
Education	3.94	192.41	209.36	210.15
84 Education	3.94	192.41	209.36	210.15
Restaurants And Hotels	1.23	246.22	257.11	259.39
85 Ready Made Food	1.23	246.22	257.11	259.39
Miscellaneous Goods And Services	2.76	222.81	227.33	230.15
86 Personal Care	1.49	205.72	211.12	212.55
87 Cosmetics	0.39	190.14	196.94	197.67
88 Blades	0.03	185.88	194.65	195.05
89 Personal Equipments	0.84	269.38	271.14	277.46

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

Items and Specifications	Index		
	Feb-15	Jan-16	Feb-16
General	203.86	206.27	205.05
Agriculture Forestry & Fishery	212.19	221.90	221.23
1 Wheat	210.66	218.54	220.02
2 Maize	189.01	181.99	189.65
3 Rice	166.83	143.44	141.69
4 Sorghum/Jowar	289.98	263.42	263.80
5 Millet/Bajra	162.93	182.56	176.35
6 Vegetables	180.66	198.21	204.49
7 Fresh Fruits	217.00	214.11	231.68
8 Dry Fruits	229.16	253.58	250.92
9 Cotton Seeds	208.28	265.71	257.94
10 Other Oil Seeds	177.61	162.64	157.46
11 Edible Roots/ Potatoes	161.82	150.23	118.35
12 Stimulant And Spice Crops	281.50	251.68	242.72
13 Pulses	212.31	251.59	247.95
14 Sugar Crops	287.55	286.29	286.29
15 Fibre Crops	161.34	174.55	175.71
16 Unmanufactured Tobacco	217.23	230.02	230.02
17 Poultry	163.19	197.60	151.73
18 Milk From Bovine Animals	251.69	255.42	255.42
19 Eggs	205.24	209.40	204.96
20 Raw Animal Material/Wool	178.52	179.16	177.45
21 Hides And Fur Skins, Raw	159.76	151.58	150.46
22 Fuel Wood In Logs	259.53	265.76	266.30
23 Fishes Live Fresh Or Chilled	288.48	342.37	336.96
Ores/Minerals, Gas & Elect.	246.75	247.48	245.89
24 Coal Not Agglomerated	223.53	192.16	174.51
25 Natural Gas Liquefied	203.03	211.04	210.01
26 Salt & Pure Sodium Chloride	247.16	252.31	252.31
27 Electrical Energy	295.61	293.09	293.09
Food, Beverages, Tobacco, Textiles	205.53	214.54	215.03
28 Meat Of Animals	259.95	268.44	268.53
29 Vegetables & Fruit Juices	198.31	201.36	201.36
30 Dried Fruits & Nuts	228.83	247.99	250.38
31 Fruit Juices	173.27	175.90	175.90
32 Vegetable Oil Refined	158.19	149.31	148.73
33 Vegetable Ghee	129.25	117.91	118.76
34 Oil Cakes	197.37	218.92	217.76
35 Processed Liquid Milk	252.28	247.57	247.57
36 Milk And Cream In Solid Form	220.24	219.09	219.09
37 Ice Cream	219.91	219.91	223.70
38 Dairy Products N.E.C	239.22	245.35	248.13
39 Wheat Flour	198.41	202.19	201.07
40 Other Cereal Flour	148.22	231.67	225.94
41 Sugar Refined	205.44	226.45	239.31
42 Chocolate	99.19	101.06	101.06
43 Sugar Confectionary	102.28	118.83	118.83
44 Coffee And Tea	194.48	264.10	261.24
45 Spices	189.66	188.40	189.65
46 Other Food Products	298.34	292.52	292.52
47 Mineral Water	187.86	189.02	189.02
48 Beverages	171.52	171.95	171.95
49 Tobacco Products	290.52	387.30	387.30
50 Cotton Yarn	171.00	175.73	175.22
51 Nylon Yarn	154.23	147.08	147.08
52 Blended Yarn	185.12	178.32	175.44
53 Woven Fabrics	258.39	275.66	275.66
54 Cotton Fabrics	200.51	201.65	201.65
55 Other Fabrics	209.87	217.81	217.82

