

Inflation Monitor

June 2018



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 5.2 percent on year-on-year basis in June 2018 as compared to 4.2 percent in the previous month and 3.9 percent during corresponding month of last year.
2. CPI inflation on month-on-month basis is recorded at level of 0.6 percent in June 2018 as compared to 0.5 percent in the previous month and -0.4 percent during corresponding month of last year. Seasonally adjusted month-on-month CPI inflation is recorded at 0.62 percent in June 2018 compared to 0.68 percent in the previous month.
3. Core inflation (trimmed) on year-on-year basis is recorded at 5.4 percent in June 2018 as compared to 5.1 percent in the previous month and 4.2 percent during corresponding month of last year.
4. On month-on-month basis, the Core inflation (trimmed) is recorded at 0.2 percent in June 2018 as compared to 0.3 percent in the previous month and zero 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 7.1 percent in June 2018 as compared to 6.9 percent in the previous month and 5.5 percent during corresponding month of last year.
6. Core NFNE inflation on month-on-month basis recorded at 0.3 percent in June 2018 as compared to 0.2 percent in the previous month. Core NFNE inflation was 0.1 percent in the corresponding month of last year.
7. WPI inflation on year-on-year basis recorded at 7.6 percent in June 2018 as compared to 5.6 percent in the previous month and 3.3 percent during the corresponding month of last year.

8. WPI inflation on month-on-month basis recorded at 1.5 percent in June 2018 as compared to 1.3 percent in the previous month. It was -0.5 percent in the corresponding month of last year.
9. SPI inflation on year-on-year basis recorded at 3.3 percent in June 2018 as compared to 1.8 percent in the previous month. It was 1.9 percent in the corresponding month of last year.
10. SPI inflation on month-on-month basis recorded at 1.6 percent in June 2018 as compared to 0.6 percent in the previous month. It was 0.1 percent in the corresponding month of last year.

1.1 A New Measure of Core Inflation

A new method of permanently excluding relatively volatile commodities from CPI basket in Pakistan has been developed by SBP. This is achieved by making use of trimming approach on past data on monthly CPI changes to isolate a Relatively Stable Component of CPI (RSC-CPI) as a new measure of core inflation. This method ensures inclusion of both food and non-food commodities that show persistent price behavior in Pakistan (see technical notes for details). Developments in core inflation measured by RSC- CPI for the month of June 2018 are described below:

11. Core RSC inflation on year-on-year basis is recorded at 6.0 percent in June 2018 compared to 5.3 percent in the previous month and 4.5 percent during the corresponding month of last year.
12. Core RSC inflation on month-on-month basis is recorded at 0.3 percent in June 2018 and remained at level in the previous month. It was -0.4 percent 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		
Jun-17	3.9	-0.4	2.4	-1.1	5.0	0.1	5.5	0.1	4.2	0.0	4.5	-0.4	3.3	-0.5	1.9	0.1
Jul-17	2.9	0.3	-0.1	0.0	5.1	0.6	5.6	0.7	4.0	0.4	4.4	0.4	0.7	-0.2	0.2	-0.6
Aug-17	3.4	0.2	1.2	0.4	5.0	0.1	5.5	0.1	4.2	0.1	4.3	0.2	1.0	0.3	0.5	0.2
Sep-17	3.9	0.6	2.4	1.3	4.9	0.2	5.4	0.1	4.1	0.1	4.2	0.1	1.6	0.1	2.2	1.6
Oct-17	3.8	0.7	2.2	0.6	4.9	0.8	5.3	0.9	4.0	0.6	4.3	0.8	2.3	0.6	2.3	0.8
Nov-17	4.0	0.4	2.4	0.4	5.1	0.4	5.4	0.3	4.2	0.3	4.3	0.2	2.9	0.4	2.5	0.5
Dec-17	4.6	-0.1	3.8	-0.6	5.1	0.2	5.5	0.2	4.7	0.2	4.3	0.1	3.4	0.4	2.7	-0.3
Jan-18	4.4	0.0	3.7	-1.0	4.9	0.8	5.2	0.8	4.6	0.6	4.0	0.6	4.7	1.8	2.6	-0.7
Feb-18	3.8	-0.3	2.2	-1.1	4.9	0.2	5.2	0.2	4.3	0.1	4.1	0.2	4.1	-0.1	1.3	-0.9
Mar-18	3.2	0.3	0.1	-0.3	5.4	0.7	5.8	0.7	4.1	0.2	4.4	0.6	3.6	0.2	-0.9	-0.2
Apr-18	3.7	1.8	-0.2	1.5	6.4	2.1	6.9	2.4	5.0	1.7	5.3	2.0	4.0	1.3	0.5	0.7
May-18	4.2	0.5	1.0	1.0	6.4	0.2	6.9	0.2	5.1	0.3	5.3	0.3	5.6	1.3	1.8	0.6
Jun-18	5.2	0.6	3.0	0.8	6.7	0.4	7.1	0.3	5.4	0.2	6.0	0.3	7.6	1.5	3.3	1.6

