

Inflation Monitor

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Review

Inflation in Brief

1. Headline CPI inflation (2007-08=100) is recorded at 3.2 percent on year-on-year basis in May 2016 compared to 4.2 percent in the previous month and was at level of 3.2 percent in the corresponding month of last year.
2. CPI inflation on month-on-month basis is recorded at -0.2 percent in May 2016 compared to 1.5 percent in the previous month and 0.8 percent during the corresponding month of last year. Seasonally adjusted month-on-month CPI inflation is recorded at 0.09 percent in May 2016 compared to 0.53 percent in the previous month.
3. Core inflation (trimmed) on year-on-year basis was at level of 3.6 percent in May 2016 as compared to 3.8 percent in the previous month and 3.9 percent during corresponding month of last year.
4. On month-on-month basis, the Core inflation (trimmed) is 0.2 percent in May 2016 compared to 0.6 percent in the previous month and 0.1 percent during the corresponding month of last year.
5. Non-food, non-energy inflation measured by CPI Core (NFNE) on year-on-year basis recorded at 4.5 percent in May 2016 compared to 4.4 percent in the previous month. It was 4.9 percent in the corresponding month of last year.
6. Core NFNE inflation on month-on-month basis recorded at 0.2 percent in May 2016 compared to 1.1 percent in the previous month. Core NFNE inflation was slightly higher than zero inflation during May 2015.

7. WPI inflation on year-on-year basis decreased to almost zero percent in May 2016 as compared to 0.6 percent in the previous month. During May 2015, WPI inflation was recorded at -1.8 percent.
8. WPI inflation on month-on-month basis recorded at 0.6 percent in May 2016 compared to 1.3 percent in the previous month and 1.1 percent during the corresponding month of last year.
9. SPI inflation on year-on-year basis recorded at 1.4 percent in May 2016 compared to 3.6 percent in the previous month. It was 0.8 percent in the corresponding month of last year.
10. SPI inflation on month-on-month basis recorded at -0.7 percent in May 2016 compared to 0.3 percent in the previous month and 1.5 percent during 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 May 2016 are described below:

- Core RSC inflation on year-on-year basis is recorded at 5.1 percent in May 2016 compared to 5.0 percent in the previous month and was at level of 5.1 percent in the corresponding month of last year.

- Core RSC inflation on month-on-month basis is recorded at 0.3 percent in May 2016 compared to 0.9 percent in the previous month and 0.2 percent in May, 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
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
Mar-16	3.9	0.1	3.7	0.5	4.1	-0.1	4.7	0.2	3.8	0.2	5.1	0.1	0.2	-0.4	3.9	-0.3
Apr-16	4.2	1.5	4.7	2.4	3.8	1.0	4.4	1.1	3.8	0.6	5.0	0.9	0.6	1.3	3.6	0.3
May-16	3.2	-0.2	2.1	-0.7	3.9	0.2	4.5	0.2	3.6	0.2	5.1	0.3	0.0	0.6	1.4	-0.7
* NFNE is Non-food non-energy ** Relatively Stable Component of CPI *** SPI for all income groups combined																

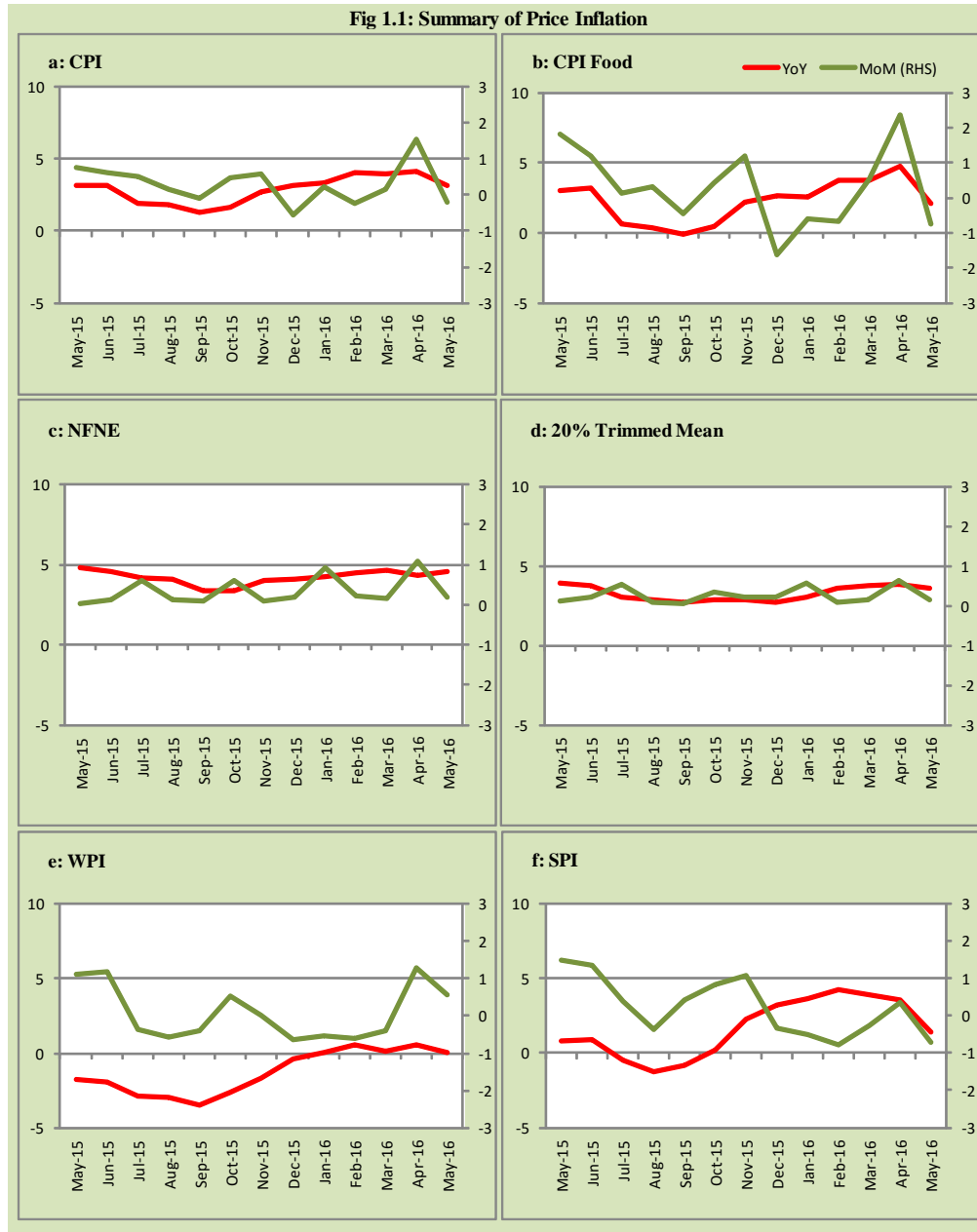
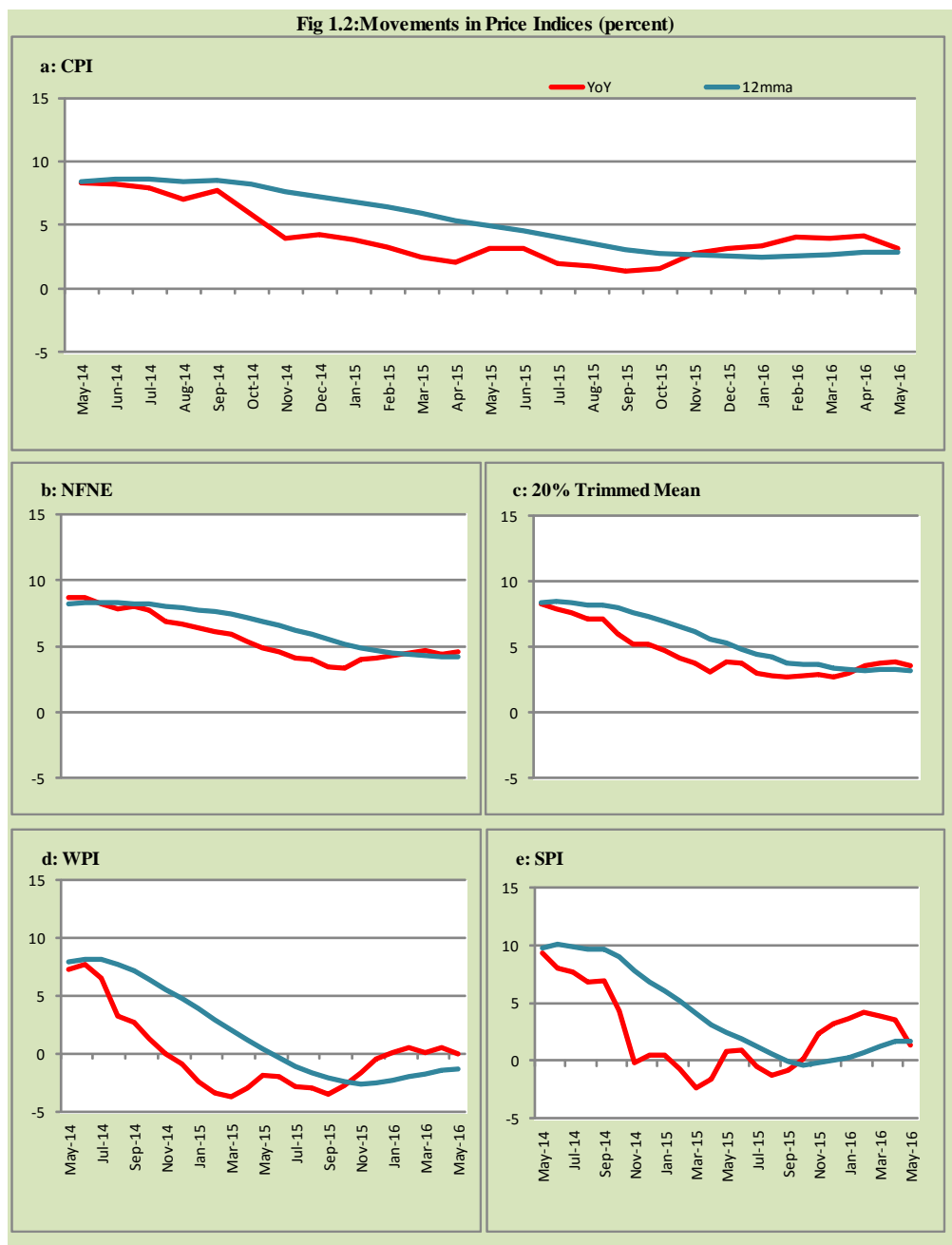


Fig 1.2: Movements in Price Indices (percent)