Table A11: Wholesale Price Index Numbers by Major Groups and Composite Commodities				
		Index		
Items and Specifications		Feb-15	Jan-16	Feb-16
56	Silk And Rayon Fabrics	179.89	186.80	186.80
57	Towels	265.62	267.20	267.20
58	Blankets	235.86	243.93	243.93
59	Bed Sheets	253.21	256.29	256.29
60	Quilts	196.84	201.47	201.47
61	Woolen Carpets	132.14	154.76	166.67
62	Synthetic Carpets	126.27	129.25	129.25
63	Hosiery Products	216.06	222.52	222.52
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	213.42	207.64	207.31
67	Footwear's	134.22	137.38	137.38
Other Transportable Goods		180.79	168.43	164.03
68	Timber	202.05	216.25	216.79
69	Printing Paper	167.70	161.82	161.82
70	Hard Board	221.35	197.92	197.92
71	Coke	163.45	163.45	163.45
72	Motor Sprit	118.71	128.80	120.33
73	Diesel Oil	175.03	155.51	142.84
74	Kerosene Oil	178.93	128.46	115.11
75	Furnace Oil	95.56	50.24	48.20
76	Mobil Oil	201.53	199.78	196.00
77	Chemicals	197.65	182.92	183.07
78	Dying Materials	146.55	146.55	146.55
79	Fertilizers	275.65	270.92	266.79
80	Pesticides	290.39	312.37	312.37
81	Insecticides	134.91	134.66	129.81
82	Paints & Varnishes	288.63	295.36	295.36
83	Medicines	145.19	146.89	153.18
84	Soaps & Detergent	178.31	181.44	183.70
85	Auto Tyres	192.43	192.68	186.64
86	Plastic Products	222.47	229.95	226.58
87	Glass Sheets	228.76	231.30	231.30
88	Other Glass Articles	242.89	243.63	243.63
89	Ceramics And Sanitary	216.99	226.78	227.51
90	Bricks Blocks And Tiles	206.92	216.96	216.02
91	Cement	207.84	206.70	206.70
92	Bed Foams	156.67	157.17	167.67
93	Matches	143.20	162.62	162.62
Metal Product Machinery & Equip		173.23	170.69	170.44
94	Pig Iron	128.97	128.97	128.97
95	Steel Bars & Sheets	141.59	125.33	123.59
96	Pipe Fittings	191.94	193.06	193.06
97	Steel Products	173.80	176.27	176.83
98	Engines And Motors	109.07	109.07	109.24
99	Vacuum Pumps	115.39	115.39	115.39
100	Air Conditioners	196.18	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	198.16	199.36	199.42
107	Electrical Wires	190.87	195.19	195.19
108	Lighting Equipments	168.19	167.30	167.30
109	Radio And Television	126.49	126.49	126.49
110	Motor Vehicles	183.03	184.14	185.25
111	Motor Cycles	128.20	125.89	125.89
112	Bicycles	185.63	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	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
	Dec	203.06	223.90	190.57	207.37	230.72	192.55	218.60
2016	Jan	203.49	222.58	192.05	206.27	231.14	190.49	217.47
	Feb	202.98	221.07	192.14	205.05	231.26	188.42	215.73