* NFNE is Non-food non-energy ** Relatively Stable Component of CPI *** SPI for all income groups combined

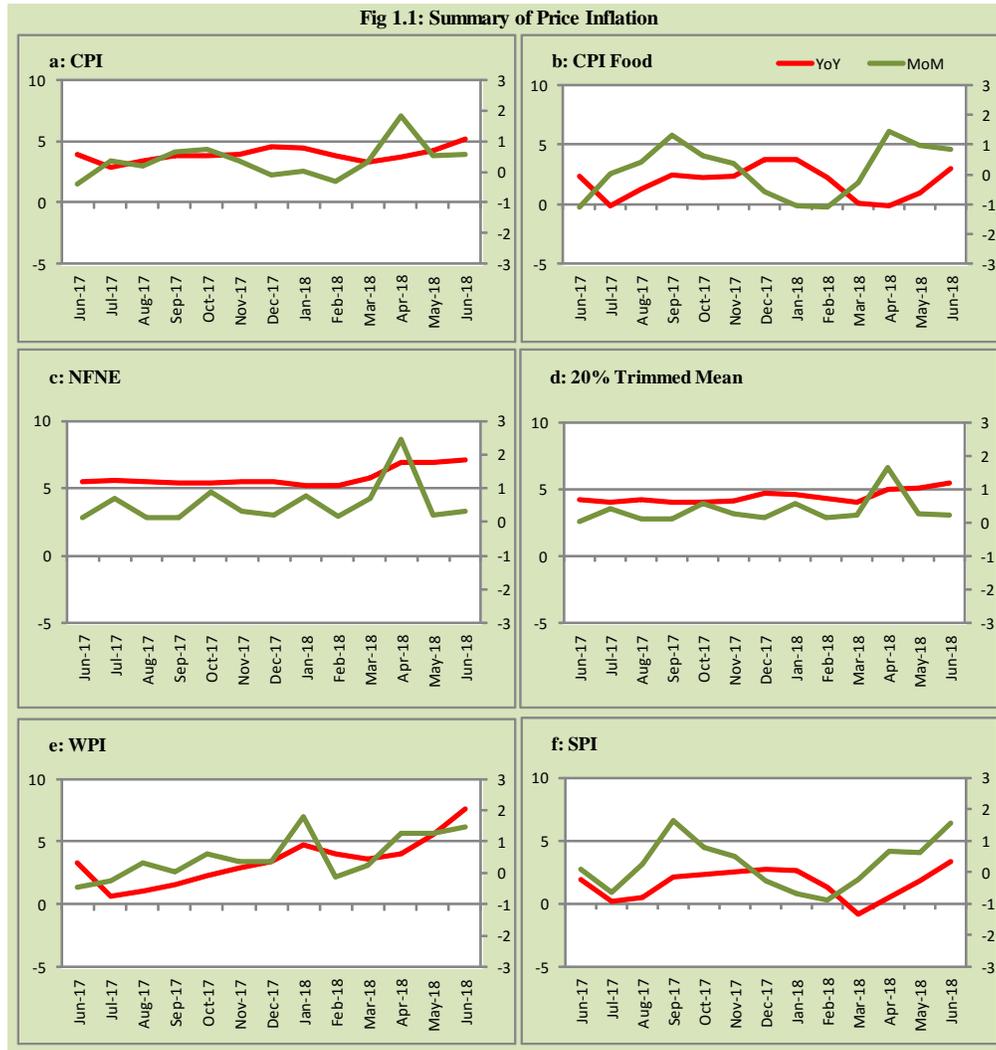


Fig 1.2: Movements in Price Indices (percent)