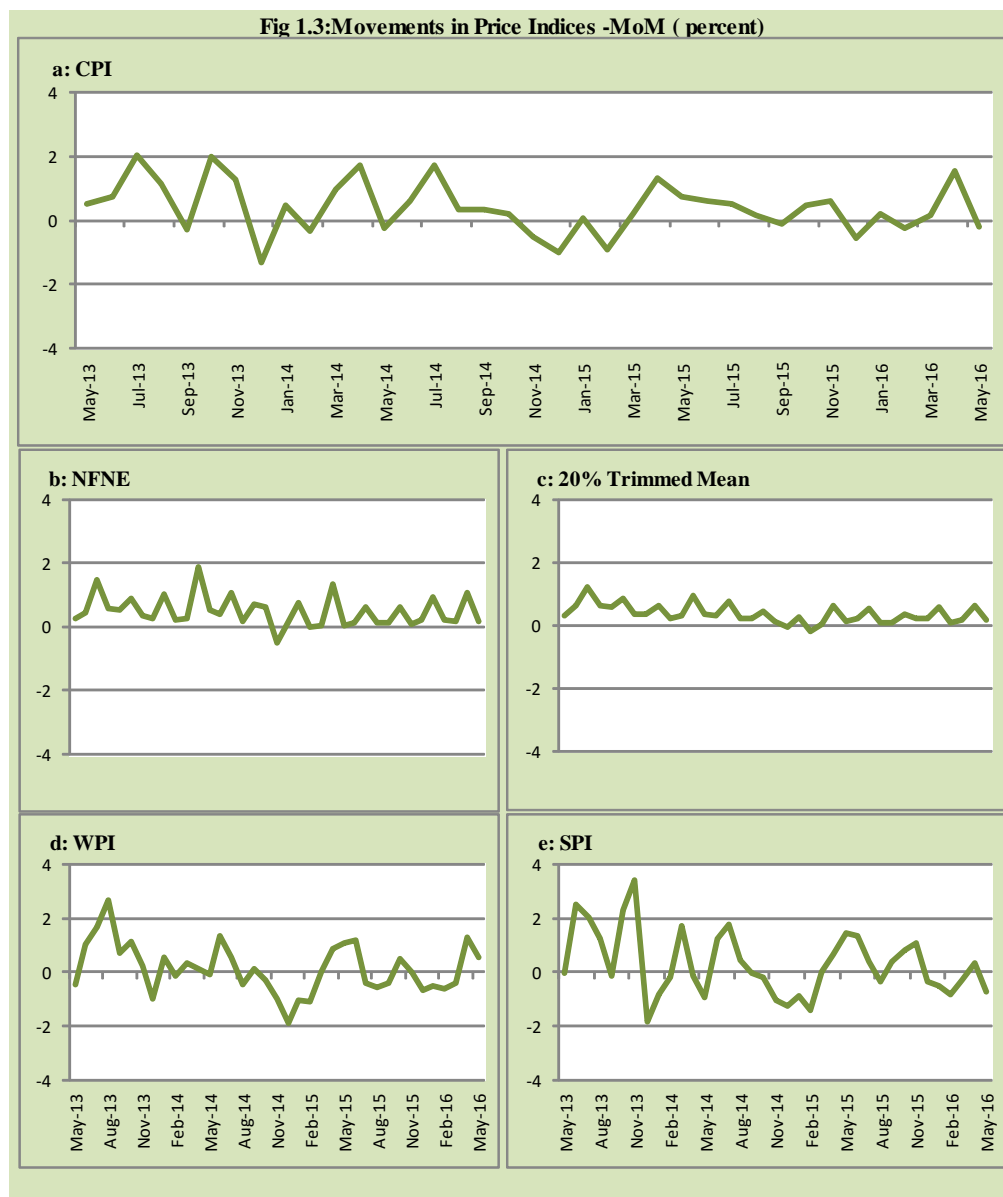
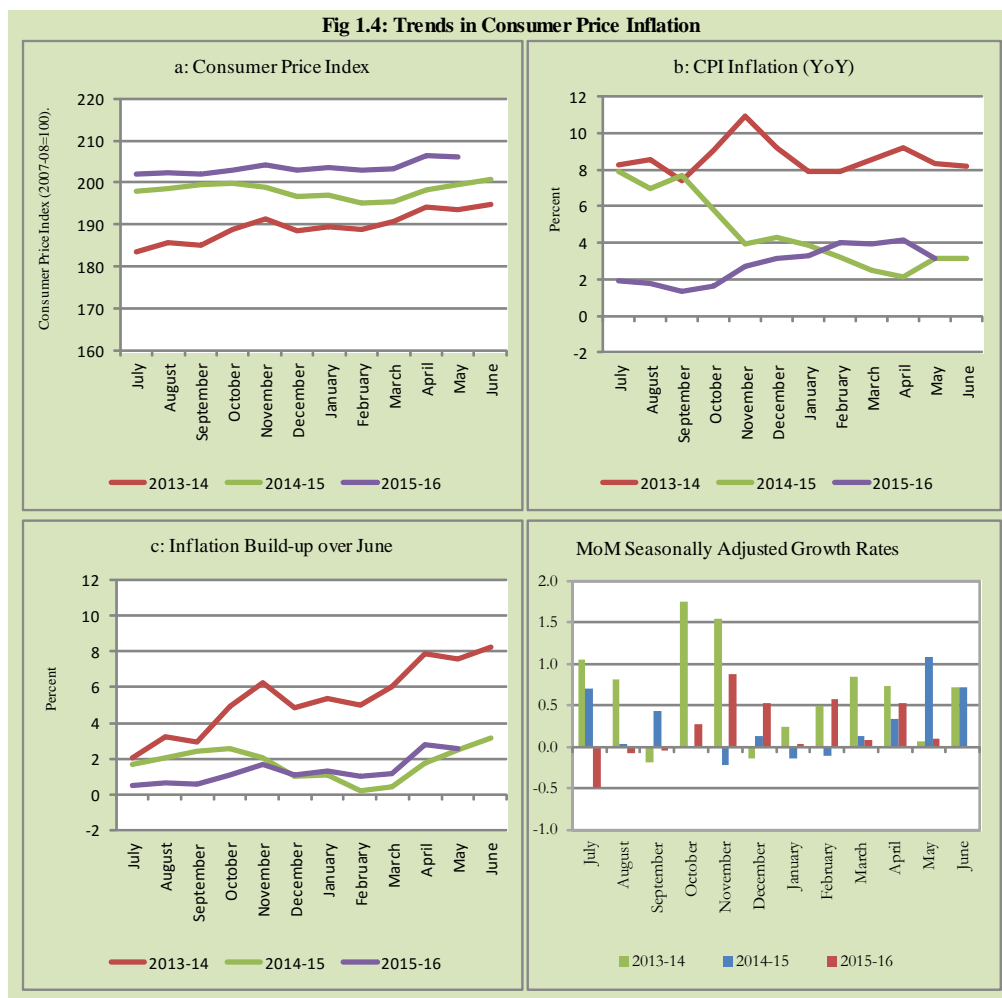


Fig 1.4: Trends in Consumer Price Inflation



2. City wise Inflation

CPI Inflation on year-on-year basis in federal and provincial capitals of Pakistan remained lower than overall inflation during May 2016 except Karachi. Among these five cities, the lowest inflation was observed in Lahore at 1.4 percent while the highest inflation was observed in Karachi at 4.6 percent (Table A6 of annexure-A).

Table 2.1 City-wise Inflation of Selected Cities (percent)						
	May-15		Apr-16		May-16	
	MoM	YoY	MoM	YoY	MoM	YoY
Overall CPI	0.8	3.2	1.5	4.2	-0.2	3.2
Islamabad	0.6	4.7	1.0	3.0	0.0	2.4
Karachi	0.6	4.1	1.4	5.2	0.0	4.6
Lahore	0.6	4.2	1.9	2.1	-0.1	1.4
Peshawar	1.4	3.9	1.1	4.0	-0.7	1.8
Quetta	1.2	1.8	1.6	4.1	-0.8	2.1

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 May 2016 in General, food and non-food groups. The lowest income group (Up to Rs. 8, 000) showed lowest inflation in food group among income groups during the month of May 2016 (Table A7 of annexure-A).

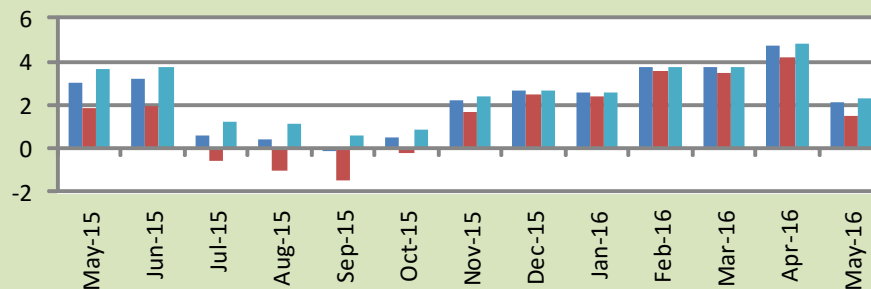
Table 3.1 Income Group- wise Inflation (YoY)									
Income Groups	General			Food			Non-food		
	May-15	Apr-16	May-16	May-15	Apr-16	May-16	May-15	Apr-16	May-16
All Groups Combined	3.2	4.2	3.2	3.0	4.7	2.1	3.3	3.8	3.9
Up to Rs. 8,000	2.8	4.0	2.6	1.8	4.2	1.5	4.0	3.8	4.0
Rs. 8,001- 12,000	2.9	4.3	3.0	2.2	4.4	1.7	3.6	4.3	4.5
Rs. 12,001- 18,000	3.0	3.8	2.6	2.6	4.6	2.0	3.5	3.0	3.1
Rs. 18,001- 35,000	3.0	4.5	3.3	3.1	4.9	2.2	3.0	4.1	4.2
Above Rs. 35,000	3.3	4.2	3.4	3.6	4.9	2.3	3.2	3.8	4.0

Fig 3.1: Income Group- wise Inflation

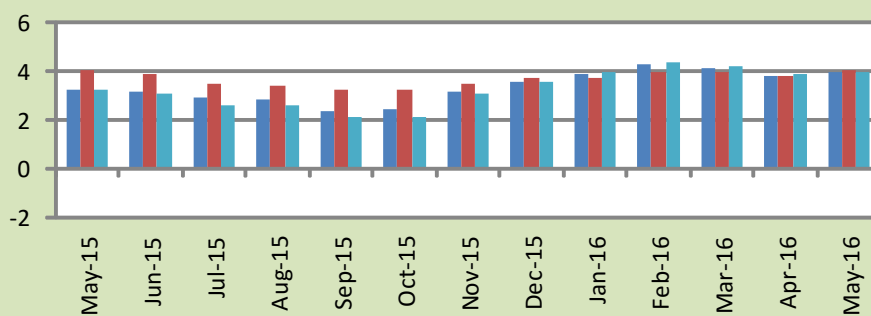
a: CPI Overall Inflation (YoY)



b: CPI Food Inflation (YoY)



c: CPI Non-Food Inflation (YoY)



4. Weighted Contribution

The weighted contribution of food group in the overall inflation decreased to 27.39 percent during May 2016 from 46.55 percent in April 2016. It was 39.65 percent in May 2015.

The weighted contribution of non-food group increased to 72.61 percent in May 2016 from 53.45 percent in April 2016.

Table 4.1 Weighted Contribution to CPI Inflation (YoY)						
Period	Food	Clothing & Footwear	Housing, Water, Elect, Gas & Other Fuel	Transport	Education	Others
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	37.82	10.11	33.65	-1.23	8.91	10.74
Mar-16	38.91	11.14	34.22	-6.44	9.46	12.72
Apr-16	46.55	9.80	33.26	-6.42	5.87	10.94
May-16	27.39	12.83	43.54	-8.54	9.36	15.42

5. Inflation Diffusion Index

Table 5.1 Inflation Diffusion Index - based on MoM change

	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16
General	23.1	31.1	37.3	32.6	29.3	34.5	34.7	36.4	37.0	26.2	30.7	29.4	32.0
Food & Non-Alcoholic Beverages	32.7	18.6	36.8	35.4	20.2	29.6	30.4	22.3	29.2	22.1	5.3	27.5	20.2
Alcoholic Beverages & Tobacco	100.0	100.0	66.7	33.3	33.3	0.0	66.7	100.0	100.0	100.0	83.3	66.7	100.0
Clothing & Footwear	30.5	50.8	55.9	57.6	49.2	54.2	66.1	64.4	59.3	59.3	55.9	22.0	59.3
Housing, Water, Elect, Gas & other Fuels	13.9	30.6	55.6	27.8	41.7	44.4	33.3	16.7	36.1	0.0	-2.8	41.7	13.9
Furnishing & Household Equip. Maintenance etc	42.0	73.9	71.0	50.7	56.5	59.4	58.0	71.0	55.1	39.1	62.3	42.0	52.2
Health	7.7	17.9	12.8	10.3	10.3	17.9	15.4	7.7	12.8	17.9	25.6	33.3	25.6
Transport	4.7	11.6	9.3	0.0	4.7	11.6	18.6	16.3	30.2	-23.3	-7.0	7.0	-2.3
Communication	0.0	8.3	16.7	8.3	8.3	0.0	16.7	41.7	25.0	-33.3	41.7	8.3	8.3
Recreation & Culture	2.6	0.0	7.7	10.3	12.8	10.3	20.5	7.7	17.9	17.9	30.8	5.1	7.7
Education	0.0	0.0	0.0	12.5	0.0	18.8	0.0	18.8	12.5	31.3	50.0	68.8	50.0
Restaurant & Hotels	50.0	50.0	33.3	33.3	66.7	100.0	66.7	66.7	50.0	100.0	100.0	33.3	66.7
Miscellaneous	17.1	34.3	37.1	57.1	42.9	45.7	20.0	65.7	48.6	57.1	60.0	42.9	60.0
NFNE	18.6	33.7	37.0	33.4	33.7	36.4	35.2	40.8	39.9	26.6	38.5	29.3	34.6

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	May-15		Apr-16		May-16	
			YoY	MoM	YoY	MoM	YoY	MoM
1	Wheat	10 Kg	-3.28	-2.86	-0.86	-4.31	-2.59	-4.55
2	Wheat Flour Bag	10 Kg	-1.78	-1.19	-1.09	-1.74	-2.68	-2.78
3	Rice Basmati Sup. Qlty.	Kg	-9.20	-0.82	-11.10	-0.95	-12.66	-2.56
4	Pulse Masoor (Washed)	Kg	7.48	3.24	8.27	0.93	8.18	3.15
5	Pulse Moong (Washed)	Kg	6.50	1.08	-3.34	0.77	-4.74	-0.39
6	Pulse Mash (Washed)	Kg	21.46	5.97	56.19	3.65	52.81	3.67
7	Pulse Gram	Kg	17.95	14.90	59.95	3.58	56.55	12.46
8	Vegetable Ghee (Loose)	Kg	-12.80	-0.75	-2.26	1.38	-0.86	0.66
9	Sugar Refined	Kg	11.53	2.47	10.38	1.68	7.85	0.11
10	Milk Fresh (Unboiled)	Ltr	5.04	0.60	4.10	0.33	4.11	0.60
11	Tea- Tapal Danedar	200 Gm	10.37	0.96	20.15	-1.47	18.56	-0.38
12	Beef With Bone Av. Qlty.	Kg	3.77	0.10	5.31	-0.13	5.22	0.02
13	Mutton Av. Qlty.	Kg	4.75	0.26	6.41	0.44	6.96	0.78
14	Chicken Farm Broiler (Live)	Kg	1.44	10.70	17.12	30.75	-0.91	-6.34
15	Eggs Farm	Doz	0.14	-5.91	-10.01	-6.58	-8.64	-4.48
16	Potatoes	Kg	-67.95	-2.82	-3.29	-0.60	8.75	9.29
17	Onion	Kg	40.39	7.34	-10.54	-5.72	-30.02	-16.04
18	Tomatoes	Kg	134.76	17.57	3.43	60.42	-55.52	-49.44
19	Ginger	Kg	-22.68	5.69	-19.25	1.91	-28.13	-5.93
20	Garlic	Kg	23.60	4.82	63.05	-13.78	38.30	-11.09