*: all groups combined

Table A13: International Commodity Prices/ Indices				
	Nov-15	Dec-15	Jan-16	Feb-16
Energy				
Crude Oil (US\$ per barrel) *	43.1	36.6	29.9	31.1
IMF Energy Index (2005 = 100)	83.1	72.6	60.8	62.5
WB Energy Index (2010 = 100) @	55.2	47.8	40.5	41.3
Food				
Rice (\$/MT)	358.4	354.3	359.5	373.3
Wheat (\$/MT)	157.7	163.8	164.6	159.3
Sugar (US cent/ pound)	14.9	15.0	14.3	13.3
Palm Oil (\$/MT)	503.2	520.6	531.6	595.9
Soybean Oil (\$/MT)	614.7	677.2	659.9	686.9
Non-Food Non-Energy				
Cotton Outlook 'A' Index #	69.2	70.4	68.8	66.6
IMF Metal Price Index (2005 = 100)	109.1	105.1	103.7	108.9
Copper (\$/MT)	4,799.9	4,638.8	4,471.8	4,598.6
Aluminum (\$/MT)	1,467.9	1,497.2	1,481.1	1,531.3
Iron Ore (\$ cents/dry MT)	46.2	39.6	41.3	46.2
Tin (\$/MT)	14,745.3	14,691.7	13,808.1	15,610.1
Nickle (\$/MT)	9,244.3	8,707.8	8,507.3	8,298.5
Zinc (\$/MT)	1,583.3	1,527.8	1,520.4	1,709.8
Lead (\$/MT)	1,618.3	1,706.6	1,646.2	1,765.8
Uranium (\$/MT)	35.9	35.1	34.6	33.6
DAP (\$/MT)	416.0	400.0	385.0	355.0
Urea (\$/MT)	257.0	239.8	214.0	209.0
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	203.06
Jan	162.58	175.70	189.60	196.95	203.49
Feb	163.07	175.11	189.00	195.13	202.98
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	154.13	168.83	182.68	197.00	200.79
Aug	155.66	169.69	184.14	197.05	200.61
Sep	157.31	171.17	183.82	197.92	200.57
Oct	159.24	171.46	187.05	197.94	201.16
Nov	160.24	171.29	189.89	197.45	202.86
Dec	160.96	173.73	189.65	197.75	203.98
Jan	162.99	176.16	190.13	197.50	204.07
Feb	164.79	177.01	191.10	197.32	205.27
Mar	166.38	177.39	192.59	197.42	
Apr	168.17	177.90	194.26	198.38	
May	170.56	179.34	194.28	200.38	
Jun	170.76	180.79	195.65	201.79	

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	223.90
Jan	181.90	196.58	210.81	217.10	222.58
Feb	180.69	194.05	208.74	213.15	221.07
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	173.73	189.31	206.43	220.73	221.95
Aug	174.57	189.33	208.70	220.29	221.08
Sep	177.30	190.75	205.82	220.60	220.39
Oct	179.87	190.43	209.22	220.23	221.44
Nov	180.53	190.01	214.63	219.17	223.97
Dec	180.58	194.44	212.42	219.53	225.21
Jan	183.01	197.86	212.27	218.64	224.24
Feb	184.69	198.46	213.58	218.18	226.28
Mar	186.18	198.06	216.47	217.73	
Apr	188.33	198.67	218.42	218.45	
May	189.22	201.65	216.52	222.96	
Jun	189.17	204.06	219.00	225.80	

Table 16: CPI Monthly & Average Seasonal Factors						
Period	FY12	FY13	FY14	FY15	FY16	Average
Jul	100.38	100.44	100.49	100.54	100.56	100.48
Aug	100.78	100.83	100.85	100.84	100.82	100.82
Sep	100.76	100.74	100.74	100.75	100.73	100.74
Oct	100.98	100.96	100.94	100.94	100.93	100.95
Nov	100.63	100.66	100.69	100.68	100.67	100.67
Dec	99.48	99.48	99.49	99.52	99.55	99.50
Jan	99.75	99.74	99.72	99.72	99.71	99.73
Feb	98.96	98.93	98.90	98.89	98.89	98.91
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	99.62	99.62	99.64		99.63
Jun	99.55	99.53	99.54	99.55		99.54

Table 17: CPI Food Monthly & Average Seasonal Factors						
Period	FY12	FY13	FY14	FY15	FY16	Average
Jul	100.62	100.75	100.85	100.94	100.99	100.83
Aug	101.58	101.66	101.71	101.71	101.71	101.67
Sep	101.61	101.60	101.59	101.60	101.58	101.59
Oct	101.78	101.70	101.62	101.59	101.55	101.65
Nov	101.51	101.59	101.65	101.63	101.60	101.59
Dec	99.24	99.25	99.28	99.34	99.42	99.31
Jan	99.39	99.35	99.31	99.29	99.26	99.32
Feb	97.84	97.78	97.73	97.70	97.70	97.75
Mar	98.54	98.49	98.45	98.40		98.47
Apr	99.52	99.53	99.50	99.46		99.50
May	99.22	99.18	99.18	99.22		99.20
Jun	99.04	99.05	99.08	99.13		99.07