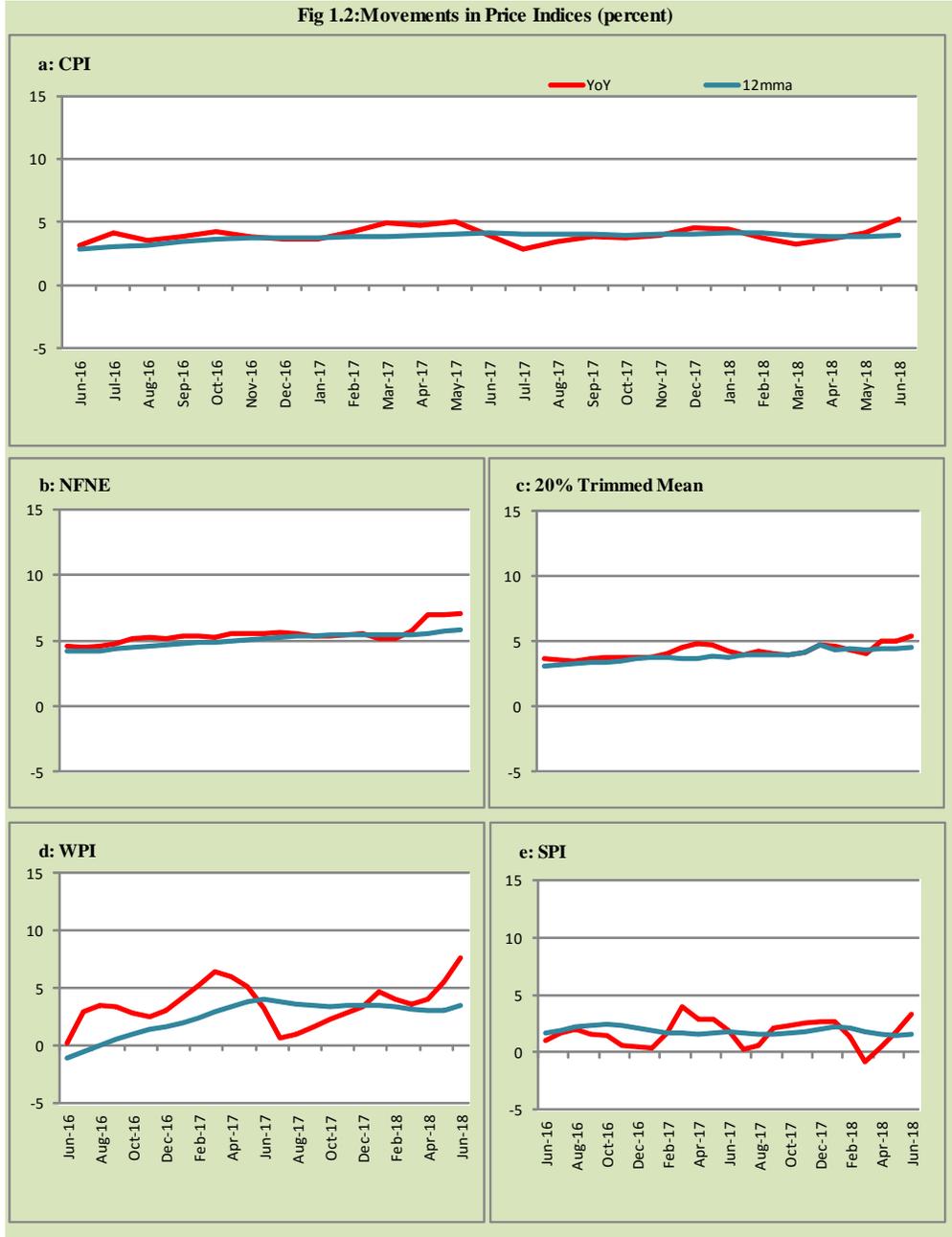