7. Global Commodity Prices

Table 7.1 Changes in Major Global Indices (percent)

Item/ Group	May-15		Apr-16		May-16	
	YoY	MoM	YoY	MoM	YoY	MoM
Overall	-32.3	4.4	-19.3	4.6	-18.1	6.0
Food	-21.9	-0.5	0.1	2.7	4.5	3.8
Metals	-15.2	4.3	-11.9	1.6	-18.4	-3.4
Energy	-39.9	7.0	-29.5	7.2	-26.9	10.9
Agricultural Raw Material	-11.3	-0.7	-11.6	2.3	-11.0	0.0
Cotton	-21.4	1.6	-3.4	5.8	-3.5	1.4

Source: IMF

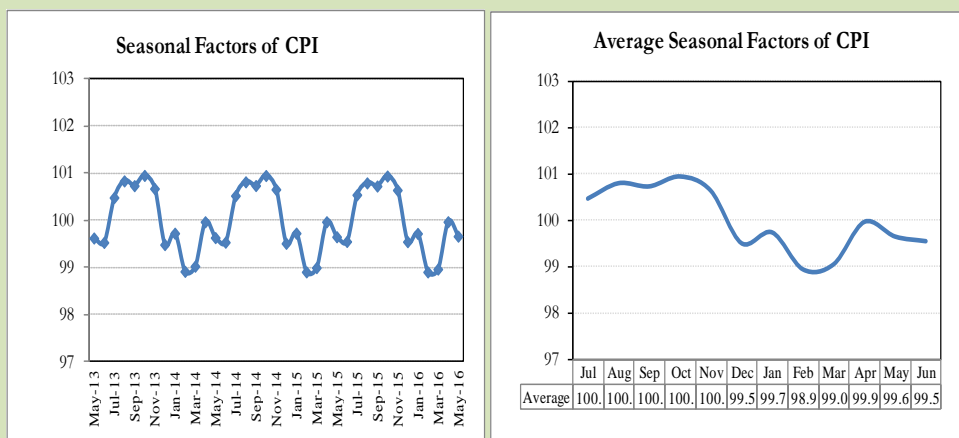
8. Seasonal Adjustment in CPI

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

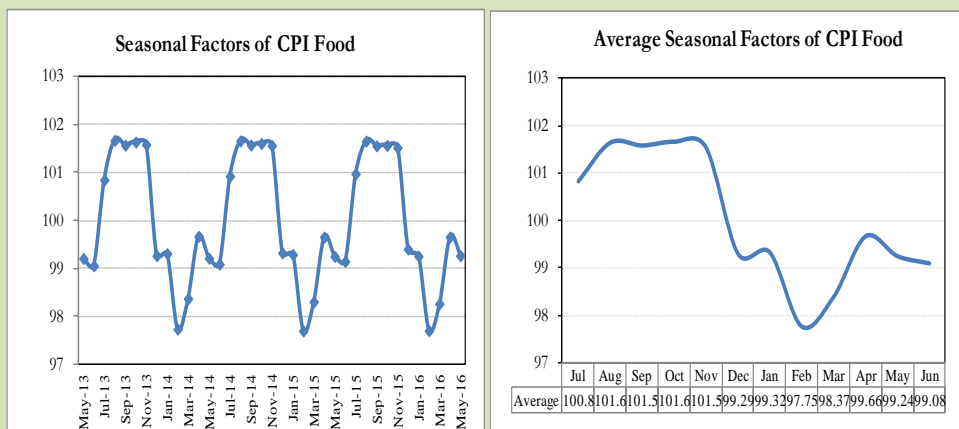
Figure 8.1 reveals that seasonality in CPI has been increasing over the period of last four years. Average seasonal factors reveal strong seasonality during the calendar year. There is an upward seasonality during the months from July to November and downward seasonality in the remaining months of the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

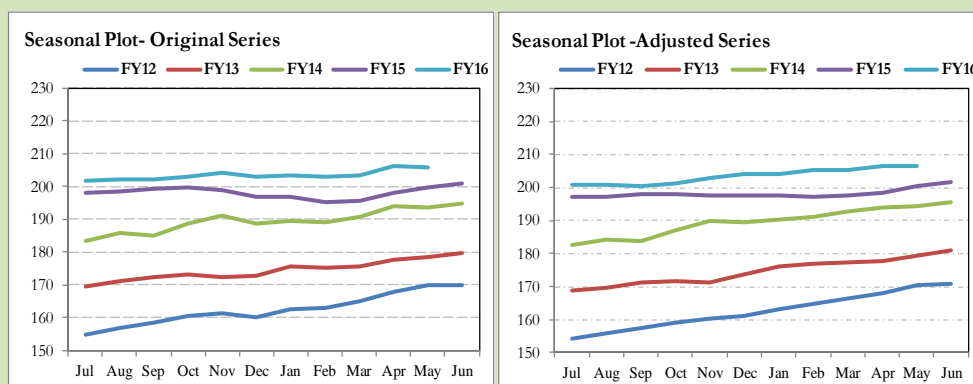
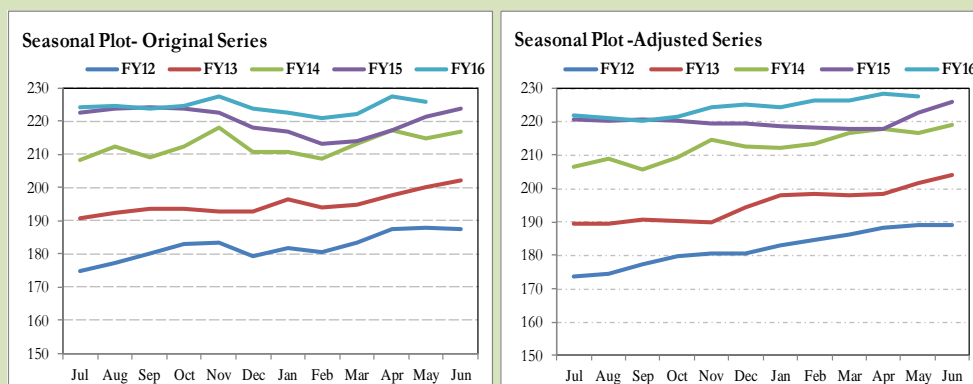


Fig. 8.4 Seasonal Plots of CPI (Food)



Seasonally adjusted CPI for May 2016 stood at 206.68 against 205.99 in original series showing an increase of 0.69 on account of adjustment of downward seasonality in May 2016.

Seasonally adjusted CPI food group for May 2016 stood at 227.51 against 225.84 in original series showing an increase of 1.67 on account of adjustment of downward seasonality in May 2016.

Month-on-month change of seasonally adjusted CPI series stood at 0.09% reflecting decrease during May 2016 over April 2016 and a decrease of 0.21% in original series.

Month-on-month change of seasonally adjusted CPI food group series stood at -0.35% reflecting decrease during May 2016 over April 2016 and a decrease of 0.74% 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 May 2016 (corresponding to the seasonally adjusted month-on-month rate) is 1.13 percent.

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

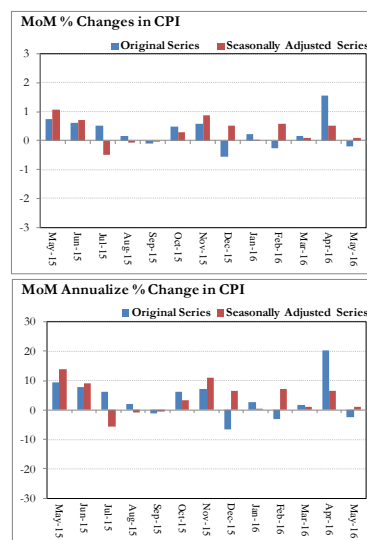
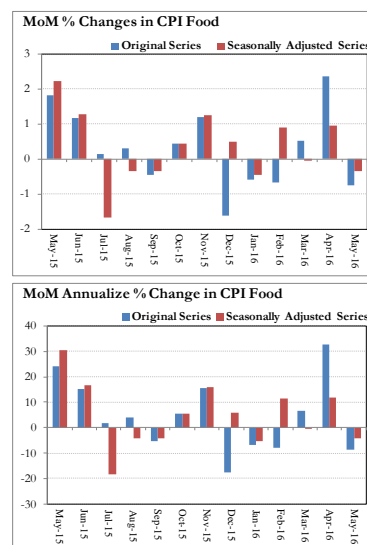


Fig. 8.6 Month-on-Month Percent Changes in CPI Food



Annexure A

Table A1: CPI Inflation by Groups (percent)							
	Weight	MoM change			YoY change		
		May-15	Apr-16	May-16	May-15	Apr-16	May-16
I. Food Group	37.5	1.8	2.4	-0.7	3.0	4.7	2.1
Food & Non-Alcoholic Beverages	34.8	1.9	2.5	-0.9	2.2	3.5	0.6
Alcoholic Beverages & Tobacco	1.4	0.9	1.6	0.6	20.3	29.0	28.7
Restaurant & Hotels	1.2	0.3	0.0	0.5	4.4	5.7	5.9
II. Non-Food Group	62.5	0.0	1.0	0.2	3.3	3.8	3.9
Clothing & Footwear	7.6	0.2	0.6	0.2	6.1	4.9	4.9
Housing, Water, Elect, Gas & other Fuels	29.4	0.0	0.9	0.0	4.9	5.3	5.3
Furnishing & Household Equip. Maintenance etc	4.2	-0.1	0.3	0.3	4.4	4.3	4.7
Health	2.2	0.0	0.9	0.1	3.3	5.1	5.2
Transport	7.2	0.1	0.6	0.0	-9.3	-4.2	-4.2
Communication	3.2	0.0	0.0	0.0	0.4	0.4	0.4
Recreation & Culture	2.0	0.1	0.5	0.1	2.4	1.5	1.5
Education	3.9	0.0	5.0	1.2	10.8	5.9	7.2
Miscellaneous	2.8	-0.4	0.2	0.2	3.6	4.0	4.7
Headline	100.0	0.8	1.5	-0.2	3.2	4.2	3.2

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)	
		May-15	May-16	May-15	May-16	May-15	May-16	May-15	May-16	May-15	May-16
I. Food Group	2.1	126	126	31	41	34	47	29	20	32	18
Food & Non-Alcoholic Beverages	0.6	114	114	30	41	31	45	26	16	27	12
Alcoholic Beverages & Tobacco	28.7	6	6	1	0	0	0	0	0	5	6
Restaurant & Hotels	5.9	6	6	0	0	3	2	3	4	0	0
II. Non-Food Group	3.9	348	348	95	90	151	144	83	95	19	19
Clothing & Footwear	4.9	59	59	8	6	24	25	21	25	6	3
Housing, Water, Elect, Gas & other Fuels	5.3	36	36	11	5	13	13	12	15	0	3
Furnishing & Household Equip. Maintenance etc	4.7	69	69	4	1	38	44	24	22	3	2
Health	5.2	39	39	21	16	11	15	5	5	2	3
Transport	-4.2	43	43	27	28	10	10	5	5	1	0
Communication	0.4	12	12	5	5	5	5	1	1	1	1
Recreation & Culture	1.5	39	39	14	21	19	13	6	2	0	3
Education	7.2	16	16	1	5	9	3	2	6	4	2
Miscellaneous	4.7	35	35	4	3	22	16	7	14	2	2
Overall	3.2	474	474	126	131	185	191	112	115	51	37

Note: Prices of 13 seasonal items were not reported during the month.