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	-0.57
Jan	1.54	1.67	0.49	0.08	0.21
Feb	0.30	-0.34	-0.32	-0.92	-0.25
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	0.44	-1.13	1.05	0.69	-0.50
Aug	0.99	0.51	0.80	0.03	-0.09
Sep	1.06	0.87	-0.17	0.44	-0.02
Oct	1.22	0.17	1.76	0.01	0.30
Nov	0.63	-0.10	1.52	-0.25	0.84
Dec	0.44	1.42	-0.13	0.15	0.55
Jan	1.27	1.40	0.25	-0.13	0.05
Feb	1.10	0.48	0.51	-0.09	0.58
Mar	0.97	0.21	0.78	0.05	
Apr	1.07	0.29	0.87	0.49	
May	1.42	0.81	0.01	1.01	
Jun	0.12	0.81	0.70	0.71	

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	-1.61
Jan	1.50	1.87	-0.04	-0.45	-0.59
Feb	-0.66	-1.29	-0.98	-1.82	-0.68
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	1.27	0.07	1.16	0.79	-1.70
Aug	0.48	0.01	1.10	-0.20	-0.40
Sep	1.56	0.75	-1.38	0.14	-0.31
Oct	1.45	-0.17	1.65	-0.17	0.47
Nov	0.37	-0.22	2.59	-0.48	1.14
Dec	0.03	2.33	-1.03	0.16	0.55
Jan	1.35	1.76	-0.07	-0.40	-0.43
Feb	0.92	0.31	0.62	-0.21	0.91
Mar	0.81	-0.20	1.35	-0.20	
Apr	1.16	0.31	0.90	0.33	
May	0.47	1.50	-0.87	2.07	
Jun	-0.02	1.20	1.14	1.27	