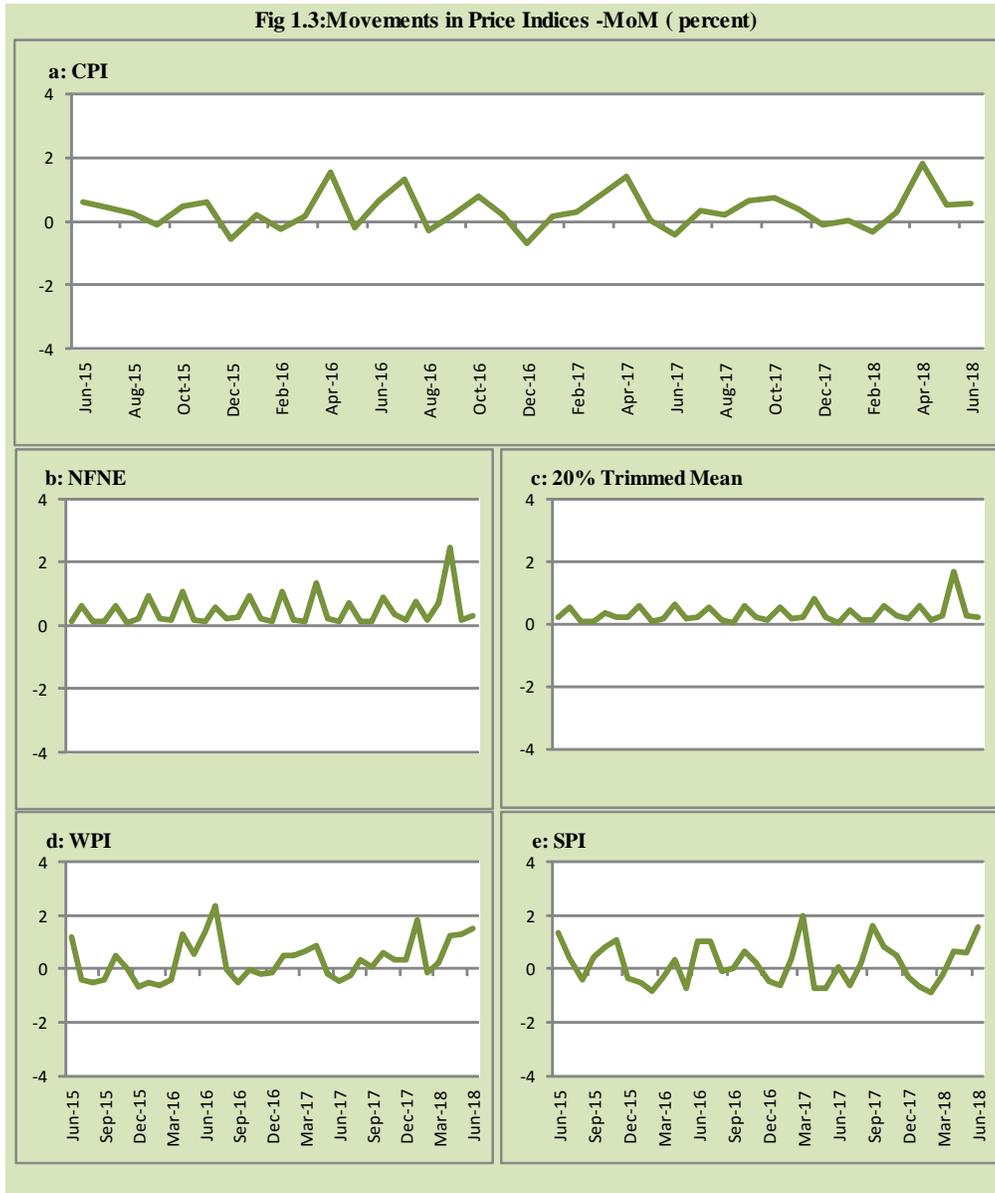