Table A3: Top and Bottom 15 Contributors to CPI Inflation (YoY) in May 2016					
Top 15 Contributors		Weights	YoY Change		Weighted Contribution
Items/ Contributors			May-15	May-16	
Ranked by Weighted Contribution					
1	House Rent	21.81	6.26	5.73	32.95
2	Cigarette	1.39	20.50	28.86	17.11
3	Milk Fresh	6.68	5.16	3.96	10.52
4	Education	3.94	10.83	7.18	9.36
5	Meat	2.43	4.10	5.81	5.51
6	Electricity	4.40	1.79	2.84	4.57
7	Pulse Mash (Washed)	0.21	21.46	52.80	4.29
8	Pulse Gram	0.24	17.95	56.55	4.20
9	Tea	0.84	8.17	12.35	3.74
10	Gas	1.58	0.00	9.92	3.55
11	Tailoring	0.88	10.46	8.39	3.17
12	Cotton Cloth	1.73	7.69	5.16	3.00
13	Ready Made Food	1.23	4.37	5.92	2.86
14	Household Servant	1.04	6.96	7.39	2.79
15	Sugar	1.04	11.53	7.84	2.73
Total		49.45			110.34
Bottom 15 Contributors					
1	Fresh Vegetable	1.66	18.11	-14.02	-9.23
2	Onion	0.54	40.39	-30.02	-7.23
3	Motor Fuel	3.03	-19.52	-9.98	-7.18
4	Tomatoes	0.45	134.77	-55.52	-6.72
5	Rice	1.58	-8.61	-13.15	-5.83
6	Cooking Oil	1.75	-11.08	-8.13	-3.26
7	Transport Services	2.70	-6.01	-2.13	-1.79
8	Wheat Flour	4.16	-2.14	-1.27	-1.77
9	Vegetable Ghee	2.07	-11.15	-2.55	-1.18
10	Egg	0.46	0.14	-8.64	-1.03
11	Pulse Moong	0.23	6.50	-4.74	-0.55
12	Motor Vehicle Accessories	0.24	-0.48	-4.71	-0.41
13	Chicken	1.36	1.44	-0.91	-0.41
14	Wheat	0.35	-3.28	-2.59	-0.28
15	Kerosene Oil	0.01	-23.73	-7.79	-0.01
Total		20.60			-46.87

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

<u>Top 15 Contributors</u>		<u>MoM Change</u>			Weighted Contribution
Items/ Contributors	Weights	Apr-16	May-16		
Ranked by Weighted Contribution					
1	Fresh Fruits	1.86	13.42	3.53	37.59
2	Education	3.94	4.97	1.22	24.29
3	Milk Fresh	6.68	0.32	0.58	23.08
4	Pulse Gram	0.24	3.58	12.46	18.51
5	Potatoes	0.48	-0.60	9.28	12.55
6	Besan	0.15	2.95	11.82	10.73
7	Gram Whole	0.16	5.71	10.15	8.76
8	Pulse Mash (Washed)	0.21	3.65	3.67	6.33
9	Cigarette	1.39	1.59	0.57	6.23
10	Meat	2.43	0.06	0.28	3.98
11	Pulse Masoor	0.27	0.93	3.12	3.94
12	Ready Made Food	1.23	0.03	0.48	3.55
13	Beverages	1.20	0.88	0.60	3.54
14	Personal Care	1.49	0.13	0.49	3.53
15	Milk Product	0.63	-0.05	0.76	2.74
Total		22.37			169.34
<u>Bottom 15 Contributors</u>					
1	Tomatoes	0.45	60.41	-49.43	-75.73
2	Fresh Vegetable	1.66	14.32	-7.08	-62.05
3	Wheat Flour	4.16	-1.45	-2.45	-49.60
4	Onion	0.54	-5.72	-16.04	-46.29
5	Chicken	1.36	30.75	-6.34	-43.41
6	Egg	0.46	-6.58	-4.48	-7.33
7	Wheat	0.35	-4.31	-4.55	-7.19
8	Rice	1.58	-0.99	-0.94	-5.25
9	Fish	0.30	1.88	-0.82	-1.22
10	Motor Vehicle Accessories	0.24	-1.75	-0.66	-0.79
11	Pulse Moong	0.23	0.77	-0.39	-0.62
12	Tea	0.84	-1.58	-0.11	-0.55
13	Condiments	0.27	0.73	-0.14	-0.23
14	Personal Equipments	0.84	0.23	-0.03	-0.17
15	Motor Fuel	3.03	1.33	-0.01	-0.14
Total		16.31			-300.58

Table A3.2: Top Fifteen Contributors to CPI Inflation (YoY) in May 2016					
Items/ Contributors		Weights	YoY Change		Weighted Contribution
			May-15	May-16	
A. Ranked by Percentage Change					
1	Pulse Gram	0.24	17.95	56.55	4.20
2	Pulse Mash (Washed)	0.21	21.46	52.80	4.29
3	Besan	0.15	13.94	50.09	2.35
4	Gram Whole	0.16	5.25	37.09	1.79
5	Cigarette	1.39	20.50	28.86	17.11
6	Betel Leaves & Nuts	0.02	3.81	13.91	0.11
7	Tea	0.84	8.17	12.35	3.74
8	Gas	1.58	0.00	9.92	3.55
9	Pulse Masoor	0.27	7.35	8.86	0.74
10	Potatoes	0.48	-67.95	8.75	0.83
11	Tailoring	0.88	10.46	8.39	3.17
12	Sugar	1.04	11.53	7.84	2.73
13	Doctor (MBBS) Clinic Fee	0.59	4.11	7.64	1.72
14	Water Supply	0.50	0.00	7.46	0.88
15	Household Servant	1.04	6.96	7.39	2.79
Total		9.39			50.00
B. Ranked by Weights					
1	House Rent	21.81	6.26	5.73	32.95
2	Milk Fresh	6.68	5.16	3.96	10.52
3	Electricity	4.40	1.79	2.84	4.57
4	Wheat Flour	4.16	-2.14	-1.27	-1.77
5	Education	3.94	10.83	7.18	9.36
6	Communication & Apparatus	3.15	0.19	0.19	0.12
7	Motor Fuel	3.03	-19.52	-9.98	-7.18
8	Transport Services	2.70	-6.01	-2.13	-1.79
9	Meat	2.43	4.10	5.81	5.51
10	Vegetable Ghee	2.07	-11.15	-2.55	-1.18
11	Fresh Fruits	1.86	6.97	2.62	1.95
12	Cooking Oil	1.75	-11.08	-8.13	-3.26
13	Cotton Cloth	1.73	7.69	5.16	3.00
14	Fresh Vegetable	1.66	18.11	-14.02	-9.23
15	Rice	1.58	-8.61	-13.15	-5.83
Total		62.97			37.74
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 3.2 percent in May, 2016.					

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

Table 1: Top 10 Contributors to Weighted Contribution to CPI Food Inflation (2017) in May 2016					
Items/ Contributors		Weights	YoY Change		Weighted Contribution
			May-15	May-16	
A. Ranked by Weighted Contribution					
1	Cigarette	1.39	20.50	28.86	17.11
2	Milk Fresh	6.68	5.16	3.96	10.52
3	Meat	2.43	4.10	5.81	5.51
4	Pulse Mash (Washed)	0.21	21.46	52.80	4.29
5	Pulse Gram	0.24	17.95	56.55	4.20
6	Tea	0.84	8.17	12.35	3.74
7	Ready Made Food	1.23	4.37	5.92	2.86
8	Sugar	1.04	11.53	7.84	2.73
9	Besan	0.15	13.94	50.09	2.35
10	Fresh Fruits	1.86	6.97	2.62	1.95
Total		16.07			55.26
B. Ranked by Percentage Change					
1	Pulse Gram	0.24	17.95	56.55	4.20
2	Pulse Mash (Washed)	0.21	21.46	52.80	4.29
3	Besan	0.15	13.94	50.09	2.35
4	Gram Whole	0.16	5.25	37.09	1.79
5	Cigarette	1.39	20.50	28.86	17.11
6	Betel Leaves & Nuts	0.02	3.81	13.91	0.11
7	Tea	0.84	8.17	12.35	3.74
8	Pulse Masoor	0.27	7.35	8.86	0.74
9	Potatoes	0.48	-67.95	8.75	0.83
10	Sugar	1.04	11.53	7.84	2.73
Total		4.80			37.88
C. Ranked by Weights					
1	Milk Fresh	6.68	5.16	3.96	10.52
2	Wheat Flour	4.16	-2.14	-1.27	-1.77
3	Meat	2.43	4.10	5.81	5.51
4	Vegetable Ghee	2.07	-11.15	-2.55	-1.18
5	Fresh Fruits	1.86	6.97	2.62	1.95
6	Cooking Oil	1.75	-11.08	-8.13	-3.26
7	Fresh Vegetable	1.66	18.11	-14.02	-9.23
8	Rice	1.58	-8.61	-13.15	-5.83
9	Cigarette	1.39	20.50	28.86	17.11
10	Chicken	1.36	1.44	-0.91	-0.41
Total		24.96			13.42
Note: Weighted contribution is estimated by multiplying the weights by the price change of an item; this is then reported as a share in YoY change in CPI Food, which is 2.1 percent in May, 2016.					

Table A3.4: Top Ten Contributors to CPI Non-food Inflation (YoY) in May 2016					
Items/ Contributors		Weights	YoY Change		Weighted Contribution
			May-15	May-16	
A. Ranked by Weighted Contribution					
1	House Rent	21.81	6.26	5.73	32.95
2	Education	3.94	10.83	7.18	9.36
3	Electricity	4.40	1.79	2.84	4.57
4	Gas	1.58	0.00	9.92	3.55
5	Tailoring	0.88	10.46	8.39	3.17
6	Cotton Cloth	1.73	7.69	5.16	3.00
7	Household Servant	1.04	6.96	7.39	2.79
8	Ready Made Garment	0.97	7.27	6.65	2.26
9	Personal Care	1.49	3.62	4.17	2.03
10	Personal Equipments	0.84	3.30	5.45	1.96
Total		38.70			65.64
B. Ranked by Percentage Change					
1	Gas	1.58	0.00	9.92	3.55
2	Tailoring	0.88	10.46	8.39	3.17
3	Doctor (MBBS) Clinic Fee	0.59	4.11	7.64	1.72
4	Water Supply	0.50	0.00	7.46	0.88
5	Household Servant	1.04	6.96	7.39	2.79
6	Education	3.94	10.83	7.18	9.36
7	Construction Wage Rate	0.33	6.87	7.10	0.79
8	Ready Made Garment	0.97	7.27	6.65	2.26
9	Cleaning & Laundering	0.21	4.76	6.43	0.51
10	Household Textile	0.65	4.51	6.17	1.31
Total		10.70			26.35
C. Ranked by Weights					
1	House Rent	21.81	6.26	5.73	32.95
2	Electricity	4.40	1.79	2.84	4.57
3	Education	3.94	10.83	7.18	9.36
4	Communication & Apparatus	3.15	0.19	0.19	0.12
5	Motor Fuel	3.03	-19.52	-9.98	-7.18
6	Transport Services	2.70	-6.01	-2.13	-1.79
7	Cotton Cloth	1.73	7.69	5.16	3.00
8	Gas	1.58	0.00	9.92	3.55
9	Footwear	1.55	0.68	1.01	0.41
10	Personal Care	1.49	3.62	4.17	2.03
Total		45.39			47.01
Note: Weighted contribution is estimated by multiplying the weights by the price change of an item; this is then reported as a share in YoY change in CPI Non-food, which is 3.9 percent in May, 2016.					

Table A4: Distribution of Price Changes (YoY) - Selected CPI Items: May 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, Lady Finger, Onion, Tinda, Ginger, Karaila, Turai, Rice Basmati 385/386, Watermelon (Turbooz)	Butter Local Packed, Squash-Mitchelles, Mango Kalmi, Milk Fresh (Unboiled), Cold Drink (Standard Size), Pistachio Av.Qlty.	Tea Lipton Yellow Label 200 Gm, Tea Loose Kenya Av.Qlty 250 Gm, Potatoes, Lemon, Pulse Masoor (Washed), Sugar Refined	Pulse Gram, Pulse Mash (Washed), Besan Av. Qlty., Gram Whole Black Av Qlty., Garlic, Kinnu, Gram Whole Yellow Av.Qlty, Tapal Danedar Tea 200 Gm, Almonds Whole Av.Qlty., Corriander Seed Powd.National., Ice
Alcoholic Beverages & Tobacco				Cigarettes Morven Gold 20,S, Cigarettes Capstan 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, Ladies Spoung Chappal Bata, Ladies Sandal Bata, Gents Sandal Bata	Long Cloth 57" Gul Ahmed/Al Karam, Shirting Av.Qlty., Vest For Men Av.Qlty., Pant Cloth Wash & Wear Av.Qlty, Socks Nylon (Pakistani), Georgette Av.Qlty	Azarband Cotton Avg.Qlty, Tailoring Awami-Suit (Male), Brassier Sup.Qlty, Shoe Polish Charges Avg, Tailoring Suit (Female), Secondhand Sweater for Men	Tailoring Shirt, Tailoring Charges Pant (Men), 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, Carpenter Wage Rate, Elect.Charges Above 1000 Units, Electrician Wage Rate(P/Pnt), Firewood Whole	Gas Chrg Overall/ Combined, Electrician Wage Rate(P/Day), Plumber Wage Rate, Unskilled Labour Wage Rat, Water Charges Per House	Cement Blocks (6"X8"X12"), Gas Chrg All Over 500 Mmbtu, Gas Chrg Over 300 - 500 Mmbtu
Furnishing & Household Equip. Maintenance etc	Washing Powder 1000 Grm (Express)	Lota Plastic (Med Size) Avg. Qlty, Hotpot Set Plastic 3 Pcs, Pressure Cooker 4 Ltr., Dry Cell 1.5 Volt (Local), Cleanser Powder Vim 1000 Gms	Table Spoon S. Steel Sup.Qlty, Towel(3'X2') Av. Qlty, Finis 500 Ml, Non Stick Cooking Pan, Dari Cotton (6X2 1/2), Match Box (Small)	Elect. Iron Philips, Dining Table 6 Chairs
Health	Galxos-D (450 Gm), Brufen Tabs 200-Mg., Renitec Tab. 5 Mg., Amoxil Capsule 250 Mg., Sancos Syrup (50 Ml.)	Blood Test (Cp) Charges, Sugar Test (Random/Fasting), O.R.S. (Nimcol), Cotton Bandage 2" - 4", Thermometer China	X-Ray (Chest) Charges, Doctor (MBBS) Clinic Fee, Johar Joshanda, Urine Test (Dr) Charges, Glycerin Small Bottle	Disprin Tab., Panadol Tab. Extra/Plain, Ventolin Tab. 2Mg.
Transport	Gas Cylinder S.Size (L.P.G), Petrol Super, High Speed Diesel Hsd, Bus Fare Min (Within City)	Suzuki Fare Min.Within City, Motor Cycle Service Charges, Cycle Overhauling Charges, Car Service Charges, Bicycle With Tyres & Tube	Car Toyota 1300 CC, Taxi 4 Seater Fare, Full Tonga Charges, Tyre Puncture Charges, Suzuki Fare Maximum Within City	
Communication	Postal Envelope Domestic, Mobile Cell Charges, Telephone Charges Local Call	Telephone Set Av. Qlty, Fax Charges (Local), Internet Charges, Mobile Set Nokia/Sony/Ericsson Av.Qlty	T.C.S. Ch. Min.Within Zone	Postal Registration Charges
Recreation & Culture	Urdu Book Class V (T.B.Board), English Book Class IX or X, Urdu Book Class IX/X (T.B.Board), Video Cassette Blank. Tdk/Sony	Exercise Book Lined 80/10, Fountain Pen Hero/Wings/China, Photostat Paper 70 Gm, Maths Book Class IX or X, Pen Ink Dollar 57 Ml Bottle	Cinema Non-A/C High Class, Pencil Goldfish/Deer	Cinema A/C High Class, Maths Book Class V (T.B.Board), Ball Pen (Local)
Education	Pvt Eng.College Fee (1st Year), Govt. Med. College Fee MBBS 1st Year, Govt. College Fee 1st. Year	Pvt Med.College Fee MBBS (1st Year), Govt. Engg. Coll. Fee 1st Year, MBA Tuition Fee	Pvt School Fee Eng.Med (Class-VI), Pvt School Fee Eng.Med (Class-X)	Pvt School Fee Eng.Med (Class-I), Coaching Fee For Class IX/ X
Restaurant & Hotels		Chicken Biryani Full/Double, Bread Tandoori St. Size	Cooked Mutton (Av. Hotel), Cooked Dal (Av. Hotel), Cooked Beef (Av. Hotel)	
Miscellaneous	Toilet Soap Safeguard Bath Size, Shampoo SunSilk/Pantene 100 Ml	Wall Clock Quartz Av.Qlty, Hair Color Bigen, Gold Tezabi 24 Ct, Toothbrush Shield, Hair Oil Amla/Chambeli	Toothpaste Med Size Colgate 70Gms, Suitcase Rexin (24"X16"X6"), Beauty Parlour Hair Style Charges	Beauty Cream (Fair & Lovely), Purse Ladies (Leather) Av. Qlty