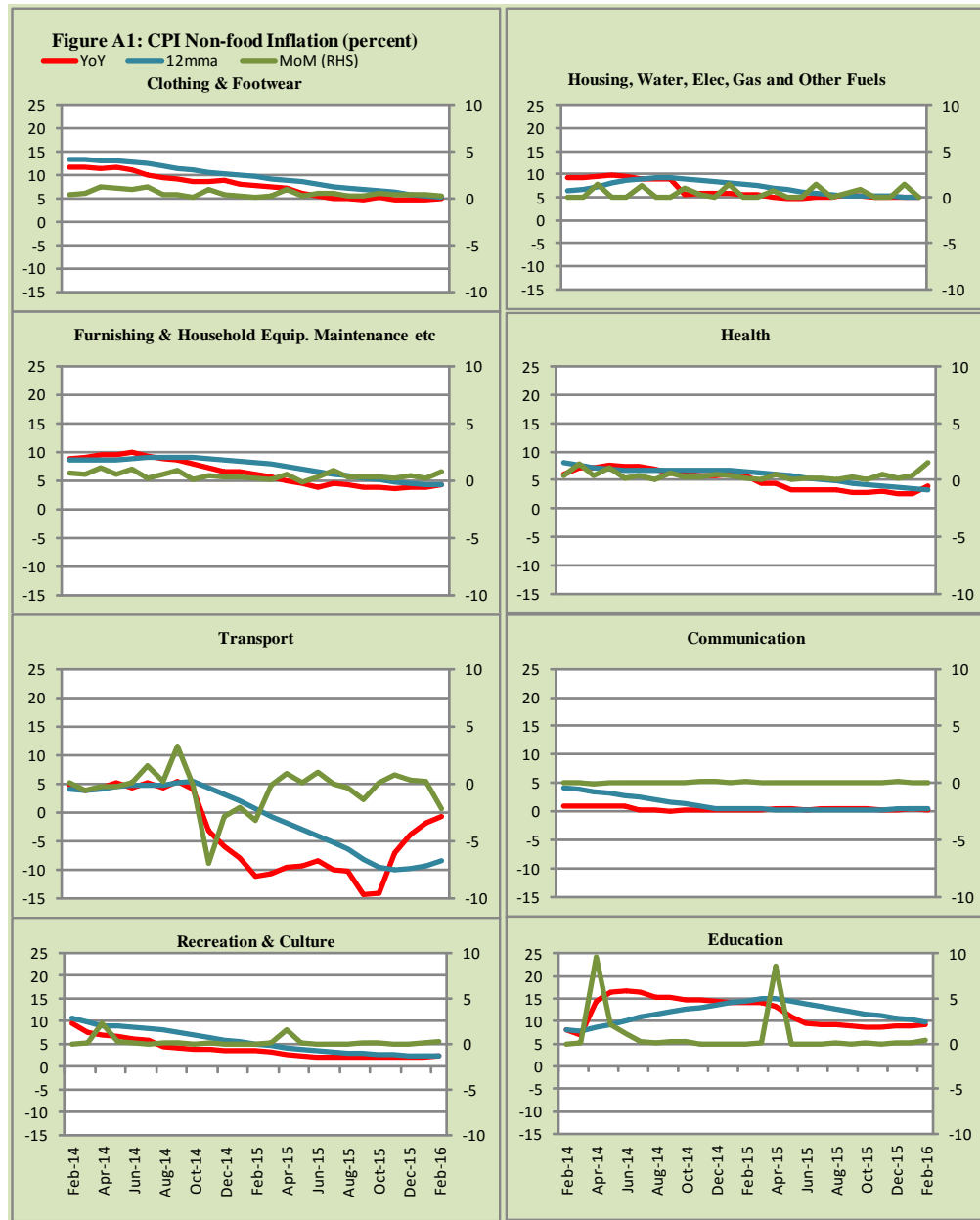


Figure A2: Frequency Distribution of Price Changes of CPI Items, February 2016

