

Inflation Monitor

May 2017



State Bank of Pakistan

Statistics & DWH Department

ISSN 1992-8327 (print)

ISSN 1992-8335 (online)

The analysis in this document is based on data

- Provided by Pakistan Bureau of Statistics (PBS), for domestic inflation analysis
- Retrieved from IMF & World Bank websites for global inflation analysis

http://www.sbp.org.pk/publications/inflation_Monitor

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Review

Inflation in Brief

1. Headline CPI inflation (2007-08=100) is recorded at level of 5.0 percent on year-on-year basis in May 2017 as compared to 4.8 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 zero level in May 2017 compared to 1.4 percent in the previous month and -0.2 percent during the corresponding month of last year. Seasonally adjusted month-on-month CPI inflation is recorded at 0.37 percent in May 2017 compared to 0.39 percent in the previous month.
3. Core inflation (trimmed) on year-on-year basis is recorded at 4.8 percent in May 2017 as in the previous month and 3.6 percent during corresponding month of last year.
4. On month-on-month basis, the Core inflation (trimmed) is 0.2 percent in May 2017 as compared to 0.8 percent in the previous and 0.2 percent during corresponding month of last year.
5. Non-food, non-energy inflation measured by CPI Core (NFNE) on year-on-year basis is recorded at 5.5 percent in May 2017 as in the previous month. It was 4.5 percent in the corresponding month of last year.
6. Core NFNE inflation on month-on-month basis recorded at 0.2 percent in May 2017 compared to 1.3 percent in the previous month. Core NFNE inflation was at the level of current month in the corresponding month of last year.

7. WPI inflation on year-on-year basis decreased to 5.2 percent in May 2017 as compared to 6.0 percent in the previous month. During May 2016, WPI inflation was recorded at zero percent.
8. WPI inflation on month-on-month basis recorded at -0.2 percent in May 2017 as compared to 0.9 percent in the previous month and 0.6 percent in the corresponding month of last year.
9. SPI inflation on year-on-year basis recorded at 2.9 percent in May 2017 as in the previous month. It was 1.4 percent in the corresponding month of last year.
10. SPI inflation on month-on-month basis recorded at -0.7 percent in May 2017 as in the previous and 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 2017 are described below:

- Core RSC inflation on year-on-year basis is recorded at 5.3 percent in May 2017 as in the previous month and 5.1 percent during the corresponding month of last year.

- Core RSC inflation on month-on-month basis is recorded at 0.3 percent in May 2017 compared to 1.1 percent in the previous month and was at level of current month during the corresponding month of last year.

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

Table 1.1 Inflation Trends (percent) (Base 2007- 08 = 100)																
Period	CPI Inflation						Core Inflation						WPI Inflation	SPI*** Inflation		
	General		Food		Non-food		NFNE*		Trimmed		RSC**					
	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM
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
Jun-16	3.2	0.6	2.3	1.4	3.8	0.1	4.6	0.1	3.7	0.2	4.8	0.4	0.2	1.4	1.1	1.0
Jul-16	4.1	1.3	4.7	2.5	3.7	0.5	4.5	0.6	3.6	0.5	4.8	0.6	3.0	2.3	1.7	1.0
Aug-16	3.6	-0.3	3.4	-0.9	3.7	0.2	4.6	0.2	3.5	0.1	4.8	0.2	3.5	0.0	2.0	-0.1
Sep-16	3.9	0.2	4.0	0.1	3.8	0.2	4.8	0.3	3.7	0.1	4.7	0.2	3.4	-0.5	1.6	0.0
Oct-16	4.2	0.8	4.4	0.8	4.1	0.8	5.1	0.9	3.8	0.6	4.9	0.7	2.8	0.0	1.4	0.7
Nov-16	3.8	0.2	3.3	0.2	4.1	0.2	5.3	0.2	3.8	0.2	5.0	0.2	2.6	-0.2	0.6	0.3
Dec-16	3.7	-0.7	3.0	-1.9	4.2	0.2	5.2	0.1	3.7	0.1	4.7	0.2	3.1	-0.1	0.5	-0.4
Jan-17	3.7	0.2	2.6	-1.0	4.4	1.0	5.4	1.1	3.8	0.6	4.9	0.9	4.2	0.5	0.4	-0.6
Feb-17	4.2	0.3	3.7	0.3	4.6	0.3	5.3	0.2	4.1	0.2	4.9	0.2	5.3	0.5	1.6	0.4
Mar-17	4.9	0.8	5.0	1.9	4.9	0.1	5.2	0.1	4.5	0.2	5.0	0.2	6.4	0.7	3.9	2.0
Apr-17	4.8	1.4	4.4	1.7	5.1	1.2	5.5	1.3	4.8	0.8	5.3	1.1	6.0	0.9	2.9	-0.7
May-17	5.0	0.0	4.9	-0.2	5.1	0.2	5.5	0.2	4.8	0.2	5.3	0.3	5.2	-0.2	2.9	-0.7
* NFNE is Non-food non-energy ** Relatively Stable Component of CPI *** SPI for all income groups combined																

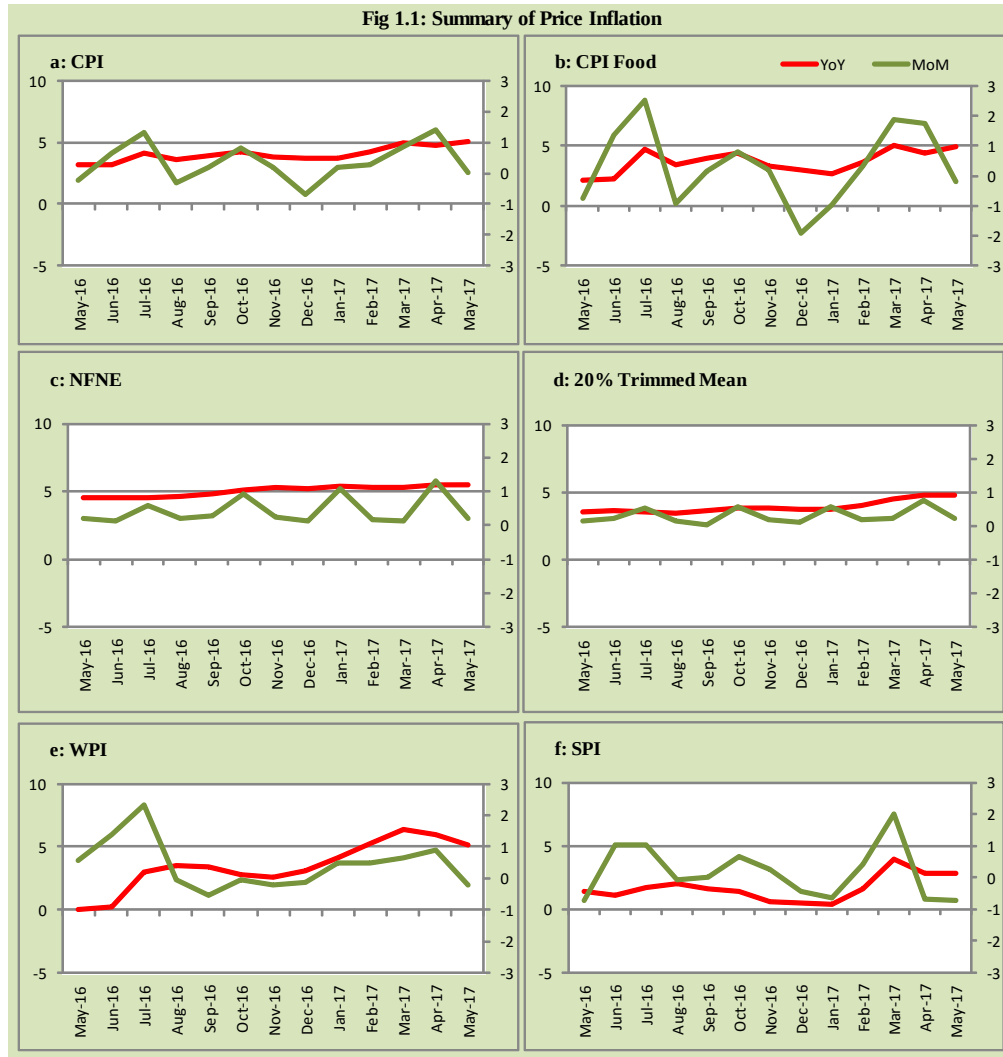
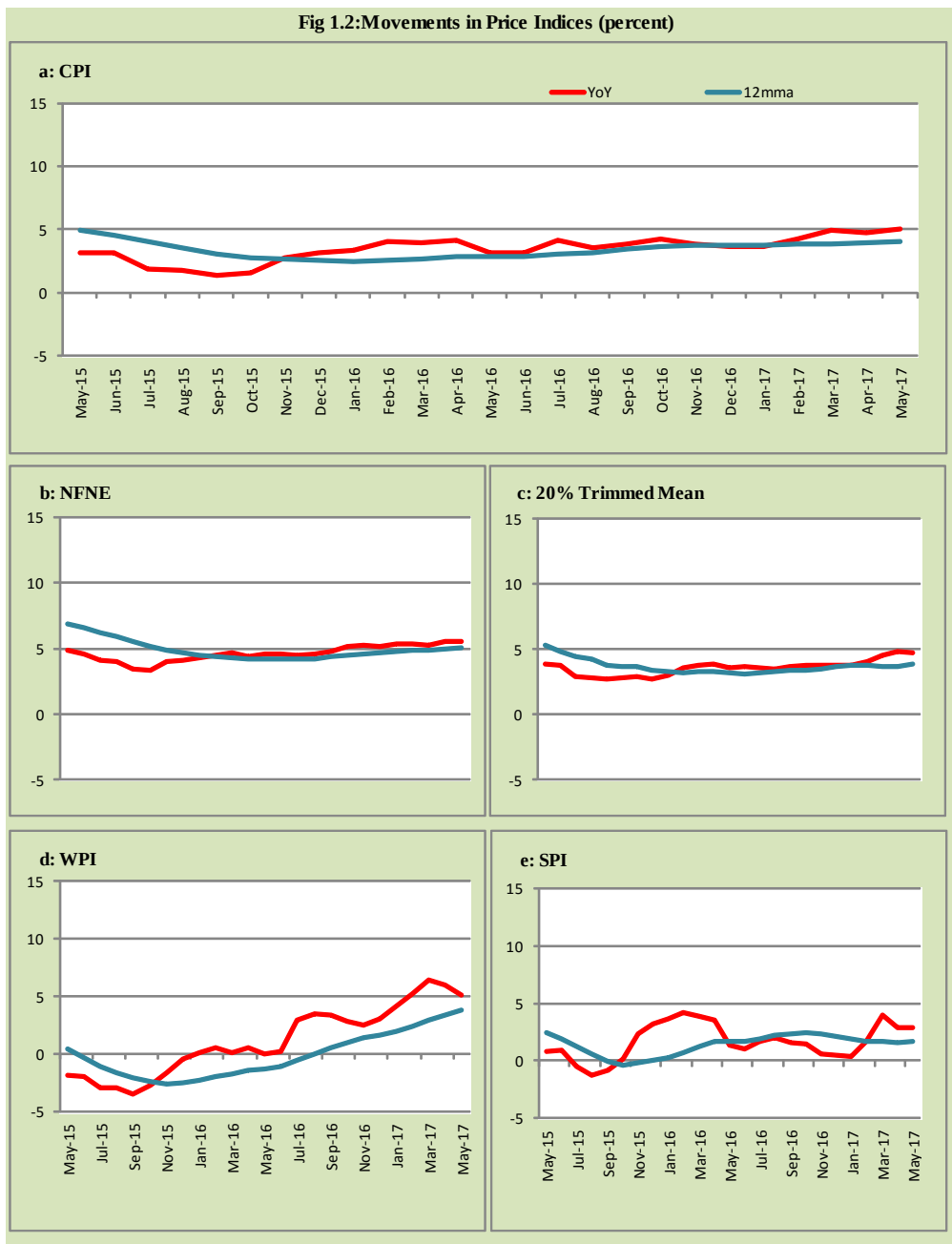


Fig 1.2: Movements in Price Indices (percent)