Table A5: City- wise CPI Inflation by Income Groups, May 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	0.5	3.5	0.5	2.8	0.5	4.3	0.8	4.0	0.7	2.8	0.9	5.2
2 Islamabad	-0.2	2.6	-0.5	2.9	0.2	2.2	-0.2	2.5	-0.5	3.1	0.2	1.8
3 Lahore	-0.7	1.0	-2.0	-1.1	1.4	4.0	-0.5	1.2	-1.8	-1.0	1.1	3.9
4 Gujranwala	-0.7	1.7	-1.2	0.1	0.0	3.8	-0.7	1.8	-1.2	0.3	-0.1	3.5
5 Sialkot	-1.5	1.1	-2.8	-0.4	0.2	3.2	-1.3	1.5	-2.4	0.1	0.0	3.1
6 Faisalabad	0.0	4.2	-0.2	3.2	0.4	5.4	0.3	4.4	0.2	4.0	0.3	5.0
7 Multan	-1.4	1.7	-2.5	1.3	0.0	2.3	-1.3	1.7	-2.5	1.4	0.0	2.1
8 Sargodha	-1.0	3.3	-1.8	2.6	-0.1	4.1	-0.8	3.9	-1.6	3.4	-0.1	4.4
9 Bahawalpur	-1.0	4.1	-2.0	4.4	0.2	3.8	-0.6	4.5	-1.4	5.4	0.1	3.6
10 Karachi	0.0	4.5	0.0	3.1	0.0	6.4	-0.1	4.4	-0.1	2.7	0.0	6.3
11 Hyderabad	-1.1	0.5	-2.1	-1.5	0.2	3.3	-0.9	1.0	-1.9	-1.3	0.4	3.8
12 Sukkur	-0.4	2.9	-0.8	2.9	0.0	2.8	-0.5	2.8	-1.0	2.7	-0.1	2.9
13 Larkana	0.4	2.3	0.4	-1.7	0.3	6.6	0.9	2.5	1.4	-1.4	0.4	6.4
14 Peshawar	-1.1	1.4	-1.9	1.1	-0.2	1.6	-0.9	1.9	-1.6	1.7	-0.2	2.1
15 Bannu	-0.8	4.9	-1.7	5.2	0.3	4.7	-0.5	5.0	-1.4	4.9	0.5	5.1
16 Quetta	-1.1	1.5	-2.0	-0.7	-0.1	4.2	-0.9	1.9	-1.7	-0.1	0.0	4.1
17 Khuzdar	-0.7	2.0	-1.4	0.4	0.2	3.9	-0.7	2.0	-1.9	0.8	0.6	3.3
	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	0.8	4.1	0.7	2.9	0.9	5.2	0.7	3.9	0.6	2.8	0.9	4.8
2 Islamabad	-0.3	2.2	-0.8	2.8	0.2	1.6	-0.3	2.2	-0.8	2.9	0.2	1.6
3 Lahore	-0.4	1.1	-1.7	-0.8	1.1	3.2	-0.2	1.1	-1.5	-0.5	1.0	2.7
4 Gujranwala	-0.6	1.8	-1.1	0.6	-0.2	3.0	-0.6	1.8	-1.1	0.9	-0.2	2.6
5 Sialkot	-1.4	1.5	-2.6	0.5	-0.2	2.5	-1.3	1.9	-2.5	1.4	-0.2	2.3
6 Faisalabad	0.5	4.8	0.7	4.5	0.4	5.1	0.7	4.9	1.1	5.3	0.3	4.6
7 Multan	-1.3	1.6	-2.5	1.7	-0.2	1.4	-1.3	1.5	-2.7	1.9	-0.1	1.2
8 Sargodha	-0.7	4.0	-1.4	4.1	-0.1	3.9	-0.5	4.3	-1.1	4.8	-0.1	4.0
9 Bahawalpur	-0.4	4.7	-0.9	5.7	0.1	3.9	-0.1	4.3	-0.5	6.4	0.1	2.8
10 Karachi	-0.1	4.4	-0.1	2.7	0.0	6.2	-0.1	4.4	-0.1	2.9	0.0	5.7
11 Hyderabad	-0.9	0.8	-2.0	-1.4	0.3	3.2	-0.7	0.6	-1.8	-1.2	0.3	2.4
12 Sukkur	-0.4	2.7	-0.8	2.9	-0.1	2.5	-0.2	2.4	-0.4	3.0	0.0	2.0
13 Larkana	0.9	2.8	1.5	-1.0	0.4	6.2	1.2	3.0	2.2	-0.6	0.5	5.9
14 Peshawar	-0.8	1.9	-1.6	1.9	-0.1	1.9	-0.7	1.9	-1.6	2.0	-0.1	1.8
15 Bannu	-0.6	5.0	-1.6	5.1	0.4	4.9	-0.5	5.7	-1.7	5.8	0.5	5.6
16 Quetta	-0.8	1.8	-1.6	0.0	0.0	3.7	-0.8	2.0	-1.7	0.3	0.0	3.5
17 Khuzdar	-0.3	2.6	-1.3	2.3	0.8	2.9	-0.1	3.4	-1.3	3.3	1.0	3.5
	Above Rs 35000						Combined					
	General		Food		Non-Food		General		Food		Non-Food	
	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY
1 Rawalpindi	1.0	4.4	0.7	3.0	1.1	5.1	0.9	4.3	0.6	2.8	1.1	5.2
2 Islamabad	0.0	2.4	-0.3	2.7	0.2	2.2	0.0	2.4	-0.4	2.6	0.3	2.2
3 Lahore	0.1	1.6	-1.2	-0.4	0.8	2.7	-0.1	1.4	-1.4	-0.6	0.9	3.0
4 Gujranwala	-0.5	2.1	-1.1	0.7	-0.2	2.8	-0.6	1.9	-1.1	0.7	-0.2	2.8
5 Sialkot	-1.1	2.3	-2.5	2.0	-0.4	2.5	-1.2	2.0	-2.5	1.2	-0.3	2.5
6 Faisalabad	0.7	4.9	1.6	5.5	0.2	4.5	0.5	4.8	0.8	4.7	0.3	4.8
7 Multan	-0.9	1.6	-2.3	2.1	-0.2	1.3	-1.1	1.7	-2.5	1.9	-0.2	1.5
8 Sargodha	-0.1	4.4	-0.5	5.2	0.1	4.0	-0.6	4.1	-1.2	4.3	-0.1	4.0
9 Bahawalpur	0.0	4.3	-0.2	6.1	0.1	3.4	-0.3	4.4	-0.9	5.8	0.1	3.5
10 Karachi	0.0	4.7	0.1	2.8	-0.1	5.7	0.0	4.6	0.0	2.7	-0.1	5.9
11 Hyderabad	-0.4	0.9	-1.7	-1.5	0.3	2.2	-0.7	0.9	-1.8	-1.3	0.2	2.7
12 Sukkur	-0.1	2.8	-0.2	3.1	0.0	2.7	-0.3	2.7	-0.6	3.0	-0.1	2.5
13 Larkana	1.1	3.2	2.5	-0.7	0.5	5.1	0.9	2.8	1.6	-0.9	0.5	5.2
14 Peshawar	-0.4	1.8	-1.4	1.6	0.1	1.9	-0.7	1.8	-1.6	1.8	-0.1	1.9
15 Bannu	-0.3	4.6	-1.6	5.6	0.3	4.1	-0.5	5.1	-1.6	5.5	0.2	4.9
16 Quetta	-0.7	2.4	-1.6	0.4	-0.2	3.3	-0.8	2.1	-1.7	0.1	-0.2	3.4
17 Khuzdar	0.0	3.8	-1.6	3.8	0.9	3.8	-0.4	2.5	-1.5	2.4	0.3	2.6

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

City	High inflation cities			City	Low inflation cities		
	General	Food	Non-food		General	Food	Non-food
Abbotabad	7.2	1.8	10.9	D.G. Khan	3.1	0.9	4.6
Mianwali	5.4	9.6	2.8	Mardan	3.1	0.8	4.4
Loralai & Cantt	5.2	5.7	4.8	Jhelum	3.1	2.0	3.8
Bannu	5.1	5.5	4.9	Mir Pur Khas	2.9	2.8	3.1
Jhang	4.9	7.0	3.6	Larkana	2.8	-0.9	5.2
Vehari	4.8	5.4	4.4	Sukkur	2.7	3.0	2.5
Faisalabad	4.8	4.7	4.8	Mingora	2.7	2.0	3.1
Dera Mrd.Jamali	4.6	5.0	4.4	Muzaffargarh	2.6	1.9	3.0
Nawabshah	4.6	5.7	4.0	Khuzdar	2.5	2.4	2.6
Karachi	4.6	2.7	5.9	Islamabad	2.4	2.6	2.2
Bahawalpur	4.4	5.8	3.5	Quetta	2.1	0.1	3.4
Rawalpindi	4.3	2.8	5.2	Sialkot	2.0	1.2	2.5
Turbat	4.2	-3.3	9.2	Gujranwala	1.9	0.7	2.8
Sargodha	4.1	4.3	4.0	Peshawar	1.8	1.8	1.9
Mithi	4.1	4.2	4.1	Sahiwal	1.8	-0.5	3.2
Rahim Yar Khan	3.2	0.3	5.2	Bahawalnagar	1.7	2.4	1.2
				Attock	1.7	0.5	2.5
				Multan	1.7	1.9	1.5
				Lahore	1.4	-0.6	3.0
				Hyderabad	0.9	-1.3	2.7
				Wazirabad	0.6	-0.2	1.2
				Gawadar	0.3	-2.0	2.0
				D. I. Khan	0.1	-2.8	2.2
				Dadu	0.0	-1.0	0.8

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		
	May-15	Apr-16	May-16	May-15	Apr-16	May-16
<u>Up to Rs. 8000</u>						
General	0.9	1.4	-0.5	2.8	4.0	2.6
Food	1.6	1.9	-1.0	1.8	4.2	1.5
Non-food	0.0	0.9	0.2	4.0	3.8	4.0
<u>Rs. 8001- 12000</u>						
General	0.8	1.4	-0.4	2.9	4.3	3.0
Food	1.6	2.1	-1.0	2.2	4.4	1.7
Non-food	0.0	0.7	0.1	3.6	4.3	4.5
<u>Rs. 12001- 18000</u>						
General	0.8	1.6	-0.4	3.0	3.8	2.6
Food	1.7	2.3	-0.9	2.6	4.6	2.0
Non-food	0.0	0.9	0.2	3.5	3.0	3.1
<u>Rs. 18001- 35000</u>						
General	0.8	1.6	-0.3	3.0	4.5	3.3
Food	1.8	2.4	-0.8	3.1	4.9	2.2
Non-food	0.0	1.0	0.2	3.0	4.1	4.2
<u>Above Rs. 35000</u>						
General	0.7	1.5	-0.1	3.3	4.2	3.4
Food	1.9	2.5	-0.5	3.6	4.9	2.3
Non-food	0.0	1.0	0.2	3.2	3.8	4.0
<u>All income groups</u>						
General	0.8	1.5	-0.2	3.2	4.2	3.2
Food	1.8	2.4	-0.7	3.0	4.7	2.1
Non-food	0.0	1.0	0.2	3.3	3.8	3.9