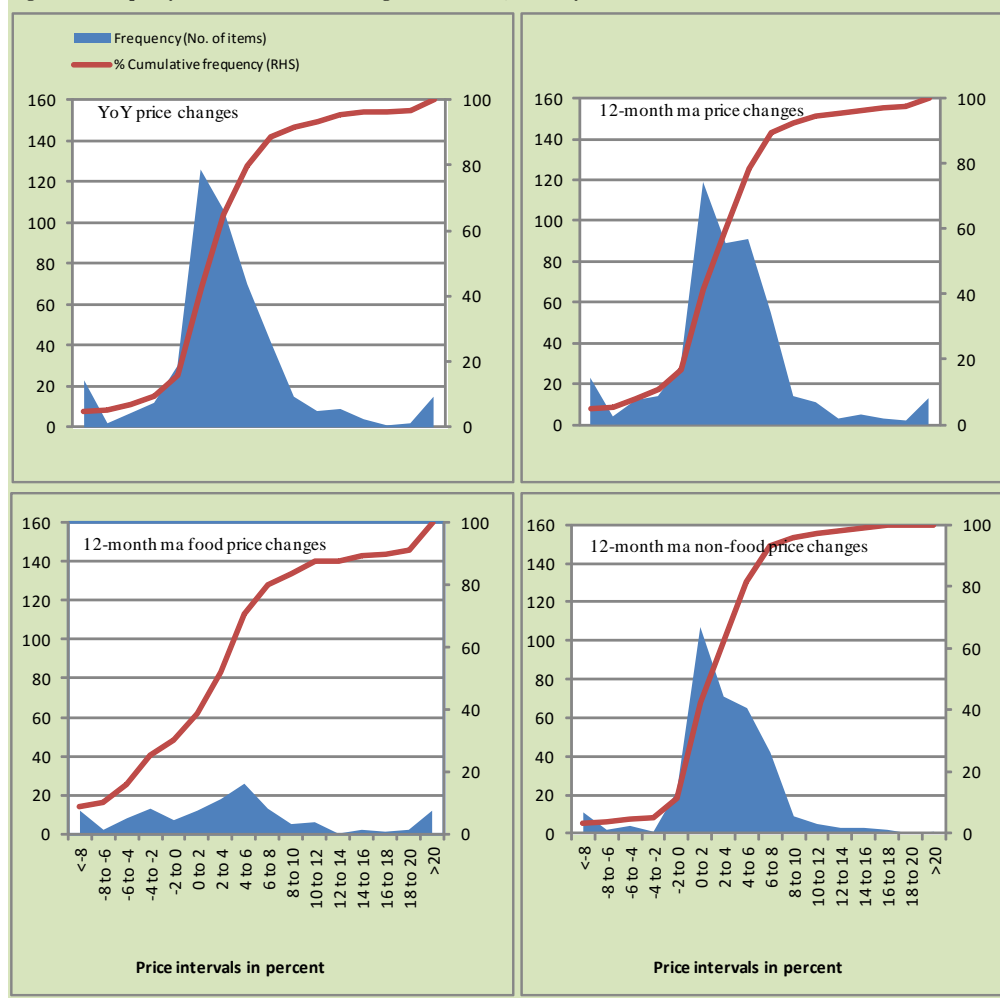


Figure A3: Frequency Distribution of Price Changes of WPI Commodities, February 2016