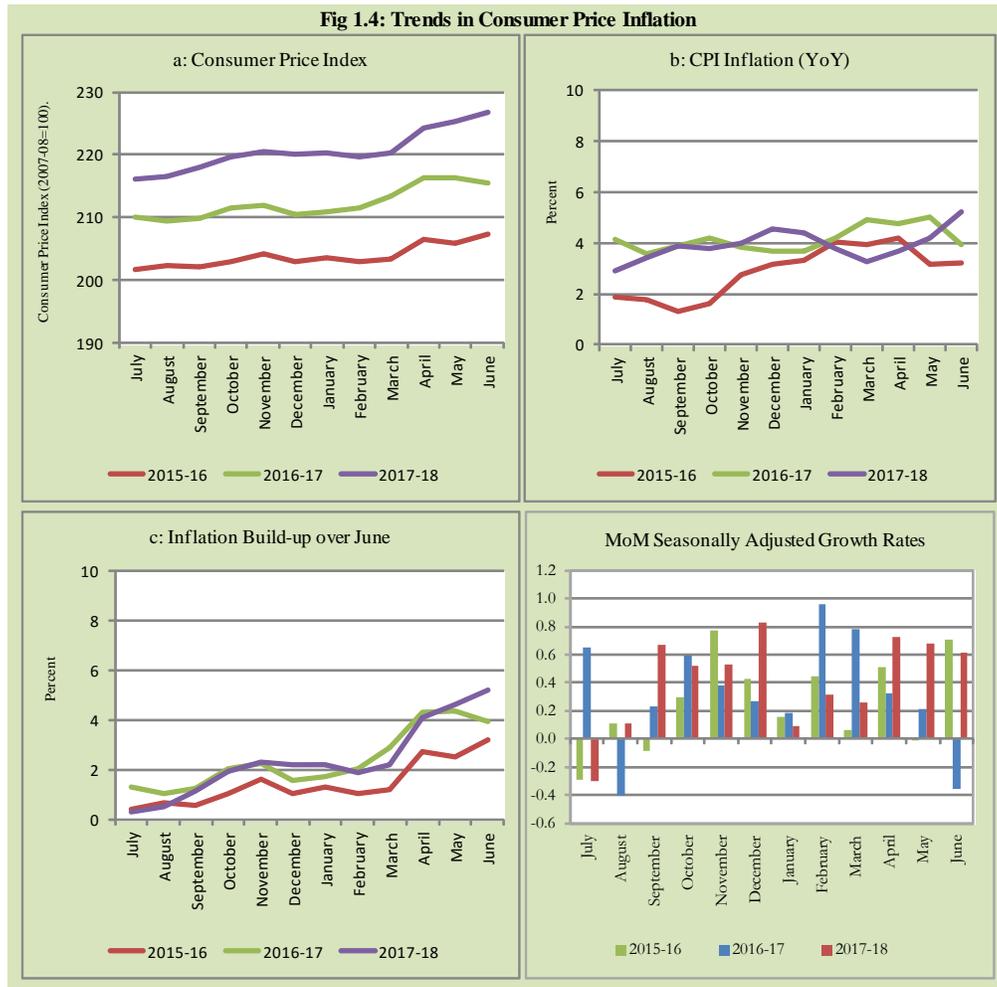