Table A8: SPI Item-wise Price Movements

Sr.No.	Items	Unit	Prices May-16	Percentage change	
				YoY	MoM
1	Wheat	10Kg.	323.4	-2.0	-4.2
2	Wheat Flour Bag	10Kg.	371.2	-2.1	-3.1
3	Rice Basmati Broken	Kg.	59.6	-14.2	-0.3
4	Rice Irri-6	Kg.	46.3	-8.1	0.1
5	Bread Plain Med. Size (340-400 Gm.)	Each	40.8	0.0	0.0
6	Beef	Kg.	319.0	4.8	0.3
7	Mutton	Kg.	639.4	6.7	0.4
8	Chicken Live (Farm)	Kg.	173.5	-0.9	-6.3
9	Milk Fresh	Litr	79.4	2.8	1.1
10	Curd	Kg.	93.1	3.2	0.6
11	Milk Powdered Nido	500G	380.8	7.0	0.3
12	Egg Hen (Farm)	Doz.	71.9	-9.0	-1.9
13	Mustard Oil	Kg.	179.2	0.6	0.1
14	Cooking Oil (Tin)	2.5Ltr	454.4	-3.6	0.0
15	Veg. Ghee (Tin)	2.5Kg.	445.1	-4.0	0.0
16	Veg. Ghee Loose	Kg.	139.3	-1.8	0.2
17	Bananas	Doz.	84.0	2.1	7.3
18	Masoor Pulse Washed	Kg.	151.2	7.8	2.4
19	Moong Pulse Washed	Kg.	159.1	-6.1	0.6
20	Mash Pulse Washed	Kg.	274.7	53.1	2.2
21	Gram Pulse Washed	Kg.	141.8	57.3	8.2
22	Potatoes	Kg.	20.8	8.9	10.9
23	Onions	Kg.	32.3	-31.6	-14.1
24	Tomatoes	Kg.	22.3	-62.1	-42.5
25	Sugar	Kg.	63.8	7.1	0.0
26	Gur	Kg.	87.8	-0.2	2.5
27	Salt Powdered Loose (Lahori)	Kg.	10.5	4.5	0.0
28	Red Chilies Powder Loose	Kg.	276.7	4.4	0.3
29	Garlic	Kg.	197.5	33.2	-16.6
30	Tea (Yellow Label)	200Gm.	157.9	6.3	0.0
31	Cooked Beef Plate	Each	90.5	8.1	1.0
32	Cooked Dal Plate	Each	55.2	12.3	2.1
33	Tea Prepared (Sada)	Cup	19.6	3.6	0.0
34	Cigarettes K-2 (20'S)	20'S	60.1	31.5	0.1
35	Long Cloth (Coarse Latha)	Mtr.	205.3	1.7	0.4
36	Shirting	Mtr.	164.3	3.0	0.5
37	Lawn	Mtr.	250.9	3.9	1.0
38	Georgette (Voil Printed)	Mtr.	123.8	0.6	-0.1
39	Sandal Gents Bata	Pair	699.0	0.0	0.0
40	Chappal Spong. Bata (Gents)	Pair	179.1	0.1	0.0
41	Sandal Ladies Bata	Pair	502.4	0.7	0.0
42	Electric Charges 1-50	Unit	2.0	0.0	0.0
43	Gas Charges upto 3.3719	Mmbtu	128.3	3.3	0.0
44	Kerosene	Litr	74.9	-14.2	0.0
45	Firewood	40Kg	596.7	3.3	-0.9
46	Energy Savor 14 Watts	Each	167.8	1.2	0.2
47	Washing Soap (200-250 Gm.)	Cake	25.0	2.8	0.0
48	Match Box	Each	2.1	9.4	1.0
49	Petrol	Litr	65.1	-13.3	0.0
50	Diesel	Litr	73.4	-13.1	0.0
51	L.P.G.(11 Kg Cylinder.)	Each	921.8	-12.9	2.0
52	Tele. Local Call	Call	3.9	0.0	0.0
53	Bath Soap Lifebuoy (Standard)	Cake	35.8	-1.5	0.3
Maximum				57.3	10.9
Median				1.2	0.0
Minimum				-62.1	-42.5

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

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

Items and specification	Weights	Index		
		May-15	Apr-16	May-16
General	100.00	199.66	206.43	205.99
Food & Non-Alcoholic Beverages.	34.83	218.32	221.59	219.65
1 Wheat	0.35	195.82	199.84	190.74
2 Wheat Flour	4.16	211.25	213.80	208.56
3 Wheat Product	0.10	212.65	214.44	213.99
4 Besan	0.15	198.34	266.21	297.68
5 Rice	1.58	177.40	155.53	154.07
6 Cereals	0.16	240.96	248.02	248.06
7 Bakery & Confectionary	1.16	208.20	212.32	212.69
8 Nimco	0.46	239.02	245.22	245.24
9 Meat	2.43	246.71	260.33	261.05
10 Chicken	1.36	209.37	221.51	207.46
11 Fish	0.30	214.25	220.79	218.98
12 Milk Fresh	6.68	251.91	260.36	261.88
13 Milk Product	0.63	244.99	251.36	253.26
14 Milk Powder	0.11	226.10	235.13	235.69
15 Egg	0.46	165.19	157.99	150.91
16 Mustard Oil	0.10	152.12	153.28	153.93
17 Cooking Oil	1.75	144.64	132.28	132.88
18 Vegetable Ghee	2.07	141.19	137.14	137.59
19 Dry Fruits	0.25	252.03	263.06	263.17
20 Fresh Fruits	1.86	253.52	251.28	260.15
21 Pulse Masoor	0.27	194.06	204.86	211.25
22 Pulse Moong	0.23	314.45	300.71	299.54
23 Pulse Mash (Washed)	0.21	245.40	361.70	374.98
24 Pulse Gram	0.24	198.97	276.99	311.49
25 Gram Whole	0.16	188.78	234.94	258.79
26 Beans	0.03	233.82	233.02	234.91
27 Potatoes	0.48	125.27	124.66	136.23
28 Onion	0.54	281.38	234.53	196.92
29 Tomatoes	0.45	170.51	150.00	75.85
30 Fresh Vegetable	1.66	251.32	232.56	216.09
31 Sugar	1.04	210.60	226.87	227.12
32 Gur	0.02	264.36	264.70	271.20
33 Honey	0.04	303.39	307.78	307.78
34 Sweet Meet	0.25	234.89	239.96	241.33
35 Beverages	1.20	209.53	217.77	219.07
36 Jam, Tomato Ketchup & Pickle	0.25	207.96	213.44	214.28
37 Condiments	0.27	258.07	263.03	262.65
38 Spices	0.54	235.30	239.67	240.26
39 Tea	0.84	228.63	257.15	256.86
Alcoholic Beverages, Tobacco	1.41	268.97	344.10	346.08
40 Cigarette	1.39	269.95	345.88	347.85
41 Betel Leaves & Nuts	0.02	209.62	236.22	238.78
Clothing & Footwear	7.57	217.58	227.87	228.31
42 Cotton Cloth	1.73	212.76	223.11	223.74
43 Woolen Cloth	0.88	234.13	243.14	243.69
44 Ready Made Garment	0.97	220.64	234.60	235.32
45 Woolen Readymade Garments	0.40	240.86	252.74	253.20
46 Hosiery	0.51	229.66	240.25	240.43
47 Dopatta	0.44	232.33	239.49	239.65
48 Cleaning & Laundering	0.21	237.72	252.29	253.01

Table A10: Consumer Price Index Numbers by Major Groups and Composite Commodities				
Items and specification	Weights	Index		
		May-15	Apr-16	May-16
49 Tailoring	0.88	270.70	292.96	293.42
50 Footwear	1.55	164.56	166.17	166.23
Housing,Water,Elect,Gas & Other Fuel	29.41	177.75	187.08	187.12
51 House Rent	21.81	166.88	176.44	176.44
52 Construction Input Item	0.56	238.93	242.89	243.86
53 Construction Wage Rate	0.33	211.69	226.24	226.72
54 Water Supply	0.50	149.92	161.10	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	211.77	194.05	195.28
58 Fire Wood Whole	0.23	274.59	283.25	284.79
Furnished H.Hold Equip.& Maint. Etc	4.21	210.84	220.09	220.71
59 Furniture	0.33	203.03	210.33	211.36
60 Household Textile	0.65	207.80	219.15	220.62
61 Household Equipment	0.59	174.36	177.64	178.29
62 Utensils	0.32	213.57	222.55	223.50
63 Plastic Products	0.25	201.69	206.90	206.97
64 Washing Soap & Detergent	0.79	221.82	226.13	226.67
65 Sewing Needle & Dry Cell	0.15	198.97	208.24	208.58
66 Household Servant	1.04	229.23	246.17	246.18
67 Marriage Hall Charges	0.08	231.83	238.96	240.06
Health	2.19	178.22	187.29	187.43
68 Drug Medicine	1.27	148.34	152.83	153.11
69 Medical Equipment	0.01	225.36	232.59	233.19
70 Doctor (MBBS) Clinic Fee	0.59	241.97	260.45	260.45
71 Medical Test	0.32	177.69	187.54	187.44
Transport	7.20	176.82	169.33	169.31
72 Motor Vehicle	0.66	163.41	165.22	165.23
73 Motor Vehicle Accessories	0.24	225.89	216.66	215.24
74 Motor Fuel	3.03	150.45	135.46	135.44
75 Mechanical Service	0.46	215.35	223.78	224.39
76 Motor Vehicle Tax	0.11	210.18	210.18	210.18
77 Transport Services	2.70	197.35	193.15	193.15
Communication	3.22	130.29	130.77	130.77
78 Postal Services	0.07	227.44	238.97	239.10
79 Communication & Apparatus	3.15	128.25	128.50	128.49
Recreation & Culture	2.02	192.98	195.68	195.79
80 Recreation & Culture	0.86	128.25	129.09	129.15
81 Text Books	0.57	290.62	292.33	292.41
82 News Papers	0.19	175.42	175.49	175.49
83 Stationery	0.40	201.99	211.49	211.82
Education	3.94	209.17	221.48	224.19
84 Education	3.94	209.17	221.48	224.19
Restaurants And Hotels	1.23	248.45	261.89	263.16
85 Ready Made Food	1.23	248.45	261.89	263.16
Miscellaneous Goods And Services	2.76	223.08	232.97	233.52
86 Personal Care	1.49	206.16	213.72	214.76
87 Cosmetics	0.39	190.66	199.01	199.04
88 Blades	0.03	185.88	195.05	195.16
89 Personal Equipments	0.84	269.23	284.00	283.91

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

Items and Specifications	Index		
	May-15	Apr-16	May-16
General	207.92	206.87	208.01
Agriculture Forestry & Fishery	224.47	229.78	233.26
1 Wheat	199.19	207.11	199.04
2 Maize	198.78	205.56	209.33
3 Rice	163.53	142.90	143.34
4 Sorghum/Jowar	321.25	286.45	286.07
5 Millet/Bajra	189.44	187.00	193.10
6 Vegetables	289.71	277.16	201.87
7 Fresh Fruits	262.42	267.02	282.91
8 Dry Fruits	238.89	248.97	251.32
9 Cotton Seeds	231.37	254.81	251.49
10 Other Oil Seeds	161.07	159.83	165.14
11 Edible Roots/ Potatoes	106.40	104.08	111.80
12 Stimulant And Spice Crops	299.29	234.41	226.16
13 Pulses	229.44	259.57	280.91
14 Sugar Crops	286.29	286.29	286.34
15 Fibre Crops	178.69	174.57	183.00
16 Unmanufactured Tobacco	219.79	230.61	233.06
17 Poultry	214.91	231.81	220.59
18 Milk From Bovine Animals	252.55	256.11	258.97
19 Eggs	163.42	150.83	150.30
20 Raw Animal Material/Wool	174.38	175.99	175.56
21 Hides And Fur Skins, Raw	158.90	151.73	151.80
22 Fuel Wood In Logs	259.09	264.77	264.77
23 Fishes Live Fresh Or Chilled	282.30	369.26	423.43
Ores/Minerals, Gas & Elect.	245.36	244.59	244.11
24 Coal Not Agglomerated	223.53	168.63	160.78
25 Natural Gas Liquefied	200.10	208.04	208.07
26 Salt & Pure Sodium Chloride	248.84	252.31	252.31
27 Electrical Energy	295.61	293.09	293.09
Food, Beverages, Tobacco, Textiles	206.76	214.90	215.79
28 Meat Of Animals	262.20	269.28	271.73
29 Vegetables & Fruit Juices	199.38	202.69	203.24
30 Dried Fruits & Nuts	229.34	245.68	242.58
31 Fruit Juices	174.61	176.37	179.74
32 Vegetable Oil Refined	153.75	150.87	151.60
33 Vegetable Ghee	122.65	121.50	122.60
34 Oil Cakes	206.29	222.77	226.23
35 Processed Liquid Milk	251.52	248.90	248.90
36 Milk And Cream In Solid Form	220.36	219.24	218.99
37 Ice Cream	219.91	229.62	231.30
38 Dairy Products N.E.C	243.80	247.85	248.01
39 Wheat Flour	192.24	195.65	192.67
40 Other Cereal Flour	173.87	239.21	275.08
41 Sugar Refined	226.96	240.36	241.96
42 Chocolate	99.19	101.06	101.06
43 Sugar Confectionary	102.28	118.83	118.83
44 Coffee And Tea	204.59	234.40	232.09
45 Spices	189.82	189.67	189.79
46 Other Food Products	292.02	292.52	292.52
47 Mineral Water	187.86	194.37	194.37
48 Beverages	171.95	172.44	172.44
49 Tobacco Products	290.52	390.01	390.01
50 Cotton Yarn	170.81	173.67	175.29
51 Nylon Yarn	150.22	147.08	147.08
52 Blended Yarn	184.93	176.66	176.75
53 Woven Fabrics	258.39	275.66	279.42
54 Cotton Fabrics	201.34	206.45	208.84
55 Other Fabrics	213.71	220.25	222.36