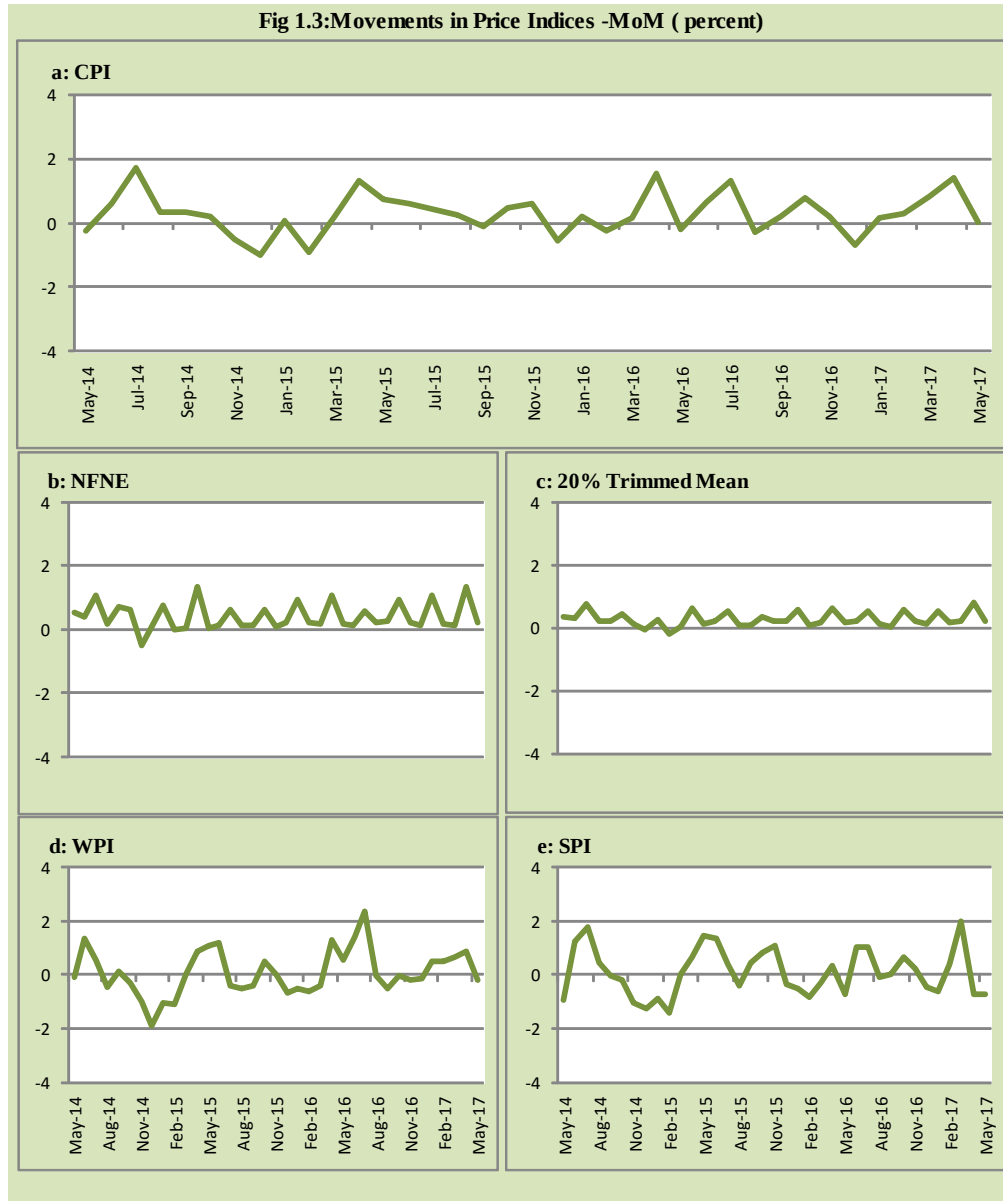
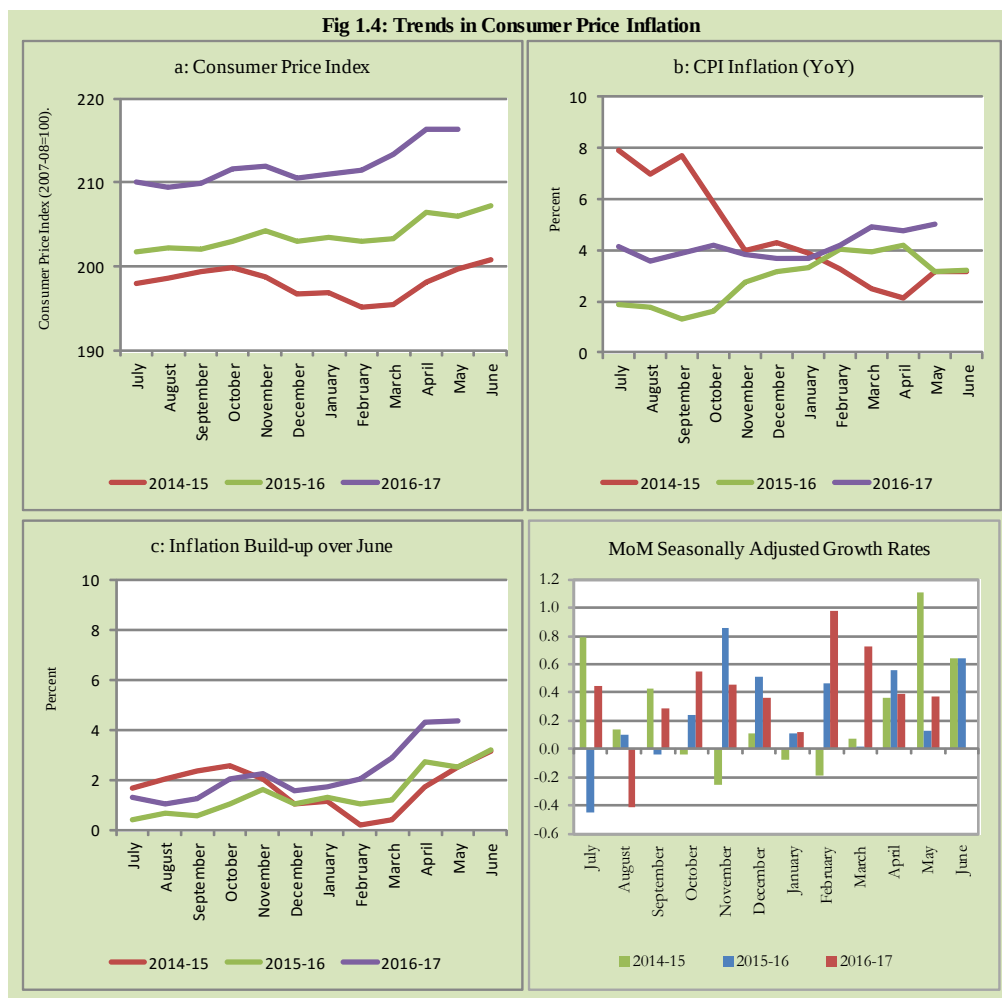


Fig 1.4: Trends in Consumer Price Inflation



2. City wise Inflation

CPI Inflation on year-on-year basis in federal and provincial capitals of Pakistan showed mixed trend during May 2017. Among these five cities, the lowest inflation was observed in Quetta at 3.2 percent while the highest inflation was observed in Lahore at 5.5 percent (Table A6 of annexure-A).

Table 2.1 City-wise Inflation of Selected Cities (percent)						
	May-16		Apr-17		May-17	
	MoM	YoY	MoM	YoY	MoM	YoY
Overall CPI	-0.2	3.2	1.4	4.8	0.0	5.0
Islamabad	0.0	2.4	0.9	5.6	-0.1	5.4
Karachi	0.0	4.6	0.4	3.9	0.5	4.4
Lahore	-0.1	1.4	2.4	6.0	-0.6	5.5
Peshawar	-0.7	1.8	0.8	2.8	0.2	3.7
Quetta	-0.8	2.1	1.1	3.3	-0.9	3.2

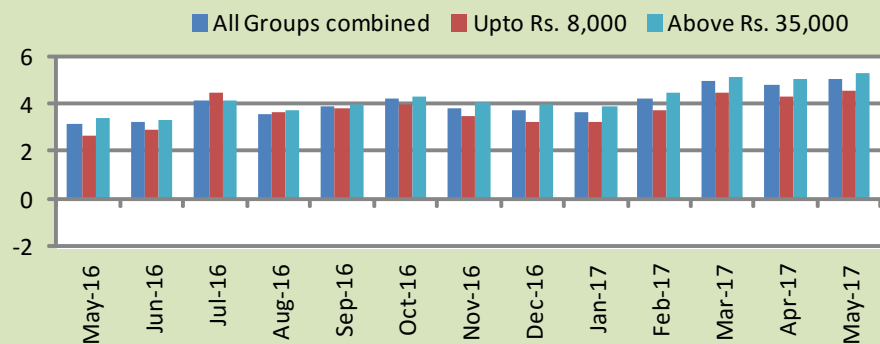
3. Income Group wise Inflation

Income group- wise data shows that income group above Rs. 35,000 witnessed higher inflation as compared to other quintiles as well as overall CPI during May 2017 in General, Food and Non-food groups. The lowest income group (Up to Rs. 8,000) observed lowest inflation in general and food groups among income groups during the month of May 2017 (Table A7 of annexure-A).

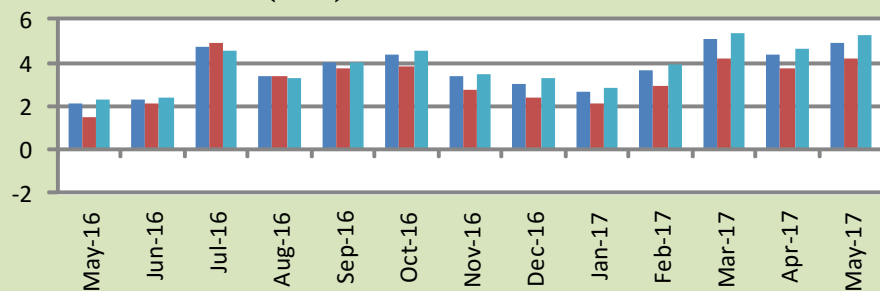
Table 3.1 Income Group- wise Inflation (YoY) (percent)									
Income Groups	General			Food			Non-food		
	May-16	Apr-17	May-17	May-16	Apr-17	May-17	May-16	Apr-17	May-17
All Groups Combined	3.2	4.8	5.0	2.1	4.4	4.9	3.9	5.1	5.1
Up to Rs. 8,000	2.6	4.3	4.5	1.5	3.8	4.2	4.0	4.9	4.9
Rs. 8,001- 12,000	3.0	4.4	4.6	1.7	4.0	4.5	4.5	4.8	4.8
Rs. 12,001- 18,000	2.6	4.5	4.8	2.0	4.2	4.7	3.1	4.9	4.9
Rs. 18,001- 35,000	3.3	4.7	4.9	2.2	4.4	5.0	4.2	4.9	4.9
Above Rs. 35,000	3.4	5.0	5.3	2.3	4.6	5.3	4.0	5.2	5.3

Fig 3.1: Income Group- wise Inflation

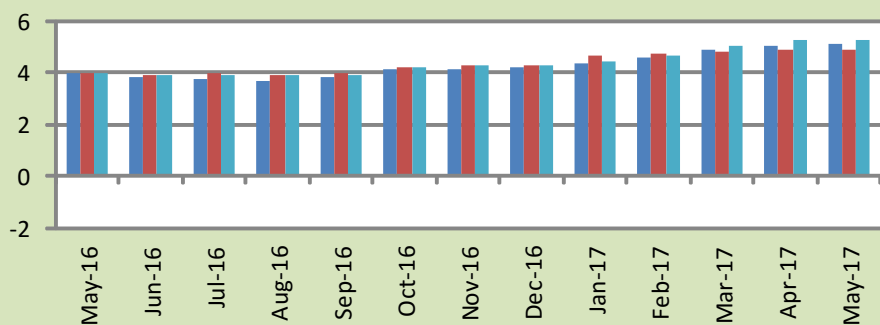
a: CPI Overall Inflation (YoY)



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 40.46 percent during May 2017 from 37.84 percent in previous month. It was 27.39 percent in May 2016.

The weighted contribution of non-food group decreased to 59.54 percent in May 2017 from 62.16 percent in previous month.

Table 4.1 Weighted Contribution to CPI Inflation (YoY)						
Period	Food	Clothing & Footwear	Housing, Water, Elect, Gas & Other Fuel	Transport	Education	Others
May-16	27.39	12.83	43.54	-8.54	9.36	15.42
Jun-16	29.90	12.73	43.18	-10.39	9.49	15.09
Jul-16	47.51	9.16	32.21	-7.65	7.07	11.70
Aug-16	39.62	10.36	35.09	-7.91	8.72	14.13
Sep-16	42.70	9.45	29.26	-4.86	10.72	12.72
Oct-16	43.11	8.24	30.79	-4.55	10.57	11.84
Nov-16	36.64	9.16	33.91	-5.95	12.22	14.02
Dec-16	33.90	9.91	35.29	-5.45	12.65	13.70
Jan-17	29.56	9.82	35.77	-4.98	12.73	17.10
Feb-17	35.54	8.29	30.79	0.59	10.97	13.82
Mar-17	41.86	6.08	26.25	5.34	9.03	11.44
Apr-17	37.84	5.94	28.43	5.11	11.07	11.60
May-17	40.46	6.15	27.25	4.96	9.55	11.63

5. Inflation Diffusion Index

Table 5.1 Inflation Diffusion Index - based on MoM change

	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17
General	32.0	23.7	32.7	39.7	10.3	30.1	41.1	33.5	32.3	38.0	28.5	41.6	35.3
Food & Non-Alcoholic Beverages	20.2	32.7	51.8	34.2	6.1	20.0	28.2	17.9	10.5	35.1	25.7	40.4	27.1
Alcoholic Beverages & Tobacco	100.0	100.0	100.0	33.3	-16.7	-16.7	100.0	83.3	66.7	100.0	33.3	100.0	33.3
Clothing & Footwear	59.3	37.3	42.4	37.3	5.1	54.2	57.6	66.1	45.8	27.1	25.4	45.8	54.2
Housing, Water, Elect, Gas & other Fuels	13.9	33.3	52.8	22.2	5.6	25.0	41.7	38.9	41.7	22.2	0.0	41.7	19.4
Furnishing & Household Equip. Maintenance etc	52.2	8.7	20.3	60.9	11.6	46.4	53.6	47.8	49.3	62.3	44.9	56.5	73.9
Health	25.6	25.6	20.5	46.2	33.3	43.6	46.2	46.2	17.9	33.3	38.5	38.5	17.9
Transport	-2.3	-7.0	4.7	27.9	9.3	2.3	7.0	0.0	30.2	30.2	11.6	11.6	11.6
Communication	8.3	25.0	25.0	16.7	8.3	33.3	50.0	25.0	16.7	25.0	50.0	50.0	16.7
Recreation & Culture	7.7	-17.9	-2.6	7.7	10.3	-7.7	25.6	23.1	15.4	30.8	23.1	17.9	12.8
Education	50.0	31.3	-6.3	50.0	37.5	37.5	43.8	0.0	18.8	6.3	12.5	37.5	6.3
Restaurant & Hotels	66.7	50.0	66.7	83.3	50.0	33.3	33.3	50.0	50.0	66.7	83.3	83.3	66.7
Miscellaneous	60.0	51.4	48.6	77.1	-2.9	60.0	71.4	40.0	77.1	60.0	45.7	57.1	57.1
NFNE	34.6	19.8	24.9	42.3	11.5	34.6	45.6	37.6	39.1	37.6	28.1	40.2	38.5

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 (percent)