Fig 1.3: Movements in Price Indices -MoM (percent)





2. City wise Inflation

CPI Inflation on year-on-year basis in federal and provincial capitals of Pakistan showed mixed trend during June 2018. Among these five cities, the lowest inflation was observed in Islamabad at 4.5 percent while the highest inflation was observed in Quetta at 9.3 percent (Table A6 of annexure-A).

Table 2.1 City-wise Inflation of Selected Cities (percent)

	Jun-17		May-18		Jun-18	
	MoM	YoY	MoM	YoY	MoM	YoY
Overall CPI	-0.4	3.9	0.5	4.2	0.6	5.2
Islamabad	0.0	5.0	0.2	4.3	0.2	4.5
Karachi	-0.7	2.1	0.0	3.5	0.6	4.8
Lahore	-0.7	4.9	0.8	4.1	0.3	5.2
Peshawar	-0.8	3.2	0.3	3.6	0.3	4.8
Quetta	1.2	2.7	1.4	8.8	1.7	9.3

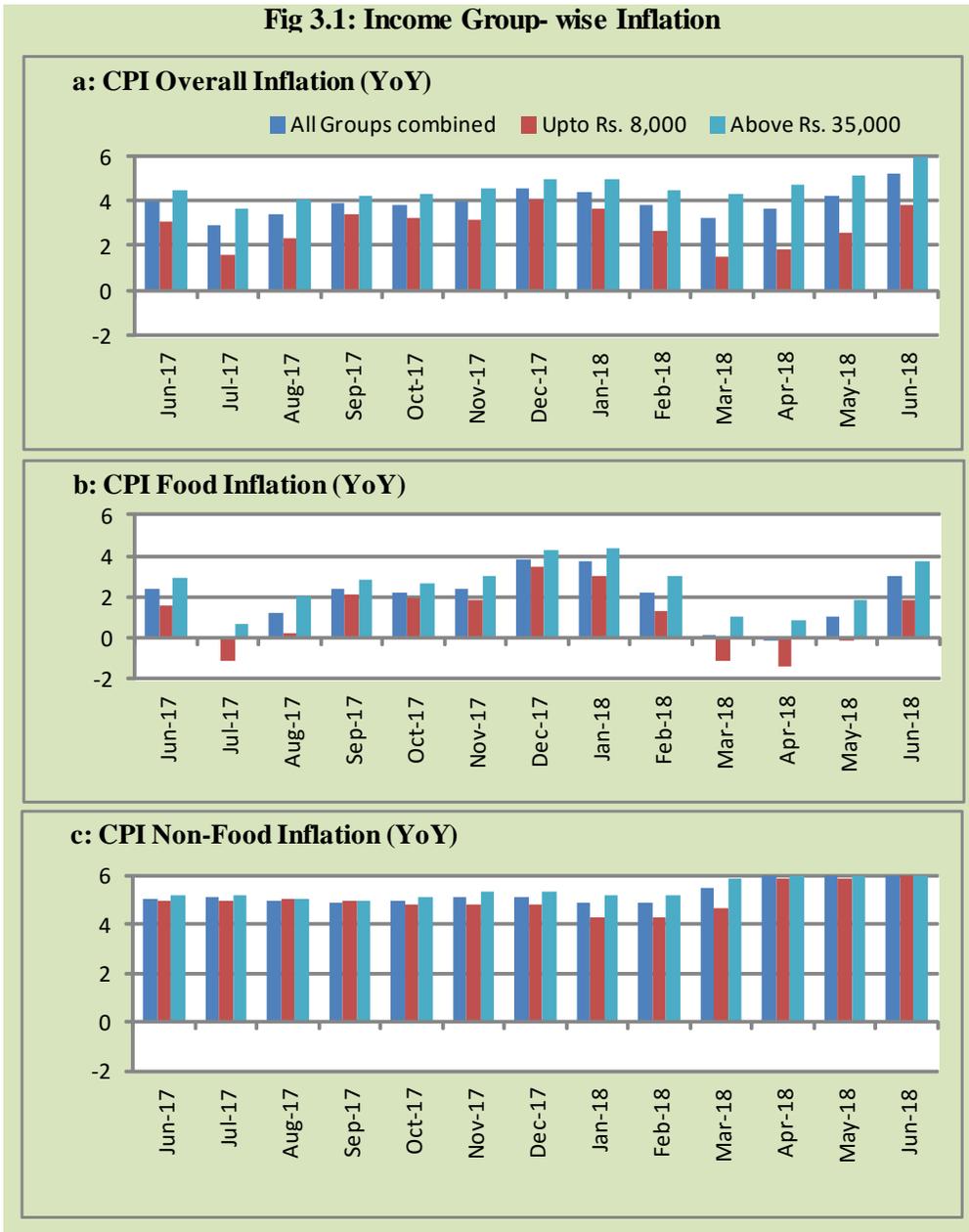
3. Income Group wise Inflation

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 June 2018 in General, Food and Non-food groups. The income groups (Up to Rs. 8, 000) observed lowest inflation in general CPI, food groups; and income groups (Up to Rs. 8, 000) and (Rs. 8,001- 12,000) observed lowest inflation in non-food groups among income groups during the month of June 2018 (Table A7 of annexure-A).

Table 3.1 Income Group- wise Inflation (YoY) (percent)

Income Groups	General			Food			Non-food		
	Jun-17	May-18	Jun-18	Jun-17	May-18	Jun-18	Jun-17	May-18	Jun-18
All Groups Combined	3.9	4.2	5.2	2.4	1.0	3.0	5.0	6.4	6.7
Up to Rs. 8,000	3.1	2.6	3.8	1.6	-0.1	1.8	5.0	5.8	6.2
Rs. 8,001- 12,000	3.3	3.0	4.2	1.9	0.3	2.2	4.8	5.8	6.2
Rs. 12,001- 18,000	3.4	3.3	4.4	2.0	0.4	2.5	4.9	6.0	6.3