Inflation Monitor, May 2016

Table A11: Wholesale Price Index Numbers by Major Groups and Composite Commodities				
Items and Specifications		Index		
		May-15	Apr-16	May-16
56	Silk And Rayon Fabrics	181.33	188.44	190.96
57	Towels	265.62	267.20	267.20
58	Blankets	235.86	243.93	243.93
59	Bed Sheets	256.29	256.29	256.29
60	Quilts	196.84	198.00	198.00
61	Woolen Carpets	132.14	181.55	181.55
62	Synthetic Carpets	126.27	129.25	129.25
63	Hosiery Products	218.08	222.52	222.52
64	Ready Made Garments	188.82	193.27	194.45
65	Leather With Out Hairs	221.97	221.97	221.97
66	Other Leather N.E.C	212.39	207.31	207.31
67	Footwear's	134.22	140.89	141.36
Other Transportable Goods		184.03	162.91	162.49
68	Timber	202.05	220.36	220.36
69	Printing Paper	164.56	161.82	161.82
70	Hard Board	197.92	197.92	197.92
71	Coke	163.45	163.45	163.45
72	Motor Sprit	125.47	108.54	108.54
73	Diesel Oil	178.33	136.30	136.30
74	Kerosene Oil	178.93	115.11	115.11
75	Furnace Oil	114.06	58.58	62.54
76	Mobil Oil	200.65	196.00	196.00
77	Chemicals	194.51	182.61	178.78
78	Dying Materials	146.55	146.55	146.55
79	Fertilizers	272.00	262.47	256.25
80	Pesticides	293.74	312.37	312.37
81	Insecticides	141.69	135.79	134.92
82	Paints & Varnishes	291.69	295.36	295.36
83	Medicines	145.19	160.98	161.67
84	Soaps & Detergent	180.40	182.24	183.12
85	Auto Tyres	191.36	184.65	181.25
86	Plastic Products	225.35	226.58	227.58
87	Glass Sheets	230.11	231.30	231.30
88	Other Glass Articles	243.63	243.63	254.36
89	Ceramics And Sanitary	219.45	227.51	230.06
90	Bricks Blocks And Tiles	210.12	217.83	220.40
91	Cement	207.25	205.87	205.35
92	Bed Foams	156.67	167.67	167.67
93	Matches	162.62	162.62	162.62
Metal Product Machinery & Equip		172.74	171.22	172.56
94	Pig Iron	128.97	128.97	128.97
95	Steel Bars & Sheets	139.25	127.90	127.17
96	Pipe Fittings	191.94	193.06	193.63
97	Steel Products	173.88	176.99	176.99
98	Engines And Motors	109.07	109.24	109.24
99	Vacuum Pumps	115.39	114.95	114.95
100	Air Conditioners	199.53	201.18	201.18
101	Cultivators	219.76	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	198.30	200.02	201.77
107	Electrical Wires	187.86	195.19	195.19
108	Lighting Equipments	168.19	167.30	169.52
109	Radio And Television	126.49	126.49	129.97
110	Motor Vehicles	183.03	185.25	185.25
111	Motor Cycles	125.89	125.89	125.89
112	Bicycles	185.63	185.63	187.65

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	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
	Mar	203.28	222.25	191.91	204.22	231.43	186.95	215.13
	Apr	206.43	227.53	193.78	206.87	237.05	187.72	215.88
	May	205.99	225.84	194.09	208.01	238.62	188.59	214.35

*: all groups combined

Table A13: International Commodity Prices/ Indices				
	Feb-16	Mar-16	Apr-16	May-16
Energy				
Crude Oil (US\$ per barrel) *	31.1	37.3	40.7	46.0
IMF Energy Index (2005 = 100)	62.1	71.5	76.7	85.0
WB Energy Index (2010 = 100) @	41.2	47.3	51.1	56.7
Food				
Rice (\$/MT)	373.2	370.5	376.0	408.9
Wheat (\$/MT)	159.3	164.0	163.4	157.5
Sugar (US cent/ pound)	13.3	15.4	15.2	16.7
Palm Oil (\$/MT)	595.9	633.1	680.4	644.6
Soybean Oil (\$/MT)	686.9	713.9	748.5	707.0
Non-Food Non-Energy				
Cotton Outlook 'A' Index #	66.6	65.5	69.3	70.3
IMF Metal Price Index (2005 = 100)	108.9	116.0	117.8	113.9
Copper (\$/MT)	4,598.6	4,953.8	4,872.7	4,694.5
Aluminum (\$/MT)	1,531.3	1,531.0	1,571.2	1,550.6
Iron Ore (\$ cents/dry MT)	46.2	55.5	59.6	54.9
Tin (\$/MT)	15,610.1	16,897.6	17,032.7	16,707.0
Nickle (\$/MT)	8,298.5	8,717.3	8,878.9	8,660.4
Zinc (\$/MT)	1,709.8	1,801.7	1,855.4	1,869.0
Lead (\$/MT)	1,765.8	1,802.2	1,732.3	1,707.8
Uranium (\$/MT)	33.6	29.6	27.6	27.8
DAP (\$/MT)	355.0	360.0	358.0	349.0
Urea (\$/MT)	209.0	203.0	204.0	200.0
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	203.28
Apr	168.00	177.74	194.06	198.16	206.43
May	169.93	178.65	193.55	199.66	205.99
Jun	169.99	179.94	194.74	200.89	
Seasonally Adjusted Series					
Jul	154.14	168.84	182.69	197.02	200.82
Aug	155.67	169.71	184.17	197.09	200.65
Sep	157.32	171.18	183.83	197.94	200.58
Oct	159.24	171.45	187.04	197.93	201.14
Nov	160.26	171.32	189.93	197.49	202.91
Dec	160.96	173.73	189.65	197.75	203.98
Jan	162.99	176.16	190.12	197.48	204.06
Feb	164.77	176.99	191.07	197.28	205.22
Mar	166.43	177.47	192.69	197.55	205.40
Apr	168.10	177.80	194.12	198.22	206.49
May	170.54	179.32	194.26	200.36	206.68
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	222.25
Apr	187.43	197.74	217.33	217.26	227.53
May	187.75	200.00	214.75	221.22	225.84
Jun	187.35	202.11	216.98	223.84	
Seasonally Adjusted Series					
Jul	173.74	189.32	206.44	220.75	221.98
Aug	174.59	189.38	208.78	220.39	221.19
Sep	177.32	190.77	205.85	220.64	220.44
Oct	179.87	190.42	209.18	220.20	221.39
Nov	180.59	190.08	214.76	219.31	224.15
Dec	180.61	194.47	212.45	219.56	225.24
Jan	183.03	197.87	212.27	218.65	224.25
Feb	184.69	198.46	213.58	218.17	226.27
Mar	186.24	198.19	216.64	217.94	226.18
Apr	188.14	198.39	218.05	218.01	228.31
May	189.18	201.60	216.45	222.89	227.51
Jun	189.16	204.04	218.97	225.77	

Table 16: CPI Monthly & Average Seasonal Factors						
Period	FY12	FY13	FY14	FY15	FY16	Average
Jul	100.37	100.43	100.49	100.52	100.54	100.47
Aug	100.78	100.81	100.84	100.82	100.79	100.81
Sep	100.75	100.74	100.74	100.74	100.73	100.74
Oct	100.98	100.96	100.95	100.95	100.94	100.96
Nov	100.62	100.64	100.67	100.66	100.64	100.65
Dec	99.48	99.47	99.49	99.51	99.55	99.50
Jan	99.75	99.74	99.73	99.73	99.72	99.73
Feb	98.97	98.94	98.92	98.91	98.91	98.93
Mar	99.13	99.07	99.03	99.00	98.97	99.04
Apr	99.94	99.97	99.97	99.97	99.97	99.96
May	99.64	99.63	99.63	99.65	99.67	99.64
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	100.61	100.74	100.85	100.93	100.98	100.82
Aug	101.56	101.63	101.67	101.66	101.66	101.64
Sep	101.60	101.59	101.57	101.58	101.56	101.58
Oct	101.78	101.70	101.64	101.61	101.57	101.66
Nov	101.48	101.55	101.58	101.57	101.52	101.54
Dec	99.23	99.23	99.27	99.33	99.41	99.29
Jan	99.38	99.35	99.31	99.29	99.26	99.32
Feb	97.83	97.78	97.73	97.70	97.70	97.75
Mar	98.51	98.42	98.37	98.31	98.26	98.37
Apr	99.62	99.67	99.67	99.66	99.66	99.66
May	99.24	99.21	99.21	99.25	99.27	99.24
Jun	99.04	99.06	99.09	99.15		99.08

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	0.15
Apr	1.83	1.09	1.70	1.32	1.55
May	1.15	0.51	-0.26	0.76	-0.21
Jun	0.04	0.72	0.61	0.62	
Seasonally Adjusted Series					
Jul	0.44	-1.13	1.06	0.70	-0.48
Aug	0.99	0.52	0.81	0.04	-0.08
Sep	1.06	0.86	-0.19	0.43	-0.04
Oct	1.22	0.16	1.75	-0.01	0.28
Nov	0.64	-0.08	1.55	-0.22	0.88
Dec	0.44	1.41	-0.14	0.13	0.53
Jan	1.26	1.39	0.24	-0.14	0.04
Feb	1.09	0.47	0.50	-0.10	0.57
Mar	1.01	0.27	0.85	0.13	0.09
Apr	1.00	0.18	0.74	0.34	0.53
May	1.46	0.86	0.07	1.08	0.09
Jun	0.13	0.82	0.71	0.72	

Table 19: CPI Food Month-on-Month % Change Original & Seasonally Adjusted					
Original Series					
Period	FY12	FY13	FY14	FY15	FY16
Jul	2.90	1.80	3.01	2.68	0.13
Aug	1.44	0.92	1.96	0.56	0.32
Sep	1.60	0.69	-1.50	0.03	-0.44
Oct	1.62	-0.07	1.68	-0.17	0.44
Nov	0.10	-0.33	2.61	-0.45	1.20
Dec	-2.21	-0.03	-3.33	-2.09	-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	0.54
Apr	2.16	1.37	1.98	1.41	2.38
May	0.17	1.15	-1.19	1.82	-0.74
Jun	-0.21	1.05	1.04	1.18	
Seasonally Adjusted Series					
Jul	1.28	0.08	1.18	0.81	-1.68
Aug	0.49	0.03	1.13	-0.17	-0.35
Sep	1.56	0.74	-1.40	0.12	-0.34
Oct	1.44	-0.19	1.62	-0.20	0.43
Nov	0.40	-0.18	2.67	-0.41	1.25
Dec	0.01	2.31	-1.08	0.11	0.49
Jan	1.34	1.75	-0.08	-0.41	-0.44
Feb	0.91	0.30	0.61	-0.22	0.90
Mar	0.84	-0.14	1.43	-0.11	-0.04
Apr	1.02	0.10	0.65	0.03	0.95
May	0.55	1.62	-0.73	2.24	-0.35
Jun	-0.01	1.21	1.16	1.29	