Sr. No	Item	Unit	May-16		Apr-17		May-17	
			YoY	MoM	YoY	MoM	YoY	MoM
1	Wheat	10 Kg	-2.59	-4.55	1.81	-2.64	0.96	-5.35
2	Wheat Flour Bag	10 Kg	-2.68	-2.78	-0.99	-0.93	-0.06	-1.86
3	Rice Basmati Sup. Qlty.	Kg	-12.66	-2.56	9.18	2.33	14.09	1.83
4	Pulse Masoor (Washed)	Kg	8.18	3.15	-11.29	-1.69	-14.56	-0.64
5	Pulse Moong (Washed)	Kg	-4.74	-0.39	-18.61	-0.93	-17.98	0.38
6	Pulse Mash (Washed)	Kg	52.81	3.67	-22.67	0.13	-24.48	1.24
7	Pulse Gram	Kg	56.55	12.46	4.02	-2.05	-5.32	2.35
8	Vegetable Ghee (Loose)	Kg	-0.86	0.66	5.37	0.99	4.12	-0.53
9	Sugar Refined	Kg	7.85	0.11	-4.53	-0.12	-6.82	-2.29
10	Milk Fresh (Unboiled)	Ltr	4.11	0.60	4.38	0.82	4.58	0.80
11	Tea- Tapal Danedar	200 Gm	18.56	-0.38	8.70	1.05	9.14	0.02
12	Beef With Bone Av. Qlty.	Kg	5.22	0.02	3.55	0.20	4.43	0.87
13	Mutton Av. Qlty.	Kg	6.96	0.78	6.28	0.88	6.79	1.26
14	Chicken Farm Broiler (Live)	Kg	-0.91	-6.34	-6.01	3.34	-7.40	-7.73
15	Eggs Farm	Doz	-8.64	-4.48	13.87	-0.38	18.12	-0.91
16	Potatoes	Kg	8.75	9.29	55.05	2.81	70.09	19.88
17	Onion	Kg	-30.02	-16.04	-15.01	-2.77	-9.58	-10.67
18	Tomatoes	Kg	-55.52	-49.44	34.31	-5.58	59.28	-40.03
19	Ginger	Kg	-28.13	-5.93	-0.06	3.24	5.03	-1.14
20	Garlic	Kg	38.30	-11.09	10.03	-14.96	9.37	-11.62

7. Global Commodity Prices

Table 7.1 Changes in Major Global Indices (percent)

Item/ Group	May-16		Apr-17		May-17	
	YoY	MoM	YoY	MoM	YoY	MoM
Overall	-18.1	6.0	17.4	-0.1	8.2	-2.3
Food	4.7	3.8	1.1	-1.6	1.3	4.0
Metals	-18.1	-3.5	18.1	-6.4	17.5	-3.9
Energy	-27.2	10.9	28.9	2.5	11.0	-4.4
Agricultural Raw Material	-10.3	-0.1	5.4	-1.8	3.1	-2.3
Cotton	-3.5	1.4	25.6	0.3	26.1	1.8

Source: IMF

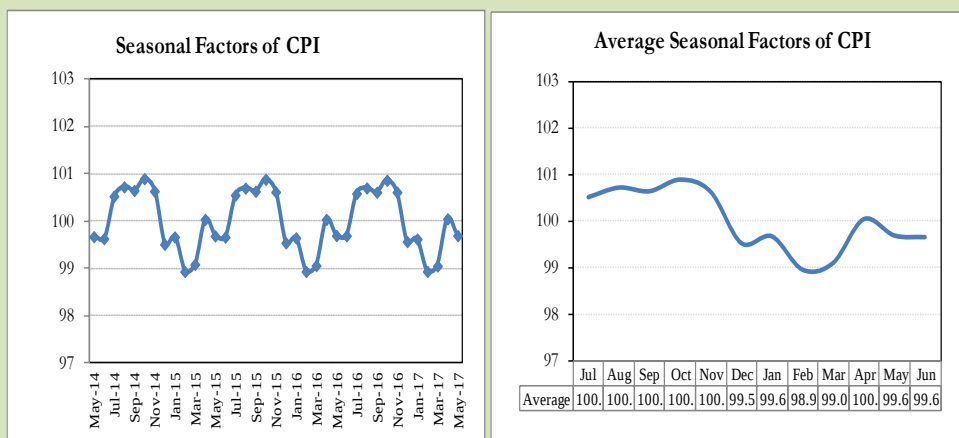
8. Seasonal Adjustment in CPI

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 2017 has been used for seasonal adjustment analysis. The seasonal analysis is carried out without taking trading-day or Islamic calendar month's effects.

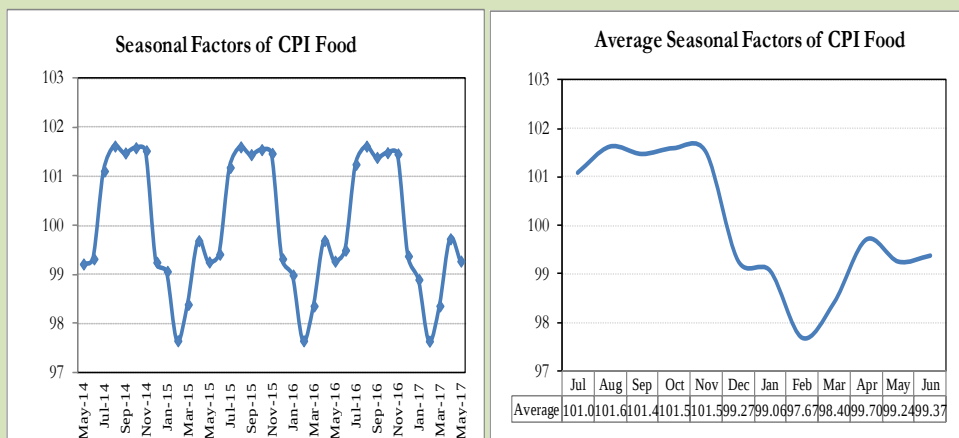
Figure 8.1 reveals that seasonality in CPI has been increasing over the period of last four years. Average seasonal factors reveal strong seasonality during the calendar year. There is an upward seasonality during the months from July to November and downward seasonality in the remaining months of the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

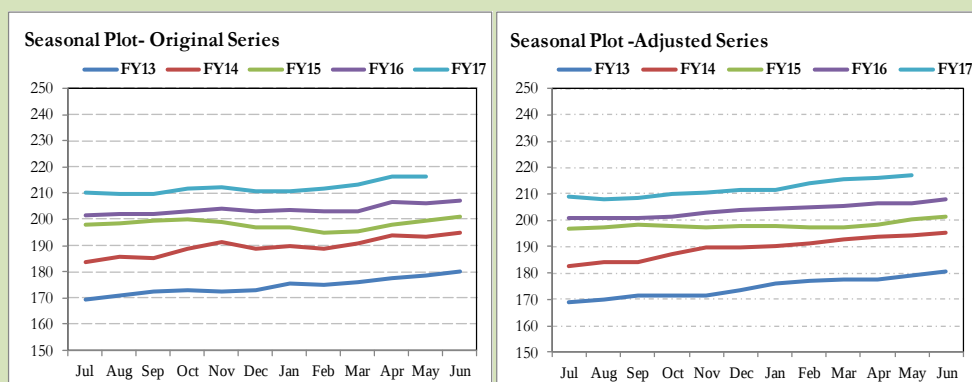
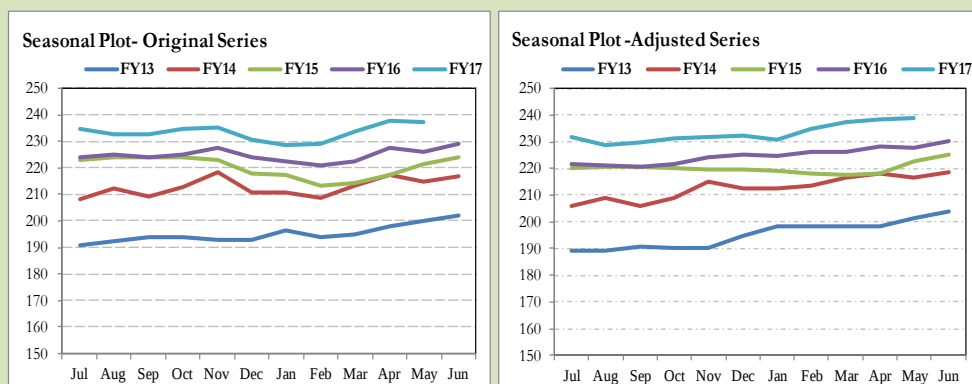


Fig. 8.4 Seasonal Plots of CPI (Food)



Seasonally adjusted CPI for May 2017 stood at 216.99 against 216.33 in original series showing increase of 0.66 on account of adjustment of downward seasonality in May 2017.

Seasonally adjusted CPI food group for May 2017 stood at 238.74 against 237.01 in original series showing increase of 1.74 on account of adjustment of downward seasonality in May 2017.

Month-on-month change of seasonally adjusted CPI series stood at 0.37% reflecting decrease during May 2017 over previous month and an increase of 0.01% in original series.

Month-on-month change of seasonally adjusted CPI food group series stood at 0.25% reflecting decrease during May 2017 over previous month and a decrease of 0.21% 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 2017 (corresponding to the seasonally adjusted month-on-month rate) is 4.53 percent.

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

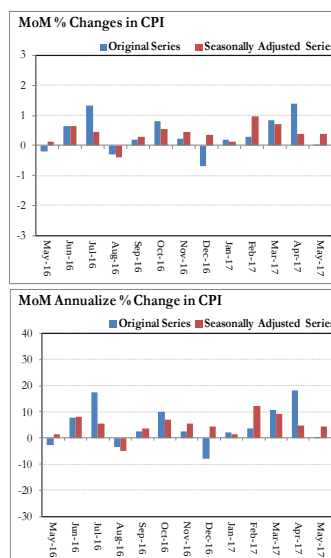
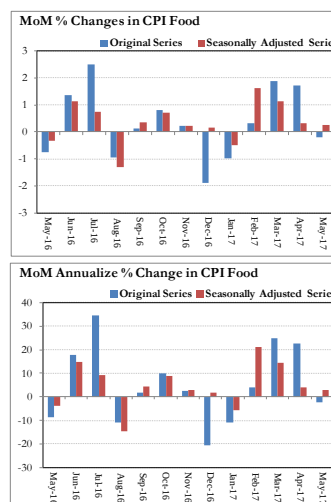


Fig. 8.6 Month-on-Month Percent Changes in CPI Food



Annexure A

Table A1: CPI Inflation by Groups (percent)							
	Weight	MoM change			YoY change		
		May-16	Apr-17	May-17	May-16	Apr-17	May-17
I. Food Group	37.5	-0.7	1.7	-0.2	2.1	4.4	4.9
Food & Non-Alcoholic Beverages	34.8	-0.9	1.8	-0.3	0.6	3.9	4.6
Alcoholic Beverages & Tobacco	1.4	0.6	0.5	0.1	28.7	11.2	10.8
Restaurant & Hotels	1.2	0.5	1.8	0.5	5.9	5.3	5.4
II. Non-Food Group	62.5	0.2	1.2	0.2	3.9	5.1	5.1
Clothing & Footwear	7.6	0.2	0.5	0.5	4.9	3.4	3.7
Housing, Water, Elect, Gas & other Fuels	29.4	0.0	1.1	0.0	5.3	5.1	5.1
Furnishing & Household Equip. Maintenance etc	4.2	0.3	0.2	0.7	4.7	2.2	2.6
Health	2.2	0.1	0.6	0.1	5.2	13.4	13.5
Transport	7.2	0.0	0.4	0.1	-4.2	4.1	4.2
Communication	3.2	0.0	0.1	0.0	0.4	1.6	1.6
Recreation & Culture	2.0	0.1	-0.6	0.1	1.5	0.2	0.2
Education	3.9	1.2	6.5	0.0	7.2	12.5	11.2
Miscellaneous	2.8	0.2	1.0	0.5	4.7	5.0	5.3
Headline	100.0	-0.2	1.4	0.0	3.2	4.8	5.0

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)	
		May-16	May-17	May-16	May-17	May-16	May-17	May-16	May-17	May-16	May-17
I. Food Group	4.9	126	126	41	24	47	51	20	29	18	22
Food & Non-Alcoholic Beverages	4.6	114	114	41	24	45	49	16	22	12	19
Alcoholic Beverages & Tobacco	10.8	6	6	0	0	0	1	0	2	6	3
Restaurant & Hotels	5.4	6	6	0	0	2	1	4	5	0	0
II. Non-Food Group	5.1	348	348	90	81	144	175	95	68	19	24
Clothing & Footwear	3.7	59	59	6	8	25	34	25	17	3	0
Housing, Water, Elect, Gas & other Fuels	5.1	36	36	5	11	13	12	15	12	3	1
Furnishing & Household Equip. Maintenance etc	2.6	69	69	1	7	44	53	22	9	2	0
Health	13.5	39	39	16	4	15	20	5	9	3	6
Transport	4.2	43	43	28	27	10	10	5	2	0	4
Communication	1.6	12	12	5	3	5	4	1	3	1	2
Recreation & Culture	0.2	39	39	21	18	13	16	2	4	3	1
Education	11.2	16	16	5	2	3	4	6	4	2	6
Miscellaneous	5.3	35	35	3	1	16	22	14	8	2	4
Overall	5.0	474	474	131	105	191	226	115	97	37	46

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 2017					
Top 15 Contributors		YoY Change		Weighted Contribution	
Items/ Contributors	Weights	May-16	May-17		
Ranked by Weighted Contribution					
1	House Rent	21.81	5.73	6.94	25.82
2	Education	3.94	7.18	11.17	9.55
3	Fresh Fruits	1.86	2.62	16.74	7.86
4	Milk Fresh	6.68	3.96	4.48	7.58
5	Fresh Vegetables	1.66	-14.02	14.83	5.14
6	Cigarettes	1.39	28.86	10.84	5.07
7	Potatoes	0.48	8.75	70.09	4.41
8	Motor Fuel	3.03	-9.98	10.14	4.02
9	Drug Medicine	1.27	3.22	20.61	3.87
10	Rice	1.58	-13.15	15.35	3.62
11	Meat	2.43	5.81	5.24	3.21
12	Tea	0.84	12.35	12.86	2.68
13	Tomatoes	0.45	-55.52	59.27	1.95
14	Tailoring	0.88	8.39	7.71	1.93
15	Personal Care	1.49	4.17	5.60	1.74
Total		49.80			88.45
Bottom 15 Contributors					
1	Chicken	1.36	-0.91	-7.39	-2.02
2	Pulse Mash (Washed)	0.21	52.80	-24.48	-1.86
3	Sugar	1.04	7.84	-6.82	-1.56
4	Pulse Moong	0.23	-4.74	-17.98	-1.22
5	Onion	0.54	-30.02	-9.58	-0.99
6	Pulse Masoor	0.27	8.86	-14.22	-0.79
7	Pulse Gram	0.24	56.55	-5.32	-0.38
8	Text Books	0.57	0.62	-1.51	-0.24
9	Wheat Flour	4.16	-1.27	-0.24	-0.21
10	Spices	0.54	2.11	-1.42	-0.18
11	Motor Vehicle Accessories	0.24	-4.71	-1.54	-0.08
12	Fish	0.30	2.21	-0.97	-0.06
13	Sewing Needle & Dry Cell	0.15	4.83	-1.01	-0.03
14	Gur	0.02	2.59	-4.58	-0.03
15	Milk Powder	0.11	4.24	-0.51	-0.01
Total		10.00			-9.65