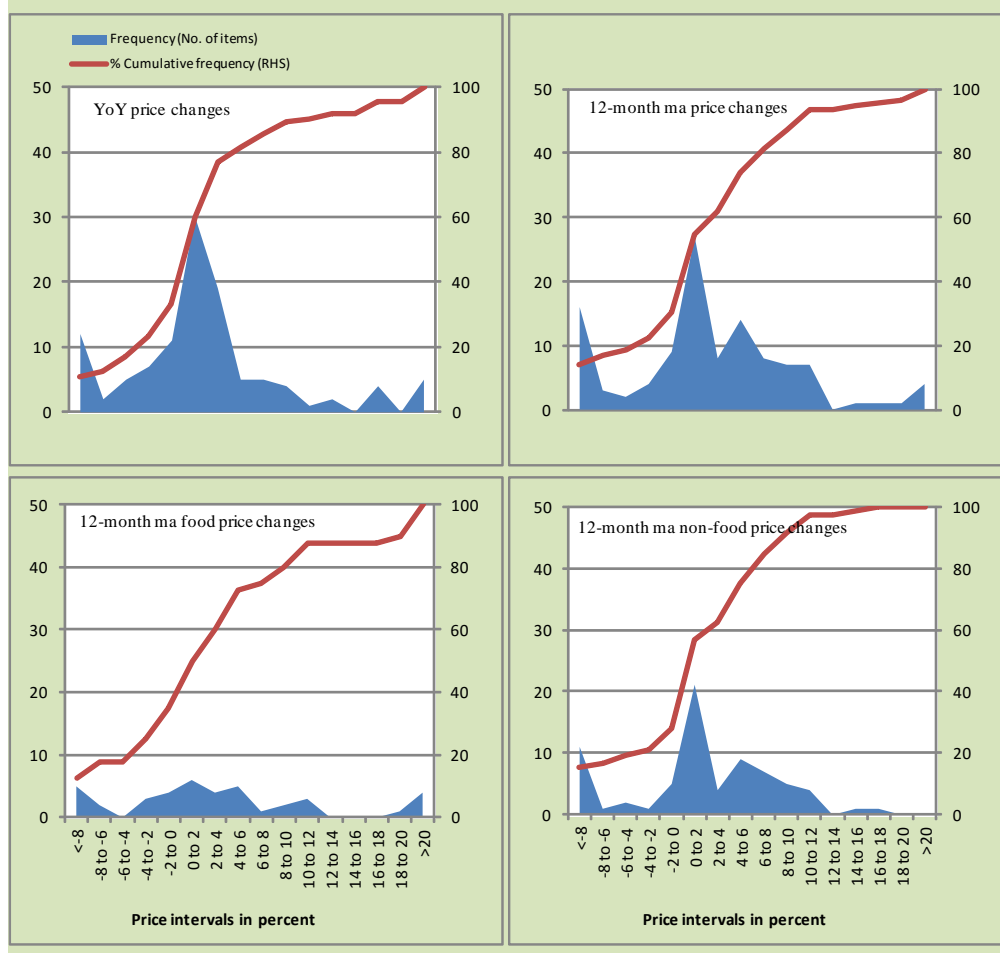
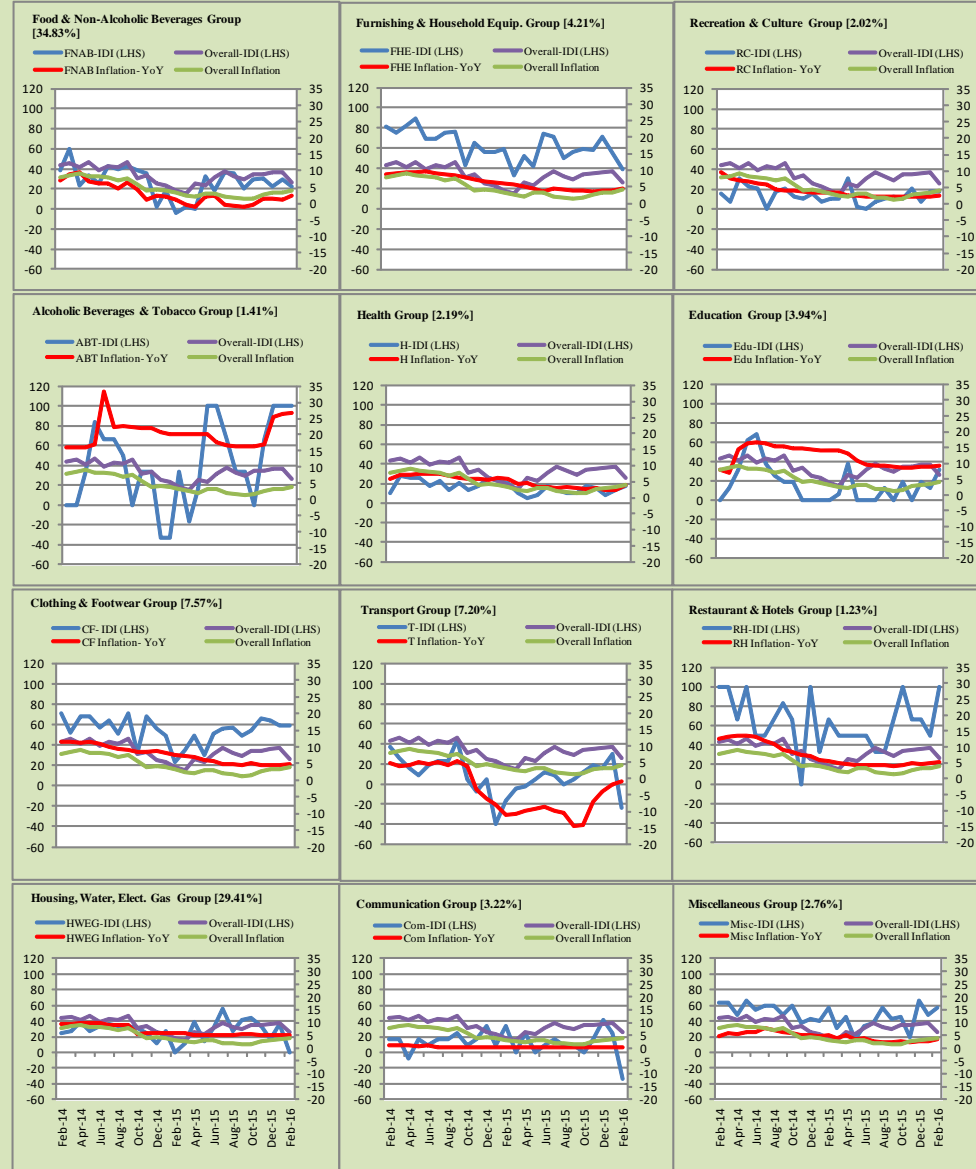


Figure A4: Group-wise/ Overall Inflation Diffusion Index (IDI) and respective/ overall YoY Inflation (percent)



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:

- 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.