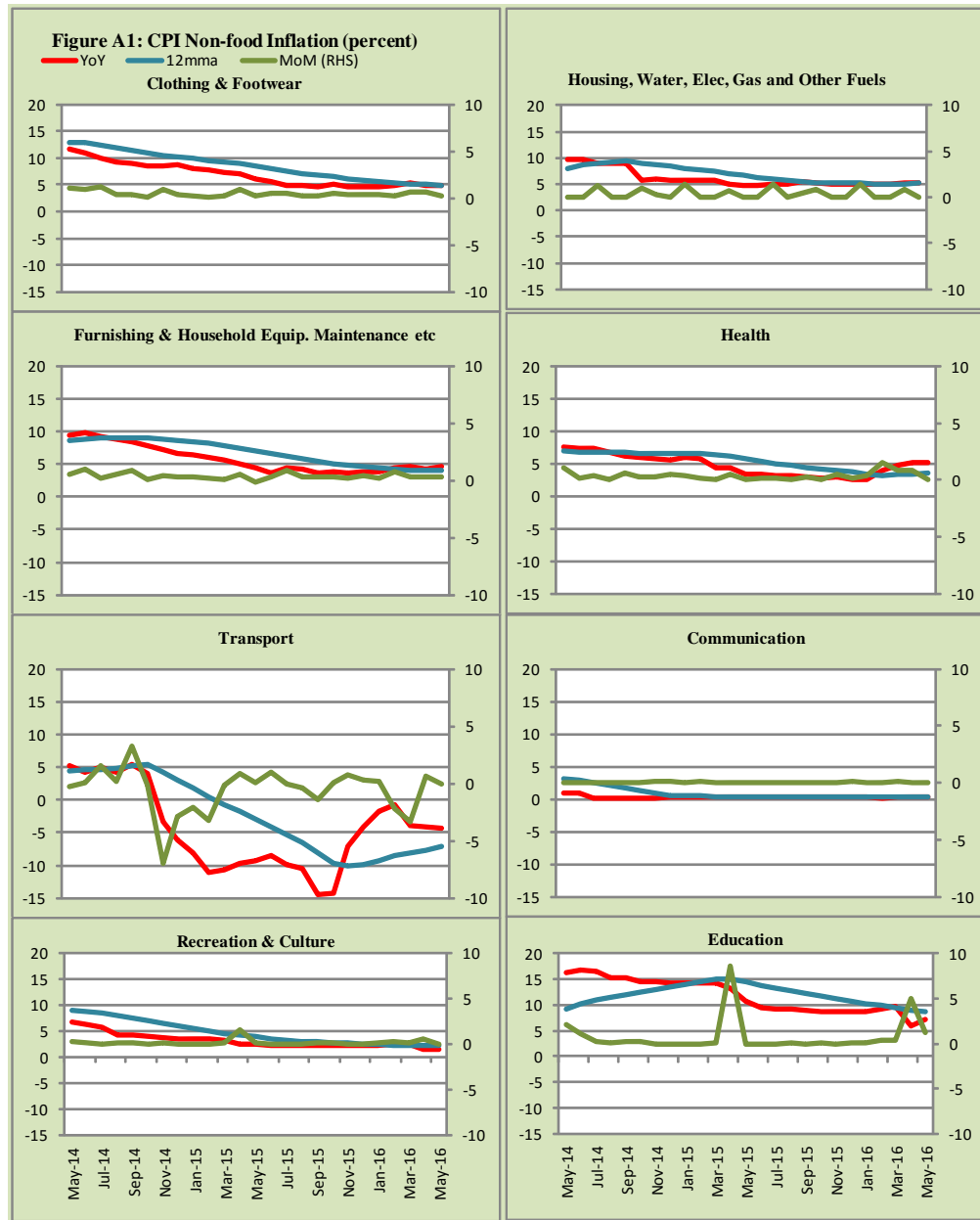


Figure A2: Frequency Distribution of Price Changes of CPI Items, May 2016

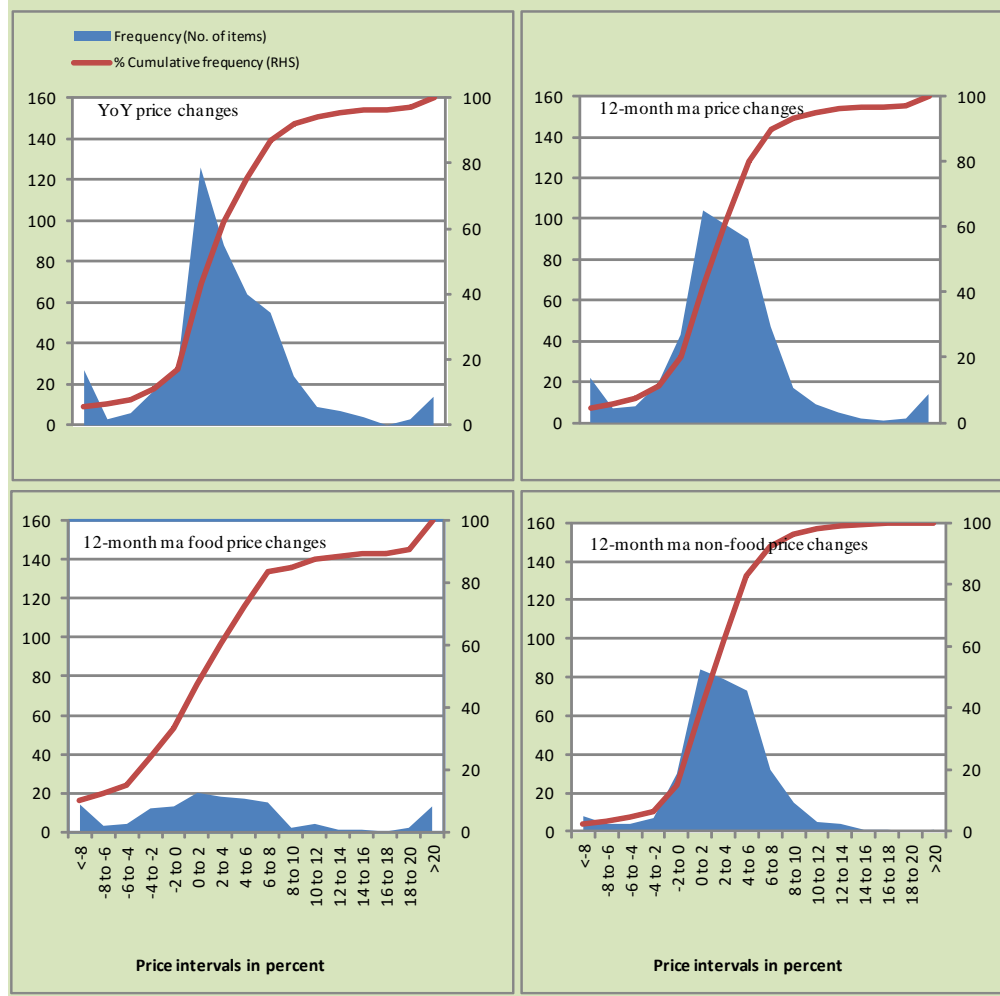


Figure A3: Frequency Distribution of Price Changes of WPI Commodities, May 2016

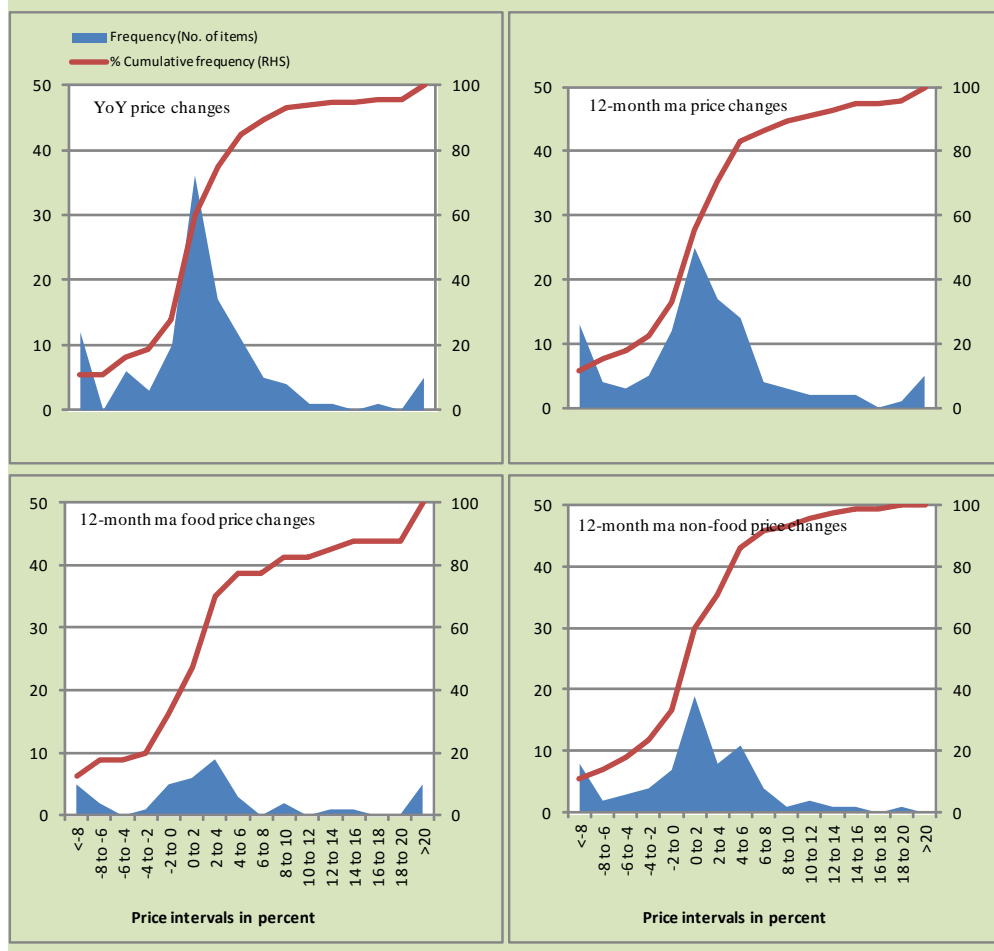
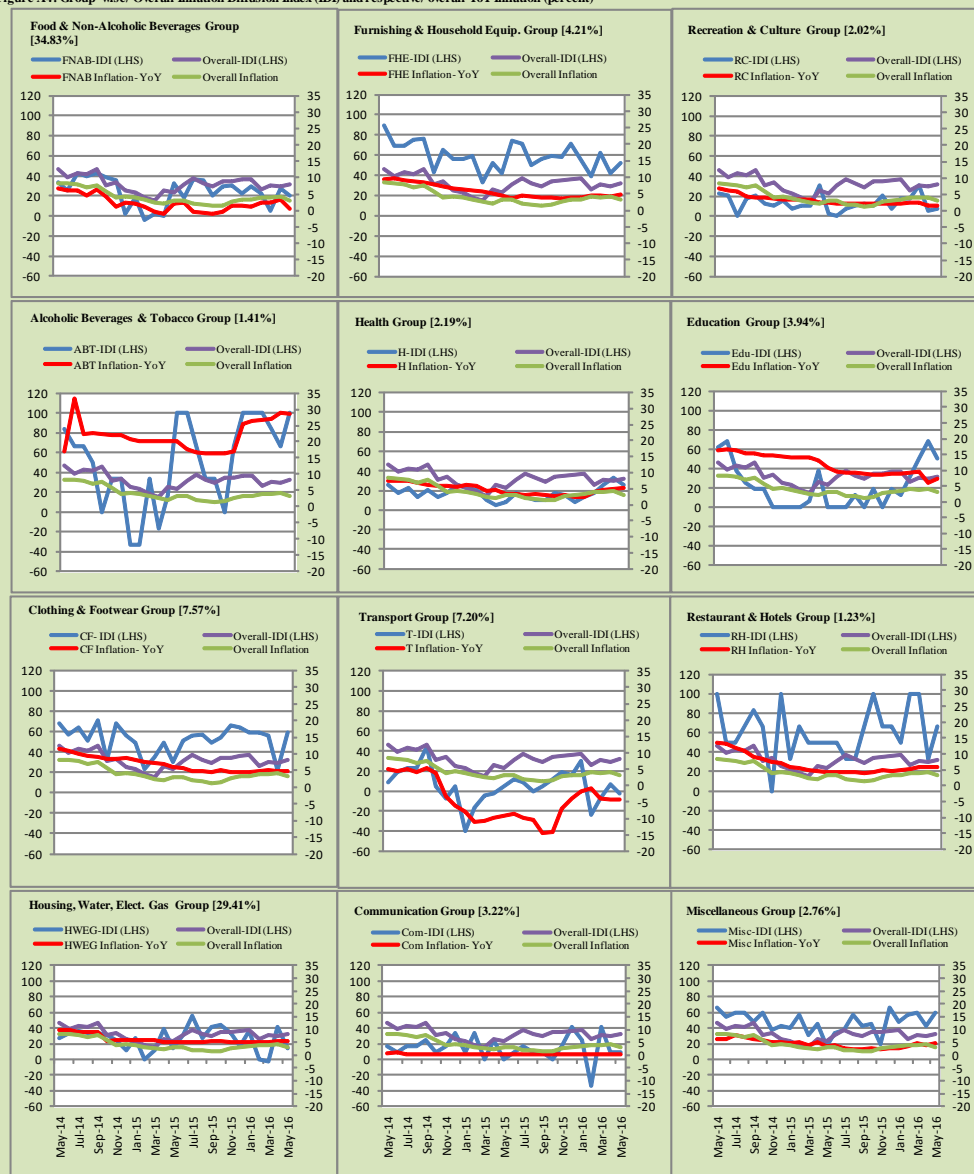


Figure A4: Group-wise/ Overall Inflation Diffusion Index (IDI) and respective/ overall YoY Inflation (percent)



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.