Table A3.1: Top and Bottom 15 Contributors to CPI Inflation (MoM) in May 2017

<u>Top 15 Contributors</u>		<u>MoM Change</u>		Weighted Contribution	
Items/ Contributors	Weights	Apr-17	May-17		
Ranked by Weighted Contribution					
1	Fresh Fruits	1.86	8.74	10.12	1735.60
2	Potatoes	0.48	2.81	19.88	611.39
3	Milk Fresh	6.68	0.81	0.77	467.60
4	Meat	2.43	0.44	1.00	221.16
5	Rice	1.58	2.55	2.01	185.11
6	Beverages	1.20	0.53	1.80	158.67
7	Household Servant	1.04	0.00	1.40	121.36
8	Cotton Cloth	1.73	0.67	0.73	95.65
9	Tea	0.84	1.02	1.06	84.61
10	Personal Care	1.49	0.51	0.70	78.66
11	Tailoring	0.88	0.60	0.83	76.91
12	Ready Made Garments	0.97	1.22	0.77	61.03
13	Ready Made Food	1.23	1.79	0.51	57.74
14	Water Supply	0.50	2.08	2.03	56.67
15	Pulse Gram	0.24	-2.05	2.35	53.36
Total		23.16			4065.51
Bottom 15 Contributors					
1	Fresh Vegetables	1.66	20.64	-8.95	-1347.71
2	Tomatoes	0.45	-5.57	-40.03	-1208.14
3	Chicken	1.36	3.34	-7.72	-728.75
4	Wheat Flour	4.16	-0.98	-1.43	-419.26
5	Onion	0.54	-2.77	-10.67	-383.92
6	Sugar	1.04	-0.11	-2.29	-173.04
7	Wheat	0.35	-2.65	-5.35	-126.22
8	Vegetable Ghee	2.07	0.75	-0.36	-35.21
9	Eggs	0.46	-0.38	-0.92	-25.05
10	Motor Fuel	3.03	0.87	-0.15	-22.20
11	Fish	0.30	-0.19	-0.36	-7.72
12	Pulse Masoor	0.27	-1.49	-0.43	-7.05
13	Dry Fruits	0.25	1.08	-0.24	-5.34
14	Woolen Readymade Garments	0.40	-0.53	-0.10	-3.44
15	Motor Vehicle Accessories	0.24	-0.47	-0.16	-2.85
Total		16.58			-4495.88

Table A3.2: Top Fifteen Contributors to CPI Inflation (YoY) in May 2017					
Items/ Contributors		Weights	YoY Change		Weighted Contribution
			May-16	May-17	
A. Ranked by Percentage Change					
1	Potatoes	0.48	8.75	70.09	4.41
2	Tomatoes	0.45	-55.52	59.27	1.95
3	Drug Medicine	1.27	3.22	20.61	3.87
4	Eggs	0.46	-8.64	18.12	1.20
5	Fresh Fruits	1.86	2.62	16.74	7.86
6	Rice	1.58	-13.15	15.35	3.62
7	Fresh Vegetables	1.66	-14.02	14.83	5.14
8	Tea	0.84	12.35	12.86	2.68
9	Gram Whole	0.16	37.09	11.56	0.47
10	Education	3.94	7.18	11.17	9.55
11	Cigarettes	1.39	28.86	10.84	5.07
12	Motor Fuel	3.03	-9.98	10.14	4.02
13	Doctor (MBBS) Clinic Fee	0.59	7.64	7.87	1.17
14	Medical Equipments	0.01	3.47	7.73	0.01
15	Tailoring	0.88	8.39	7.71	1.93
Total		18.60			52.95
B. Ranked by Weights					
1	House Rent	21.81	5.73	6.94	25.82
2	Milk Fresh	6.68	3.96	4.48	7.58
3	Electricity	4.40	2.84	0.00	0.00
4	Wheat Flour	4.16	-1.27	-0.24	-0.21
5	Education	3.94	7.18	11.17	9.55
6	Communication & Apparatus	3.15	0.19	1.50	0.59
7	Motor Fuel	3.03	-9.98	10.14	4.02
8	Transport Services	2.70	-2.13	0.23	0.12
9	Meat	2.43	5.81	5.24	3.21
10	Vegetable Ghee	2.07	-2.55	3.65	1.01
11	Fresh Fruits	1.86	2.62	16.74	7.86
12	Cooking Oil	1.75	-8.13	3.75	0.84
13	Cotton Cloth	1.73	5.16	2.87	1.07
14	Fresh Vegetables	1.66	-14.02	14.83	5.14
15	Rice	1.58	-13.15	15.35	3.62
Total		62.97			70.22
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 5.0 percent in May, 2017.					

Table A3.3: Top Ten Contributors to CPI Food Inflation (YoY) in May 2017

Items/ Contributors		Weights	YoY Change		Weighted Contribution
			May-16	May-17	
A. Ranked by Weighted Contribution					
1	Fresh Fruits	1.86	2.62	16.74	7.86
2	Milk Fresh	6.68	3.96	4.48	7.58
3	Fresh Vegetables	1.66	-14.02	14.83	5.14
4	Cigarettes	1.39	28.86	10.84	5.07
5	Potatoes	0.48	8.75	70.09	4.41
6	Rice	1.58	-13.15	15.35	3.62
7	Meat	2.43	5.81	5.24	3.21
8	Tea	0.84	12.35	12.86	2.68
9	Tomatoes	0.45	-55.52	59.27	1.95
10	Ready Made Food	1.23	5.92	5.37	1.68
Total		18.60			43.19
B. Ranked by Percentage Change					
1	Potatoes	0.48	8.75	70.09	4.41
2	Tomatoes	0.45	-55.52	59.27	1.95
3	Eggs	0.46	-8.64	18.12	1.20
4	Fresh Fruits	1.86	2.62	16.74	7.86
5	Rice	1.58	-13.15	15.35	3.62
6	Fresh Vegetables	1.66	-14.02	14.83	5.14
7	Tea	0.84	12.35	12.86	2.68
8	Gram Whole	0.16	37.09	11.56	0.47
9	Cigarettes	1.39	28.86	10.84	5.07
10	Honey	0.04	1.45	7.67	0.10
Total		8.92			32.50
C. Ranked by Weights					
1	Milk Fresh	6.68	3.96	4.48	7.58
2	Wheat Flour	4.16	-1.27	-0.24	-0.21
3	Meat	2.43	5.81	5.24	3.21
4	Vegetable Ghee	2.07	-2.55	3.65	1.01
5	Fresh Fruits	1.86	2.62	16.74	7.86
6	Cooking Oil	1.75	-8.13	3.75	0.84
7	Fresh Vegetables	1.66	-14.02	14.83	5.14
8	Rice	1.58	-13.15	15.35	3.62
9	Cigarettes	1.39	28.86	10.84	5.07
10	Chicken	1.36	-0.91	-7.39	-2.02
Total		24.96			32.10
Note: Weighted contribution is estimated by multiplying the weights by the price change of an item; this is then reported as a share in YoY change in CPI Food, which is 4.9 percent in May, 2017.					

Table A3.4: Top Ten Contributors to CPI Non-food Inflation (YoY) in May 2017					
Items/ Contributors		Weights	YoY Change		Weighted Contribution
			May-16	May-17	
A. Ranked by Weighted Contribution					
1	House Rent	21.81	5.73	6.94	25.82
2	Education	3.94	7.18	11.17	9.55
3	Motor Fuel	3.03	-9.98	10.14	4.02
4	Drug Medicine	1.27	3.22	20.61	3.87
5	Tailoring	0.88	8.39	7.71	1.93
6	Personal Care	1.49	4.17	5.60	1.74
7	Personal Equipments	0.84	5.45	5.89	1.36
8	Doctor (MBBS) Clinic Fee	0.59	7.64	7.87	1.17
9	Cotton Cloth	1.73	5.16	2.87	1.07
10	Woolen Cloth	0.88	4.08	5.10	1.05
Total		36.47			51.59
B. Ranked by Percentage Change					
1	Drug Medicine	1.27	3.22	20.61	3.87
2	Education	3.94	7.18	11.17	9.55
3	Motor Fuel	3.03	-9.98	10.14	4.02
4	Doctor (MBBS) Clinic Fee	0.59	7.64	7.87	1.17
5	Medical Equipments	0.01	3.47	7.73	0.01
6	Tailoring	0.88	8.39	7.71	1.93
7	House Rent	21.81	5.73	6.94	25.82
8	Water Supply	0.50	7.46	6.51	0.50
9	Cleaning & Laundering	0.21	6.43	6.44	0.33
10	Construction Wage Rate	0.33	7.10	6.00	0.44
Total		32.58			47.65
C. Ranked by Weights					
1	House Rent	21.81	5.73	6.94	25.82
2	Electricity	4.40	2.84	0.00	0.00
3	Education	3.94	7.18	11.17	9.55
4	Communication & Apparatus	3.15	0.19	1.50	0.59
5	Motor Fuel	3.03	-9.98	10.14	4.02
6	Transport Services	2.70	-2.13	0.23	0.12
7	Cotton Cloth	1.73	5.16	2.87	1.07
8	Gas	1.58	9.92	0.00	0.00
9	Footwear	1.55	1.01	0.54	0.13
10	Personal Care	1.49	4.17	5.60	1.74
Total		45.39			43.04
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 5.1 percent in May, 2017.					

Table A4: Distribution of Price Changes (YoY) - Selected CPI Items: May 2017

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	Pulse Mash (Washed), Pulse Moong (Washed), Pulse Masoor (Washed), Pulse Masoor (Whole), Onion	Milk Fresh (Unboiled), Beef With Bone Av.Qlty., Saunf, Milo 200 Gm., Ice, Vegetable Ghee (Loose), Salt-Powdered (Lahori) Loose	Garlic, Turai, Tapal Danedar Tea 200 Gm, Pumpkin, Coconut Dry Av.Qlty., Pepper Black National, Cinamon Loose Av. Qlty	Potatoes, Tomatoes, Cucumber (Kheera), Karaila, Muskmelon (Kharboosa), Apple, Mango Kalmi, Watermelon (Turbooz), Tea Lipton Yellow Label 200 Gm, Tinda, Chillies Green, Gram Whole Yellow Av.Qlty, Eggs Farm, Lady Finger
Alcoholic Beverages & Tobacco		Betel Leaves	Cigarettes K-20,S, Betel Nuts	Cigarettes Capstan 20,S, Cigarettes Morven Gold 20,S, Cigarettes Gold Leaf 20,S
Clothing & Footwear	Sewing Thread/Reel, Gents Shoe, Art 1109 Servis, Child Shoe Power Lite Bata, Sports Shoes, Ladies Spoung Chappal Bata, Ladies Sandal Bata	Tailoring Shirt, Awami-Suit W&W (Gents)Av.Qlty, Tropical Suiting Law.Pur, Shoe Repair Half Sole, Secondhand Winter Jacket	Dry Cleaning Suit Coat Pant, Heavy Wt Suiting Law.Pur Av. Qlty, Tailoring Suit (Female), Tailoring Charges Pant (Men), Tailoring Awami-Suit (Male)	
Housing, Water, Elect, Gas & other Fuels	Elect. Charges Upto 50 Units, Elect. Charges 01 - 100 Units, Elect. Charges Above 1000 Units	Bajree, Timber Shesham Log, Cement (Local), Sand (Black Pit Sand), Electrician Wage Rate(P/Pnt), Electrician Wage Rate(P/Day)	Iron Bar (M.S. Bar) 1/2", Unskilled Labor Wage Rat, Mason (Raj) Wage Rate, Bricks (New) 1st Class, House Rent For Q-IV	Cement Blocks (6"X8"X12")
Furnishing & Household Equip. Maintenance etc	Dari Cotton (6'X2 1/2"), Match Box (Small), Washing Powder 1000 Grm (Express), Sewing Machine Needle (Singer)	Quilt (Lihaf) 3 Kg. Cotton, Water Cooler 9/10 Ltr., Boot Polish Liquid (Cherry), Blanket (90" X 54"), Pedestal Fan 22" Super Qlty	Sewing Machine (Singer), Chair Shesham Wood, Boot Polish Cherry/Kiwi 50 Ml, Tea Set Pak. China Wear 21 PCS, Robin Blue (35 Gms)	
Health	Saniplast (1 Putty), Glaxos-D (450 Gm), Betnesol Eye Drops, Sancos Syrup (50 Ml.)	Blood Test (Cp) Charges, Disprin Tab., Brufen Tabs 200-Mg., Panadol Tab. Extra/Plain, Glycerin Small Bottle, ECG Charges	Cotton Bandage 2" - 4", Doctor (MBBS) Clinic Fee, Ear Drops (Cardisorpine), O.R.S. (Nimcol), Hydryllin Syrup 120 Ml.	Burnol Cream 30 Gm, Lederplex Syrup, Dettol (Medium), Entox Tab., Jouhar Joshanda, Septran Tablets
Transport	Tyre Motor Cycle Without Tube, Tyre Car With Tube General, Tyre Cycle, Motorcycle Yamaha 100 CC	Car Suzuki 800 CC (W/O. Ac), Tyre Puncture Charges, Cycle Overhauling Charges, CNG, Motor Cycle Service Charges	Car Suzuki 1000 CC, Car Toyota 1300 CC	Gas Cylinder S.Size (L.P.G), Petrol Super, High Speed Diesel HSD, Car Honda Civic 1500 CC
Communication	Postal Envelope Domestic, Telephone Charges Local Call, Telephone Charges Outside City	Mobile Cell Charges, Mobile Set Nokia/Sony/Ericsson Av.Qlty, Postal Envelope For Saudi Arabia	Fax Charges (Local), Telephone Set Av. Qlty, Postal Registration Charges	Internet Charges, T.C.S. Ch. Min.Within Zone
Recreation & Culture	Urdu Book Class IX/X (T.B.Board), Computer CD (Tdk/Imation), Urdu Book Class V (T.B.Board), English Book Class V1, Maths Book Class IX or X	Cinema A/C High Class, Daily "Dawn", Fountain Pen Hero/Wings/China, Pen Ink Dollar 57 Ml Bottle, Paper Fool Scape (27"X17")	Pencil Goldfish/Deer, Daily "Jang", Ball Pen (Local), Daily "Nawa-E-Waqt"	Cinema Non-A/C High Class
Education	MBA Tuition Fee, Coaching Fee For Class IX/X	Pvt Med. College Fee MBBS (1st Year), Coaching Charges For Class XI/ XII Commerce Group	Pvt School Fee Eng.Med (Class-X), I.T. Tuition Fees, Pvt School Fee Eng.Med (Class-I)	Govt. University Fee M.Sc/ MA, Govt. Engg. Coll. Fee 1st Year, Pvt School Fee Eng.Med (Class-VI), Govt. Med. College Fee MBBS 1st Year, Pvt School Fee Eng.Med (Class-V)
Restaurant & Hotels		Bread Tandoori St. Size	Chicken Biryani Full/Double, Cooked Dal (Av. Hotel), Cooked Mutton (Av. Hotel)	
Miscellaneous	Shampoo Sunsilk/Pantene 100 Ml	Shaving Cream Touch-Me/Admiral, Hair Removing Cream (Eu-Cream), Wrist Watch Ladies Citizen	Hair Oil Amla/Chambeli, Shaving Charges, Haircut Charges For Men, Toilet Soap Safeguard Bath Size	Toilet Soap Lifebuoy 140 Gms, Toothpowder Dentonic 90 Gms, Artificial Jewellery Set, Suitcase Rexin (24"X16"X6")

Table A5: City- wise CPI Inflation by Income Groups, May 2017

	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	4.5	-0.6	3.4	0.1	5.9	-0.2	5.0	-0.4	3.7	0.1	6.3
2 Islamabad	-0.5	5.0	-1.1	4.4	0.2	5.7	-0.6	4.8	-1.2	4.1	0.1	5.6
3 Lahore	-1.1	4.4	-2.4	4.4	0.8	4.4	-0.9	4.9	-2.1	4.8	0.6	5.1
4 Gujranwala	-0.6	4.5	-1.0	3.1	0.0	6.3	-0.5	4.3	-1.0	3.2	0.0	5.6
5 Sialkot	-0.9	3.0	-1.6	1.7	0.1	4.6	-0.7	3.5	-1.3	2.2	0.0	5.0
6 Faisalabad	-0.9	5.0	-1.7	4.7	0.1	5.3	-0.8	4.9	-1.6	4.6	0.0	5.3
7 Multan	-0.5	4.7	-1.0	4.7	0.2	4.8	-0.5	5.0	-1.1	5.0	0.1	5.1
8 Sargodha	-1.6	4.3	-2.9	5.2	-0.2	3.4	-1.2	4.4	-2.3	5.4	-0.1	3.5
9 Bahawalpur	-1.6	4.0	-3.2	1.8	0.0	6.4	-1.4	4.8	-2.8	1.7	0.0	7.8
10 Karachi	0.6	4.2	1.2	4.5	-0.1	3.8	0.6	4.5	1.2	5.1	0.0	3.8
11 Hyderabad	-1.0	5.1	-1.7	6.2	0.0	3.6	-0.8	4.8	-1.5	6.3	0.0	3.2
12 Sukkur	-1.1	2.8	-2.1	2.9	0.1	2.7	-1.2	3.0	-2.4	2.8	0.1	3.2
13 Larkana	0.5	6.7	0.6	9.5	0.3	3.8	1.2	7.0	2.1	10.0	0.4	4.2
14 Peshawar	0.1	3.3	0.2	3.9	0.0	2.6	0.1	3.3	0.3	3.5	0.0	3.1
15 Bannu	-0.1	3.5	-0.2	2.3	0.0	4.9	-0.1	4.5	-0.1	2.7	0.0	6.3
16 Quetta	-1.2	2.8	-2.4	0.8	0.2	5.2	-0.9	2.9	-2.1	1.1	0.3	4.9
17 Khuzdar	0.3	9.8	0.3	10.7	0.2	8.8	0.2	9.7	0.3	10.2	0.1	9.3
	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	-0.1	5.1	-0.3	4.1	0.1	6.1	-0.1	5.1	-0.2	4.5	0.1	5.5
2 Islamabad	-0.5	4.7	-1.1	4.4	0.0	5.1	-0.5	5.0	-1.2	4.7	0.1	5.2
3 Lahore	-0.9	5.1	-2.0	5.0	0.4	5.3	-0.7	5.3	-1.8	5.4	0.4	5.2
4 Gujranwala	-0.5	4.7	-0.9	3.5	-0.1	5.9	-0.4	4.6	-0.9	3.9	0.0	5.2
5 Sialkot	-0.7	3.6	-1.2	2.4	-0.1	4.9	-0.5	3.3	-0.9	2.5	-0.1	4.0
6 Faisalabad	-0.7	5.3	-1.4	4.7	0.0	6.0	-0.6	5.5	-1.2	4.5	0.0	6.4
7 Multan	-0.5	5.6	-1.1	5.2	0.0	6.0	-0.6	5.5	-1.3	5.3	0.1	5.7
8 Sargodha	-1.1	5.6	-2.2	6.0	-0.2	5.2	-1.0	6.0	-2.0	6.0	-0.2	6.0
9 Bahawalpur	-1.3	5.0	-2.7	1.8	-0.1	7.7	-1.0	6.0	-2.4	1.9	0.1	9.1
10 Karachi	0.6	4.7	1.2	5.3	0.0	4.2	0.6	4.6	1.2	5.5	0.0	3.8
11 Hyderabad	-0.9	4.9	-1.6	6.5	-0.2	3.3	-0.8	4.9	-1.5	6.7	-0.2	3.3
12 Sukkur	-0.9	3.5	-1.9	3.1	0.0	3.9	-0.4	4.0	-0.9	4.1	0.1	3.9
13 Larkana	1.2	7.2	2.0	9.6	0.5	5.2	1.5	7.1	2.7	9.5	0.6	5.3
14 Peshawar	0.2	3.6	0.5	3.8	0.0	3.4	0.3	3.6	0.7	4.1	0.0	3.2
15 Bannu	0.1	4.3	0.2	3.0	0.0	5.4	0.0	4.5	0.1	3.6	0.0	5.3
16 Quetta	-0.9	3.0	-2.1	1.2	0.2	4.8	-0.9	3.2	-2.2	1.6	0.1	4.6
17 Khuzdar	0.4	9.2	0.6	9.4	0.2	9.1	0.4	8.4	0.6	8.9	0.3	7.9
	Above Rs 35000						Combined					
	General		Food		Non-Food		General		Food		Non-Food	
	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY
1 Rawalpindi	0.0	5.1	0.0	4.8	0.1	5.2	0.0	5.1	-0.1	4.5	0.1	5.4
2 Islamabad	-0.1	5.5	-0.6	5.3	0.2	5.5	-0.1	5.4	-0.7	5.1	0.3	5.6
3 Lahore	-0.4	5.9	-1.5	6.4	0.3	5.6	-0.6	5.5	-1.8	5.7	0.4	5.4
4 Gujranwala	-0.4	5.1	-0.9	4.2	-0.1	5.6	-0.4	4.7	-0.9	3.8	-0.1	5.4
5 Sialkot	-0.4	3.6	-0.7	2.6	-0.2	4.1	-0.5	3.5	-1.0	2.5	-0.2	4.2
6 Faisalabad	-0.3	5.8	-0.9	4.7	0.0	6.4	-0.6	5.4	-1.3	4.6	-0.1	5.9
7 Multan	-0.4	6.4	-1.1	5.3	0.0	7.0	-0.5	5.8	-1.1	5.1	0.0	6.2
8 Sargodha	-0.5	7.7	-1.4	6.6	-0.1	8.2	-1.0	5.9	-2.0	6.0	-0.3	5.9
9 Bahawalpur	-0.5	7.9	-2.0	1.9	0.2	10.6	-1.0	6.0	-2.6	1.9	0.0	8.7
10 Karachi	0.4	4.3	1.2	5.5	0.0	3.6	0.5	4.4	1.2	5.4	-0.1	3.7
11 Hyderabad	-0.7	4.7	-1.3	6.9	-0.4	3.6	-0.8	4.7	-1.5	6.6	-0.3	3.3
12 Sukkur	-0.2	4.4	-0.4	4.6	0.0	4.3	-0.6	3.7	-1.4	3.7	-0.1	3.6
13 Larkana	1.9	7.5	4.0	10.4	0.9	6.2	1.2	7.0	2.2	9.7	0.7	5.4
14 Peshawar	0.3	4.0	1.0	4.4	-0.1	3.9	0.2	3.7	0.6	4.0	0.0	3.5
15 Bannu	0.1	6.3	0.4	3.5	0.0	7.6	0.0	4.6	0.1	3.1	0.0	5.6
16 Quetta	-0.8	3.5	-2.2	2.1	-0.1	4.2	-0.9	3.2	-2.2	1.5	0.0	4.4
17 Khuzdar	0.5	8.0	0.5	9.0	0.6	7.5	0.3	9.2	0.4	9.7	0.3	8.8

Table A6: City- wise CPI Inflation (YoY) May, 2017

City	High inflation cities			City	Low inflation cities		
	General	Food	Non-food		General	Food	Non-food
Khuzdar	9.2	9.7	8.8	Mithi	4.9	7.3	3.3
Gawadar	9.2	7.6	10.3	Hyderabad	4.7	6.6	3.3
Turbat	9.0	5.1	11.3	Gujranwala	4.7	3.8	5.4
Vehari	7.4	3.9	10.0	Jhang	4.6	3.5	5.3
Larkana	7.0	9.7	5.4	Loralai & Cantt	4.6	1.7	6.5
Mianwali	6.8	-2.0	12.8	Mirpur Khas	4.6	6.7	3.1
Bahawalnagar	6.6	5.7	7.2	Bannu	4.6	3.1	5.6
Sahiwal	6.5	7.5	6.0	Karachi	4.4	5.4	3.7
Dera Mrd.Jamali	6.5	8.1	5.4	Muzaffargarh	4.3	4.8	4.0
Bahawalpur	6.0	1.9	8.7	D. I. Khan	4.2	2.5	5.4
Sargodha	5.9	6.0	5.9	Peshawar	3.7	4.0	3.5
Dadu	5.8	8.4	4.0	Sukkur	3.7	3.7	3.6
Multan	5.8	5.1	6.2	Jhelum	3.7	4.5	3.1
Rahim Yar Khan	5.5	5.4	5.7	Sialkot	3.5	2.5	4.2
Lahore	5.5	5.7	5.4	Quetta	3.2	1.5	4.4
Mingora	5.4	3.1	6.9	Wazirabad	3.2	3.8	2.8
Islamabad	5.4	5.1	5.6	D. G. Khan	3.1	4.1	2.4
Abbotabad	5.4	7.3	4.2	Nawabshah	1.8	3.2	0.9
Faisalabad	5.4	4.6	5.9	Mardan	1.3	1.7	1.2
Attock	5.2	6.4	4.4				
Rawalpindi	5.1	4.5	5.4				

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-16	Apr-17	May-17	May-16	Apr-17	May-17
<u>Up to Rs. 8000</u>						
General	-0.5	1.3	-0.3	2.6	4.3	4.5
Food	-1.0	1.5	-0.6	1.5	3.8	4.2
Non-food	0.2	1.0	0.2	4.0	4.9	4.9
<u>Rs. 8001- 12000</u>						
General	-0.4	1.3	-0.2	3.0	4.4	4.6
Food	-1.0	1.6	-0.5	1.7	4.0	4.5
Non-food	0.1	1.0	0.2	4.5	4.8	4.8
<u>Rs. 12001- 18000</u>						
General	-0.4	1.4	-0.1	2.6	4.5	4.8
Food	-0.9	1.6	-0.4	2.0	4.2	4.7
Non-food	0.2	1.1	0.2	3.1	4.9	4.9
<u>Rs. 18001- 35000</u>						
General	-0.3	1.4	0.0	3.3	4.7	4.9
Food	-0.8	1.7	-0.3	2.2	4.4	5.0
Non-food	0.2	1.1	0.2	4.2	4.9	4.9
<u>Above Rs. 35000</u>						
General	-0.1	1.4	0.1	3.4	5.0	5.3
Food	-0.5	1.8	0.1	2.3	4.6	5.3
Non-food	0.2	1.2	0.2	4.0	5.2	5.3
<u>All income groups</u>						
General	-0.2	1.4	0.0	3.2	4.8	5.0
Food	-0.7	1.7	-0.2	2.1	4.4	4.9
Non-food	0.2	1.2	0.2	3.9	5.1	5.1

Table A8: SPI Item-wise Price Movements

Sr.No.	Items	Unit	Prices	Percentage change	
			May-17	YoY	MoM
1	Wheat	10Kg.	326.1	0.8	-3.4
2	Wheat Flour Bag	10Kg.	371.0	-0.1	-2.2
3	Rice Basmati Broken	Kg.	68.3	14.6	2.0
4	Rice Irri-6	Kg.	49.7	7.4	0.0
5	Bread Plain Med. Size (340-400 Gm.)	Each	41.1	0.7	0.0
6	Beef	Kg.	332.4	4.2	0.1
7	Mutton	Kg.	681.5	6.6	0.3
8	Chicken Live (Farm)	Kg.	159.3	-8.2	-5.1
9	Milk Fresh	Litr	81.2	2.3	0.0
10	Curd	Kg.	96.3	3.5	0.6
11	Milk Powdered Nido	500G	368.6	-3.2	-0.9
12	Egg Hen (Farm)	Doz.	87.4	21.5	3.9
13	Mustard Oil	Kg.	181.4	1.2	0.0
14	Cooking Oil (Tin)	2.5Ltr	467.2	2.8	0.1
15	Veg. Ghee (Tin)	2.5Kg.	460.4	3.4	0.0
16	Veg.Ghee Loose	Kg.	145.2	4.3	-0.5
17	Bananas	Doz.	88.5	5.3	5.1
18	Masoor Pulse Washed	Kg.	127.5	-15.6	0.0
19	Moong Pulse Washed	Kg.	129.4	-18.7	0.7
20	Mash Pulse Washed	Kg.	194.0	-29.4	1.9
21	Gram Pulse Washed	Kg.	131.5	-7.3	2.6
22	Potatoes	Kg.	34.8	66.8	18.4
23	Onions	Kg.	29.5	-8.8	-9.1
24	Tomatoes	Kg.	30.1	35.1	-47.3
25	Sugar	Kg.	58.5	-8.3	-2.5
26	Gur	Kg.	83.5	-4.8	0.1
27	Salt Powdered Loose (Lahori)	Kg.	10.7	2.3	0.0
28	Red Chillies Powder Loose	Kg.	264.2	-4.5	0.0
29	Garlic	Kg.	228.9	15.9	-9.1
30	Tea (Yellow Label)	200Gm.	203.7	29.0	1.1
31	Cooked Beef Plate	Each	93.5	3.3	0.0
32	Cooked Dal Plate	Each	56.9	3.1	0.0
33	Tea Prepared (Sada)	Cup	20.8	6.0	0.3
34	Cigarettes K-2 (20'S)	20'S	67.4	12.0	0.0
35	Long Cloth (Coarse Latha)	Mtr.	207.6	1.1	0.8
36	Shirting	Mtr.	166.7	1.5	1.2
37	Lawn	Mtr.	255.2	1.7	1.3
38	Georgette (Voil Printed)	Mtr.	125.0	0.9	0.3
39	Sandal Gents Bata	Pair	699.0	0.0	0.0
40	Chappal Spong.Bata (Gents)	Pair	179.1	0.0	0.0
41	Sandal Ladies Bata	Pair	502.4	0.0	0.0
42	Electric Charges 1-50	Unit	2.0	0.0	0.0
43	Gas Charges upto 3.3719	Mmbtu	128.7	0.3	0.0
44	Kerosene	Litr	78.8	5.3	-0.1
45	Firewood	40Kg	609.1	2.1	-0.2
46	Energy Savor 14 Watts	Each	167.8	0.0	0.0
47	Washing Soap (200-250 Gm.)	Cake	25.9	3.5	0.0
48	Match Box	Each	2.2	5.7	1.4
49	Petrol	Litr	74.9	14.9	0.0
50	Diesel	Litr	84.0	14.3	0.0
51	L.P.G.(11 Kg Cylinder.)	Each	1016.8	10.3	-6.7
52	Tele. Local Call	Call	3.9	0.0	0.0
53	Bath Soap Lifebuoy (Standard)	Cake	40.6	13.5	3.8
Maximum				66.8	18.4
Median				2.3	0.0
Minimum				-29.4	-47.3

Table A9: Distribution of Price Changes (YoY) - WPI Items: May 2017				
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	Hides and Fur Skins-Raw, Sorghum/Jowar, Millet/Bajra, Stimulant and Spice Crops, Maize, Poultry, Sugar Crops, Dry Fruits, Pulses	Milk from Bovine Animals, Raw Animal Material/Wool, Wheat	Other Oil Seeds, Fuel Wood in Logs	Edible Roots/Potatoes, Unmanufactured Tobacco, Vegetables, Fibre Crops, Eggs, Rice, Fresh Fruits, Cotton Seeds, Fish Live Fresh or Chilled
Ores & Minerals, Electricity Gas & Water	Coal not Agglomerated, Electrical Energy	Salt & Pure Sodium Chloride, Natural Gas Liquefied		
Food Products, Beverages and Tobacco, Textiles, Apparel and Leather Products	Sugar Refined, Other Cereal Flour, Nylon Yarn, Silk and Reyon Fabrics, Chocolate, Wheat Flour, Milk and Cream in Solid Form, Beverages, Spices, Other Leather N.E.C, Leather Without Hairs	Towels, Blended Yarn, Footwear, Quilts, Dairy Products N.E.C, Vegetable Ghee, Vegetable Oil Refined, Mineral Water, Other Fabrics, Blankets, Ready Made Garments, Cotton Fabrics, Synthetic Carpets, Fruit Juices, Other Food Products, Oil Cakes, Bed Sheets	Vegetables & Fruit Juices, Hosiery Products, Woolen Carpets, Sugar Confectionary, Meat of Animals, Processed Liquid Milk	Cotton Yarn, Tobacco Products, Coffee and Tea, Woven Fabrics, Ice Cream, Dried Fruits & Nuts
Other Transportable Goods except Metal Products, Machinery and Equipments	Fertilizers, Chemicals, Pesticides, Auto Tyres, Plastic Products, Paints & Varnishes, Coke, Dying Materials	Cement, Soaps & Detergent, Mobil Oil, Printing Paper, Kerosene Oil, Ceramics and Sanitary, Bed Foams, Bricks Blocks and Tiles	Medicines, Matches, Timber, Insecticides	Furnace Oil, Glass Sheets, Other Glass Articles, Motor Sprit, Diesel Oil, Hard Board
Metal Product Machinery & Equipment	Cultivators, Tractors, Air Conditioners, Motor Cycles, Pig Iron, Concrete Mixer, Bicycles	Electrical Wires, Motor Vehicles, Chuff Cutter, Lighting Equipments, Steel Products	Radio and Television, Vacuum Pumps, Engines and Motors, Refrige,Wash& Sew Mach,Iron,Fan, Steel Bars & Sheets	Lathe Machines, Pipe Fittings

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

Items and specification	Weights	Index		
		May-16	Apr-17	May-17
General	100.00	205.99	216.30	216.33
Food & Non-Alcoholic Beverages.	34.83	219.65	230.25	229.65
1 Wheat	0.35	190.74	203.46	192.57
2 Wheat Flour	4.16	208.56	211.07	208.05
3 Wheat Product	0.10	213.99	216.66	216.02
4 Besan	0.15	297.68	296.79	297.62
5 Rice	1.58	154.07	174.21	177.72
6 Cereals	0.16	248.06	254.41	255.14
7 Bakery & Confectionary	1.16	212.69	217.62	217.90
8 Nimco	0.46	245.24	253.75	254.27
9 Meat	2.43	261.05	271.99	274.72
10 Chicken	1.36	207.46	208.20	192.12
11 Fish	0.30	218.98	217.64	216.86
12 Milk Fresh	6.68	261.88	271.51	273.61
13 Milk Product	0.63	253.26	260.42	261.79
14 Milk Powder	0.11	235.69	234.56	234.48
15 Egg	0.46	150.91	179.91	178.26
16 Mustard Oil	0.10	153.93	157.82	159.76
17 Cooking Oil	1.75	132.88	137.69	137.86
18 Vegetable Ghee	2.07	137.59	143.12	142.61
19 Dry Fruits	0.25	263.17	266.78	266.15
20 Fresh Fruits	1.86	260.15	275.79	303.71
21 Pulse Masoor	0.27	211.25	181.99	181.21
22 Pulse Moong	0.23	299.54	244.75	245.68
23 Pulse Mash (Washed)	0.21	374.98	279.70	283.17
24 Pulse Gram	0.24	311.49	288.13	294.91
25 Gram Whole	0.16	258.79	283.71	288.70
26 Beans	0.03	234.91	231.55	234.22
27 Potatoes	0.48	136.23	193.29	231.71
28 Onion	0.54	196.92	199.32	178.05
29 Tomatoes	0.45	75.85	201.46	120.81
30 Fresh Vegetable	1.66	216.09	272.52	248.13
31 Sugar	1.04	227.12	216.60	211.63
32 Gur	0.02	271.20	258.74	258.77
33 Honey	0.04	307.78	331.39	331.39
34 Sweet Meet	0.25	241.33	247.92	250.10
35 Beverages	1.20	219.07	220.59	224.56
36 Jam, Tomato Ketchup & Pickle	0.25	214.28	217.10	217.79
37 Condiments	0.27	262.65	267.70	269.19
38 Spices	0.54	240.26	236.82	236.86
39 Tea	0.84	256.86	286.87	289.90
Alcoholic Beverages, Tobacco	1.41	346.08	382.78	383.32
40 Cigarette	1.39	347.85	385.02	385.57
41 Betel Leaves & Nuts	0.02	238.78	246.79	246.77
Clothing & Footwear	7.57	228.31	235.61	236.71
42 Cotton Cloth	1.73	223.74	228.50	230.16
43 Woolen Cloth	0.88	243.69	255.67	256.11
44 Ready Made Garment	0.97	235.32	243.07	244.95
45 Woolen Readymade Garments	0.40	253.20	258.64	258.38
46 Hosiery	0.51	240.43	246.51	246.87
47 Dopatta	0.44	239.65	244.46	244.48
48 Cleaning & Laundering	0.21	253.01	265.87	269.30

Table A10: Consumer Price Index Numbers by Major Groups and Composite Commodities				
Items and specification	Weights	Index		
		May-16	Apr-17	May-17
49 Tailoring	0.88	293.42	313.43	316.04
50 Footwear	1.55	166.23	167.05	167.13
Housing, Water, Elect, Gas & Other Fuel	29.41	187.12	196.62	196.70
51 House Rent	21.81	176.44	188.68	188.68
52 Construction Input Item	0.56	243.86	250.55	250.49
53 Construction Wage Rate	0.33	226.72	237.79	240.32
54 Water Supply	0.50	161.10	168.16	171.58
55 Electricity	4.40	238.10	238.10	238.10
56 Gas	1.58	158.08	158.08	158.08
57 Kerosene Oil	0.01	195.28	199.32	198.42
58 Fire Wood Whole	0.23	284.79	290.56	290.23
Furnished H.Hold Equip.& Maint. Etc	4.21	220.71	224.95	226.42
59 Furniture	0.33	211.36	217.24	217.87
60 Household Textile	0.65	220.62	226.57	227.19
61 Household Equipment	0.59	178.29	180.69	182.03
62 Utensils	0.32	223.50	230.57	231.84
63 Plastic Products	0.25	206.97	210.32	210.84
64 Washing Soap & Detergent	0.79	226.67	231.03	231.44
65 Sewing Needle & Dry Cell	0.15	208.58	206.22	206.48
66 Household Servant	1.04	246.18	249.98	253.47
67 Marriage Hall Charges	0.08	240.06	245.66	248.67
Health	2.19	187.43	212.43	212.65
68 Drug Medicine	1.27	153.11	184.57	184.67
69 Medical Equipment	0.01	233.19	251.01	251.21
70 Doctor (MBBS) Clinic Fee	0.59	260.45	280.95	280.95
71 Medical Test	0.32	187.44	195.45	196.52
Transport	7.20	169.31	176.33	176.43
72 Motor Vehicle	0.66	165.23	173.26	175.12
73 Motor Vehicle Accessories	0.24	215.24	212.27	211.92
74 Motor Fuel	3.03	135.44	149.40	149.18
75 Mechanical Service	0.46	224.39	230.12	230.37
76 Motor Vehicle Tax	0.11	210.18	210.18	210.18
77 Transport Services	2.70	193.15	193.56	193.59
Communication	3.22	130.77	132.87	132.87
78 Postal Services	0.07	239.10	249.16	249.29
79 Communication & Apparatus	3.15	128.49	130.43	130.42
Recreation & Culture	2.02	195.79	196.02	196.12
80 Recreation & Culture	0.86	129.15	129.72	129.73
81 Text Books	0.57	292.41	287.98	287.98
82 News Papers	0.19	175.49	181.01	181.01
83 Stationery	0.40	211.82	215.42	215.94
Education	3.94	224.19	249.20	249.23
84 Education	3.94	224.19	249.20	249.23
Restaurants And Hotels	1.23	263.16	275.88	277.29
85 Ready Made Food	1.23	263.16	275.88	277.29
Miscellaneous Goods And Services	2.76	233.52	244.71	245.99
86 Personal Care	1.49	214.76	225.21	226.79
87 Cosmetics	0.39	199.04	203.88	204.76
88 Blades	0.03	195.16	195.78	197.80
89 Personal Equipments	0.84	283.91	299.71	300.63

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

Items and Specifications	Index		
	May-16	Apr-17	May-17
General	208.01	219.22	218.78
Agriculture Forestry & Fishery	233.26	254.52	252.57
1 Wheat	199.04	208.27	199.84
2 Maize	209.33	196.14	193.75
3 Rice	143.34	161.46	164.78
4 Sorghum/Jowar	286.07	237.62	211.32
5 Millet/Bajra	193.10	168.81	160.16
6 Vegetables	201.87	309.16	244.61
7 Fresh Fruits	282.91	302.55	319.44
8 Dry Fruits	251.32	237.07	236.56
9 Cotton Seeds	251.49	274.20	277.04
10 Other Oil Seeds	165.14	182.29	181.57
11 Edible Roots/ Potatoes	111.80	196.74	232.84
12 Stimulant And Spice Crops	226.16	211.77	208.56
13 Pulses	280.91	266.68	269.80
14 Sugar Crops	286.34	268.94	268.94
15 Fibre Crops	183.00	219.01	218.63
16 Unmanufactured Tobacco	233.06	279.24	290.42
17 Poultry	220.59	223.38	205.02
18 Milk From Bovine Animals	258.97	268.56	268.56
19 Eggs	150.30	169.58	178.14
20 Raw Animal Material/Wool	175.56	177.28	176.86
21 Hides And Fur Skins, Raw	151.80	107.72	106.42
22 Fuel Wood In Logs	264.77	279.63	279.63
23 Fishes Live Fresh Or Chilled	423.43	467.04	466.43
Ores/Minerals, Gas & Elect.	244.11	242.28	241.85
24 Coal Not Agglomerated	160.78	155.29	155.29
25 Natural Gas Liquefied	208.07	209.92	208.89
26 Salt & Pure Sodium Chloride	252.31	242.00	254.38
27 Electrical Energy	293.09	288.00	288.00
Food, Beverages, Tobacco, Textiles	215.79	227.31	227.51
28 Meat Of Animals	271.73	287.03	288.83
29 Vegetables & Fruit Juices	203.24	223.21	223.21
30 Dried Fruits & Nuts	242.58	263.49	267.71
31 Fruit Juices	179.74	180.42	181.68
32 Vegetable Oil Refined	151.60	155.05	154.94
33 Vegetable Ghee	122.60	126.45	126.11
34 Oil Cakes	226.23	229.75	227.54
35 Processed Liquid Milk	248.90	262.24	264.31
36 Milk And Cream In Solid Form	218.99	218.15	218.36
37 Ice Cream	231.30	245.21	261.28
38 Dairy Products N.E.C	248.01	254.71	255.13
39 Wheat Flour	192.67	194.97	191.32
40 Other Cereal Flour	275.08	242.58	252.55
41 Sugar Refined	241.96	221.44	214.13
42 Chocolate	101.06	100.00	100.00
43 Sugar Confectionary	118.83	128.44	128.44
44 Coffee And Tea	232.09	256.18	264.11
45 Spices	189.79	190.30	189.72
46 Other Food Products	292.52	293.85	294.51
47 Mineral Water	194.37	198.57	198.57
48 Beverages	172.44	172.33	172.03
49 Tobacco Products	390.01	445.85	445.85
50 Cotton Yarn	175.29	203.06	203.16
51 Nylon Yarn	147.08	143.99	143.99
52 Blended Yarn	176.75	182.78	182.28
53 Woven Fabrics	279.42	310.72	316.28
54 Cotton Fabrics	208.84	209.95	211.60
55 Other Fabrics	222.36	224.40	227.16

Table A11: Wholesale Price Index Numbers by Major Groups and Composite Commodities				
		Index		
Items and Specifications		May-16	Apr-17	May-17
56 Silk And Rayon Fabrics		190.96	186.55	188.89
57 Towels		267.20	276.14	276.14
58 Blankets		243.93	247.52	247.52
59 Bed Sheets		256.29	256.07	256.87
60 Quilts		198.00	203.79	203.79
61 Woolen Carpets		181.55	196.43	196.43
62 Synthetic Carpets		129.25	130.95	130.95
63 Hosiery Products		222.52	241.83	243.31
64 Ready Made Garments		194.45	197.19	197.19
65 Leather With Out Hairs		221.97	221.97	221.97
66 Other Leather N.E.C		207.31	207.31	207.31
67 Footwear's		141.36	145.51	145.51
Other Transportable Goods		162.49	171.61	171.76
68 Timber		220.36	231.53	231.53
69 Printing Paper		161.82	173.54	165.63
70 Hard Board		197.92	220.83	220.83
71 Coke		163.45	163.45	163.45
72 Motor Sprit		108.54	124.98	124.98
73 Diesel Oil		136.30	156.91	156.91
74 Kerosene Oil		115.11	117.12	117.12
75 Furnace Oil		62.54	98.59	99.91
76 Mobil Oil		196.00	200.49	201.29
77 Chemicals		178.78	170.99	173.01
78 Dying Materials		146.55	146.55	146.55
79 Fertilizers		256.25	218.31	218.85
80 Pesticides		312.37	304.43	304.43
81 Insecticides		134.92	142.02	141.71
82 Paints & Varnishes		295.36	294.51	294.51
83 Medicines		161.67	174.00	174.00
84 Soaps & Detergent		183.12	191.21	191.14
85 Auto Tyres		181.25	177.07	177.07
86 Plastic Products		227.58	225.88	225.88
87 Glass Sheets		231.30	298.97	298.97
88 Other Glass Articles		254.36	317.24	317.24
89 Ceramics And Sanitary		230.06	233.92	233.92
90 Bricks Blocks And Tiles		220.40	220.73	220.73
91 Cement		205.35	216.55	214.78
92 Bed Foams		167.67	170.00	170.00
93 Matches		162.62	171.36	171.36
Metal Product Machinery & Equip		172.56	176.25	176.43
94 Pig Iron		128.97	128.97	128.97
95 Steel Bars & Sheets		127.17	134.87	135.13
96 Pipe Fittings		193.63	215.29	215.66
97 Steel Products		176.99	177.56	177.56
98 Engines And Motors		109.24	116.98	116.98
99 Vacuum Pumps		114.95	123.69	123.69
100 Air Conditioners		201.18	200.10	200.10
101 Cultivators		219.76	190.66	190.66
102 Chuff Cutter		149.20	153.46	153.46
103 Tractors		205.43	201.75	201.75
104 Lathe Machines		208.81	241.06	241.06
105 Concrete Mixer		138.83	138.83	138.83
106 Refrige,Wash& Sew Mach, Iron,Fan		201.77	213.78	214.75
107 Electrical Wires		195.19	204.51	204.51
108 Lighting Equipments		169.52	170.73	170.73
109 Radio And Television		129.97	140.42	140.42
110 Motor Vehicles		185.25	191.39	191.39
111 Motor Cycles		125.89	125.89	125.89
112 Bicycles		187.65	187.65	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
2015-16		203.82	224.78	191.25	207.64	234.69	190.47	216.23
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	201.76	224.14	188.35	209.53	233.68	194.20	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	190.48	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
	Jun	207.30	228.95	194.32	210.88	244.68	189.44	216.58
	Jul	210.08	234.69	195.33	215.81	251.76	192.99	218.81
	Aug	209.46	232.48	195.66	215.75	250.12	193.95	218.66
	Sep	209.88	232.80	196.14	214.61	250.41	191.89	218.67
	Oct	211.57	234.68	197.72	214.53	250.63	191.64	220.11
	Nov	212.01	235.17	198.13	214.07	247.89	192.62	220.68
	Dec	210.57	230.69	198.51	213.76	244.40	194.32	219.73
2017	Jan	210.94	228.45	200.44	214.84	244.73	195.87	218.35
	Feb	211.54	229.19	200.96	215.86	244.91	197.42	219.25
	Mar	213.32	233.47	201.24	217.29	247.53	198.10	223.62
	Apr	216.30	237.50	203.59	219.22	252.45	198.13	222.07
	May	216.33	237.01	203.94	218.78	251.10	198.26	220.51

*: all groups combined

Table A13: International Commodity Prices/ Indices				
	Feb-17	Mar-17	Apr-17	May-17
Energy				
Crude Oil (US\$ per barrel) *	54.4	50.9	52.2	49.9
IMF Energy Index (2005 = 100)	103.0	96.0	98.4	94.0
WB Energy Index (2010 = 100) @	69.4	65.3	67.1	64.3
Food				
Rice (\$/MT)	368.5	367.8	374.5	402.3
Wheat (\$/MT)	147.3	146.4	138.4	146.5
Sugar (US cent/ pound)	20.3	18.1	16.4	15.7
Palm Oil (\$/MT)	706.8	663.3	623.2	655.5
Soybean Oil (\$/MT)	742.9	723.4	695.3	714.1
Non-Food Non-Energy				
Cotton Outlook 'A' Index #	85.2	86.8	87.0	88.6
IMF Metal Price Index (2005 = 100)	150.8	149.4	139.9	134.4
Copper (\$/MT)	5,940.9	5,824.6	5,683.9	5,599.6
Aluminum (\$/MT)	1,860.8	1,901.5	1,921.2	1,913.0
Iron Ore (\$ cents/dry MT)	88.8	87.2	70.4	61.6
Tin (\$/MT)	19,446.5	19,875.2	19,910.3	20,200.3
Nickel (\$/MT)	10,643.3	10,204.7	9,609.3	9,155.1
Zinc (\$/MT)	2,845.6	2,776.9	2,614.9	2,590.2
Lead (\$/MT)	2,311.5	2,280.9	2,220.6	2,125.1
Uranium (\$/MT)	25.1	24.6	23.2	21.6
DAP (\$/MT)	360.0	375.0	366.0	357.0
Urea (\$/MT)	247.0	234.0	205.0	180.0
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	FY13	FY14	FY15	FY16	FY17
Jul	169.57	183.58	198.05	201.76	210.08
Aug	171.09	185.71	198.70	202.25	209.46
Sep	172.44	185.18	199.40	202.04	209.88
Oct	173.10	188.82	199.81	203.03	211.57
Nov	172.42	191.21	198.79	204.22	212.01
Dec	172.82	188.68	196.79	203.06	210.57
Jan	175.70	189.60	196.95	203.49	210.94
Feb	175.11	189.00	195.13	202.98	211.54
Mar	175.82	190.82	195.57	203.28	213.32
Apr	177.74	194.06	198.16	206.43	216.30
May	178.65	193.55	199.66	205.99	216.33
Jun	179.94	194.74	200.89	207.30	
Seasonally Adjusted Series					
Jul	168.87	182.69	197.01	200.65	208.86
Aug	169.85	184.34	197.27	200.85	208.00
Sep	171.30	183.98	198.12	200.77	208.61
Oct	171.53	187.13	198.03	201.25	209.76
Nov	171.35	189.97	197.54	202.97	210.72
Dec	173.72	189.65	197.76	203.99	211.48
Jan	176.21	190.21	197.61	204.21	211.74
Feb	176.94	191.01	197.23	205.16	213.81
Mar	177.35	192.53	197.37	205.20	215.36
Apr	177.69	193.99	198.09	206.35	216.19
May	179.25	194.19	200.28	206.62	216.99
Jun	180.65	195.46	201.57	207.94	

Table 15: CPI Food Data Series Original and Seasonally Adjusted					
Original Series					
Period	FY13	FY14	FY15	FY16	FY17
Jul	190.72	208.19	222.80	224.14	234.69
Aug	192.47	212.27	224.05	224.86	232.48
Sep	193.80	209.09	224.12	223.87	232.80
Oct	193.66	212.61	223.74	224.86	234.68
Nov	193.03	218.16	222.74	227.55	235.17
Dec	192.97	210.89	218.08	223.90	230.69
Jan	196.58	210.81	217.10	222.58	228.45
Feb	194.05	208.74	213.15	221.07	229.19
Mar	195.06	213.11	214.25	222.25	233.47
Apr	197.74	217.33	217.26	227.53	237.50
May	200.00	214.75	221.22	225.84	237.01
Jun	202.11	216.98	223.84	228.95	
Seasonally Adjusted Series					
Jul	189.12	206.12	220.35	221.52	231.80
Aug	189.42	208.86	220.48	221.31	228.78
Sep	190.88	206.02	220.86	220.68	229.61
Oct	190.44	209.21	220.25	221.44	231.25
Nov	190.12	214.82	219.40	224.25	231.79
Dec	194.56	212.58	219.73	225.43	232.14
Jan	198.13	212.68	219.15	224.85	231.00
Feb	198.54	213.67	218.28	226.39	234.73
Mar	198.10	216.50	217.75	225.96	237.36
Apr	198.36	217.99	217.94	228.23	238.15
May	201.60	216.45	222.88	227.50	238.74
Jun	203.65	218.47	225.16	230.11	

Table 16: CPI Monthly & Average Seasonal Factors

Period	FY13	FY14	FY15	FY16	FY17	Average
Jul	100.41	100.48	100.53	100.55	100.59	100.51
Aug	100.73	100.74	100.72	100.70	100.70	100.72
Sep	100.67	100.65	100.65	100.63	100.61	100.64
Oct	100.91	100.91	100.90	100.88	100.86	100.89
Nov	100.62	100.66	100.63	100.62	100.61	100.63
Dec	99.48	99.49	99.51	99.54	99.57	99.52
Jan	99.71	99.68	99.67	99.65	99.62	99.66
Feb	98.96	98.95	98.94	98.94	98.94	98.94
Mar	99.14	99.11	99.09	99.06	99.05	99.09
Apr	100.03	100.03	100.04	100.04	100.05	100.04
May	99.67	99.67	99.69	99.70	99.69	99.68
Jun	99.60	99.63	99.66	99.69		99.65

Table 17: CPI Food Monthly & Average Seasonal Factors

Period	FY13	FY14	FY15	FY16	FY17	Average
Jul	100.85	101.01	101.11	101.18	101.25	101.08
Aug	101.61	101.64	101.62	101.60	101.62	101.62
Sep	101.53	101.49	101.48	101.45	101.39	101.47
Oct	101.69	101.62	101.59	101.55	101.49	101.59
Nov	101.53	101.56	101.52	101.47	101.46	101.51
Dec	99.18	99.21	99.25	99.32	99.38	99.27
Jan	99.22	99.12	99.07	98.99	98.90	99.06
Feb	97.74	97.69	97.65	97.65	97.64	97.67
Mar	98.47	98.44	98.39	98.36	98.36	98.40
Apr	99.69	99.70	99.69	99.69	99.73	99.70
May	99.21	99.22	99.26	99.27	99.27	99.24
Jun	99.24	99.32	99.42	99.50		99.37

Table 18: CPI Month-on-Month % Change Original & Seasonally Adjusted					
Original Series					
Period	FY13	FY14	FY15	FY16	FY17
Jul	-0.25	2.02	1.70	0.43	1.34
Aug	0.90	1.16	0.33	0.24	-0.30
Sep	0.79	-0.29	0.35	-0.10	0.20
Oct	0.38	1.97	0.21	0.49	0.81
Nov	-0.39	1.27	-0.51	0.59	0.21
Dec	0.23	-1.32	-1.01	-0.57	-0.68
Jan	1.67	0.49	0.08	0.21	0.18
Feb	-0.34	-0.32	-0.92	-0.25	0.28
Mar	0.41	0.96	0.23	0.15	0.84
Apr	1.09	1.70	1.32	1.55	1.40
May	0.51	-0.26	0.76	-0.21	0.01
Jun	0.72	0.61	0.62	0.64	
Seasonally Adjusted Series					
Jul	-1.06	1.13	0.79	-0.45	0.44
Aug	0.58	0.90	0.13	0.10	-0.41
Sep	0.85	-0.20	0.43	-0.04	0.29
Oct	0.14	1.71	-0.04	0.24	0.55
Nov	-0.11	1.52	-0.25	0.85	0.46
Dec	1.38	-0.17	0.11	0.51	0.36
Jan	1.43	0.30	-0.08	0.11	0.12
Feb	0.41	0.42	-0.19	0.47	0.98
Mar	0.23	0.80	0.07	0.02	0.73
Apr	0.19	0.76	0.36	0.56	0.39
May	0.88	0.10	1.11	0.13	0.37
Jun	0.78	0.66	0.64	0.64	

Table 19: CPI Food Month-on-Month % Change Original & Seasonally Adjusted					
Original Series					
Period	FY13	FY14	FY15	FY16	FY17
Jul	1.80	3.01	2.68	0.13	2.50
Aug	0.92	1.96	0.56	0.32	-0.94
Sep	0.69	-1.50	0.03	-0.44	0.14
Oct	-0.07	1.68	-0.17	0.44	0.81
Nov	-0.33	2.61	-0.45	1.20	0.21
Dec	-0.03	-3.33	-2.09	-1.61	-1.90
Jan	1.87	-0.04	-0.45	-0.59	-0.97
Feb	-1.29	-0.98	-1.82	-0.68	0.32
Mar	0.52	2.10	0.52	0.54	1.87
Apr	1.37	1.98	1.41	2.38	1.73
May	1.15	-1.19	1.82	-0.74	-0.21
Jun	1.05	1.04	1.18	1.38	
Seasonally Adjusted Series					
Jul	0.11	1.21	0.86	-1.62	0.73
Aug	0.16	1.33	0.06	-0.09	-1.30
Sep	0.77	-1.36	0.17	-0.29	0.36
Oct	-0.23	1.55	-0.28	0.34	0.71
Nov	-0.17	2.68	-0.39	1.27	0.24
Dec	2.34	-1.04	0.15	0.53	0.15
Jan	1.83	0.05	-0.26	-0.26	-0.49
Feb	0.21	0.47	-0.40	0.68	1.61
Mar	-0.22	1.32	-0.24	-0.19	1.12
Apr	0.13	0.69	0.08	1.01	0.33
May	1.64	-0.71	2.27	-0.32	0.25
Jun	1.02	0.93	1.02	1.15	

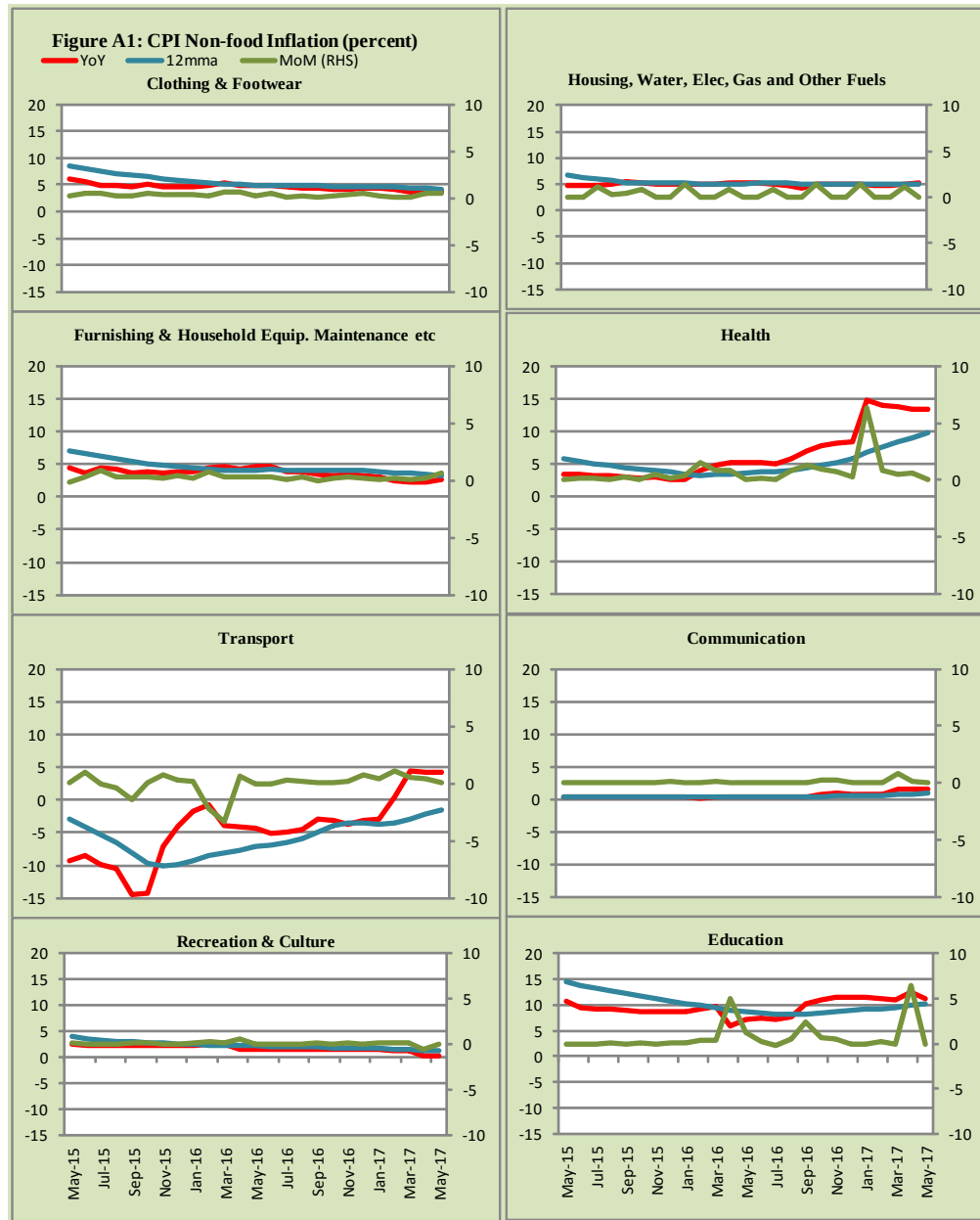


Figure A2: Frequency Distribution of Price Changes of CPI Items, May 2017

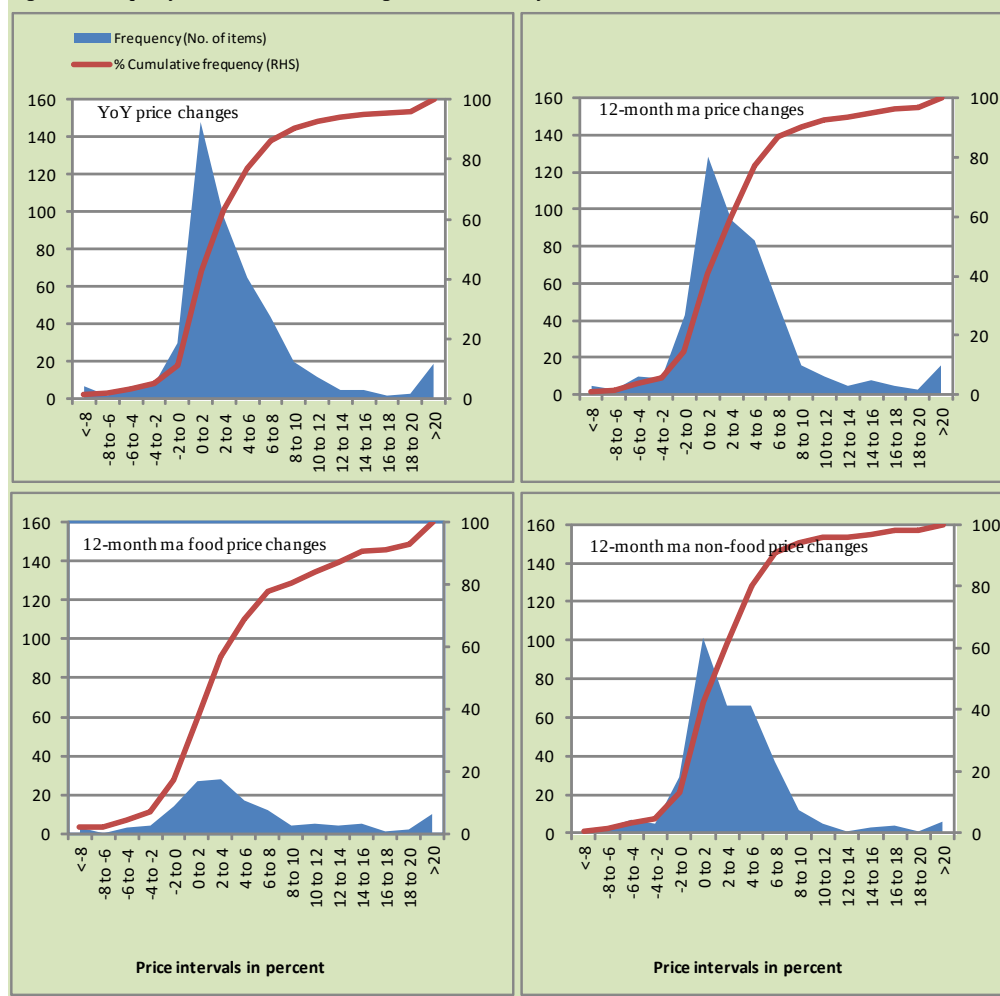


Figure A3: Frequency Distribution of Price Changes of WPI Commodities, May 2017

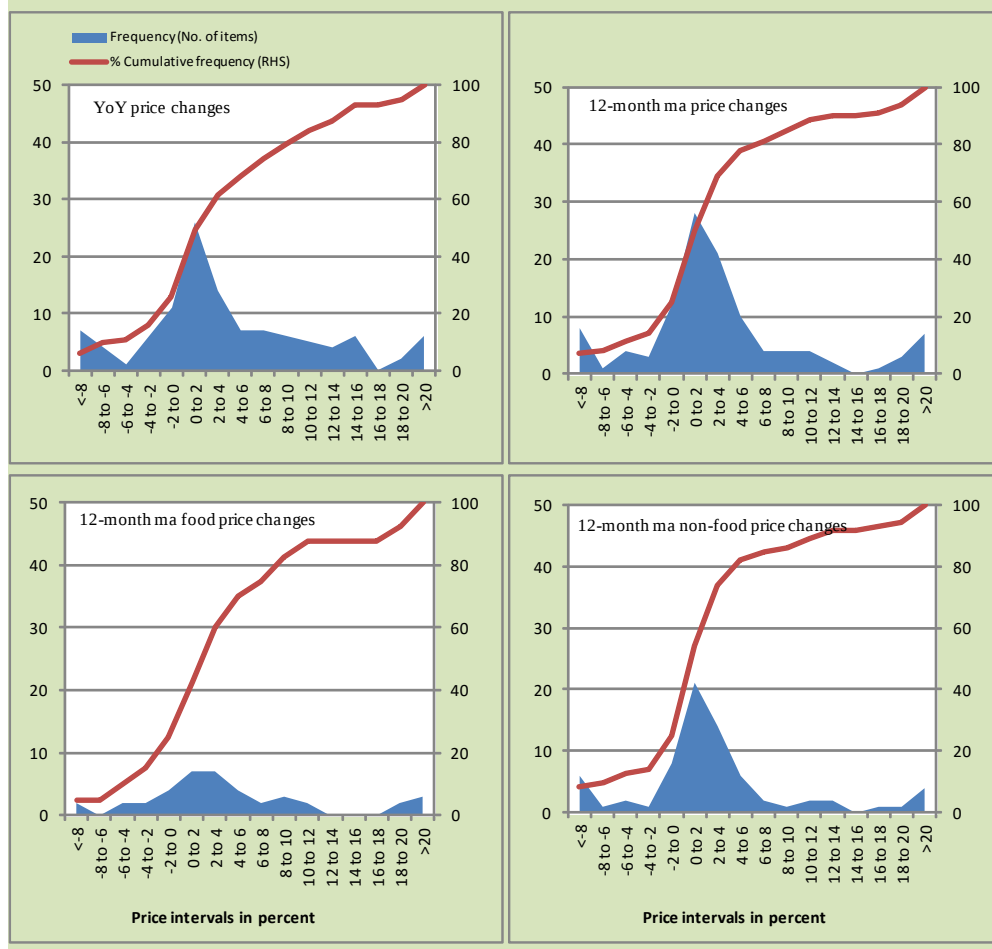
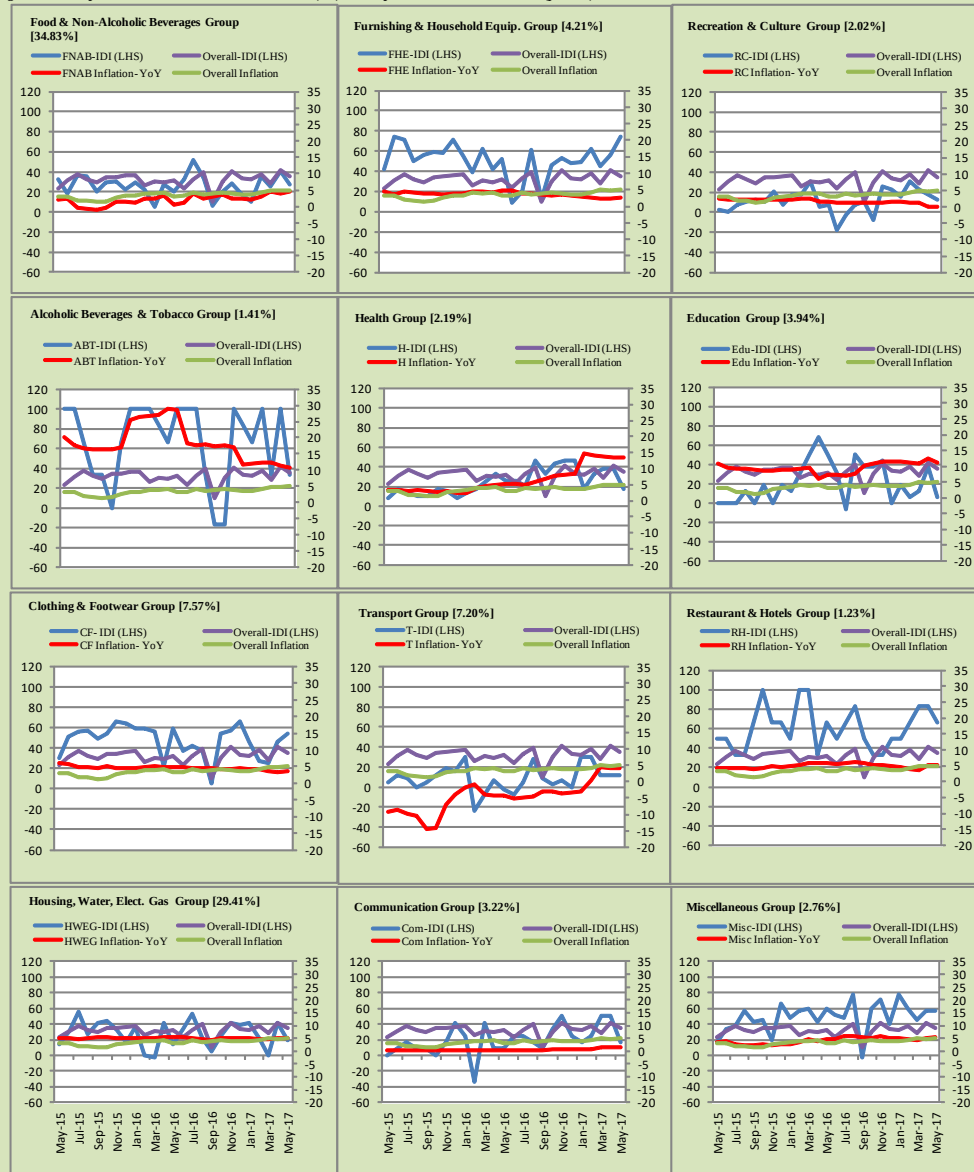


Figure A4: Group-wise/ Overall Inflation Diffusion Index (IDI) and respective/ overall YoY Inflation (percent)



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.