Rs. 18,001- 35,000	3.6	3.6	4.8	2.1	0.6	2.8	4.8	6.1	6.5
Above Rs. 35,000	4.4	5.1	5.9	2.9	1.9	3.7	5.2	6.7	7.0

Fig 3.1: Income Group- wise Inflation



4. Weighted Contribution

The weighted contribution of food group in the overall inflation increased to 23.35 percent during June 2018 from 9.73 percent in previous month. It was 24.92 percent in June 2017.

The weighted contribution of non-food group decreased to 76.65 percent in June 2018 from 90.27 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
Jun-17	24.92	8.04	34.43	5.77	11.93	14.92
Jul-17	-1.32	11.08	48.14	6.37	16.42	19.31
Aug-17	15.23	9.58	41.22	4.54	13.48	15.94
Sep-17	26.02	8.46	36.50	4.83	9.28	14.91
Oct-17	24.31	8.25	34.17	5.96	13.05	14.27
Nov-17	25.04	7.95	32.53	6.73	13.57	14.18
Dec-17	34.01	6.68	28.47	5.73	11.85	13.26
Jan-18	34.02	8.17	25.57	7.58	12.23	12.43
Feb-18	23.85	10.07	29.89	8.71	13.92	13.56
Mar-18	1.07	12.39	35.10	11.73	23.44	16.27
Apr-18	-2.00	15.67	39.70	10.10	16.06	20.47
May-18	9.73	13.25	35.28	10.11	14.19	17.43
Jun-18	23.35	10.45	28.60	12.04	11.46	14.10

5. Inflation Diffusion Index

Table 5.1 Inflation Diffusion Index - based on MoM change

	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	May-18
General	22.4	36.8	26.8	33.1	44.6	37.7	39.2	48.9	32.5	40.2	63.8	40.6	40.6
Food & Non-Alcoholic Beverages	5.3	28.7	17.5	17.4	46.1	17.1	25.0	42.1	19.3	20.4	50.0	46.3	46.3
Alcoholic Beverages & Tobacco	0.0	0.0	-50.0	0.0	50.0	33.3	50.0	33.3	33.3	66.7	100.0	-16.7	-16.7
Clothing & Footwear	47.5	52.5	49.2	42.4	44.1	59.3	78.0	78.0	44.1	47.5	84.7	32.2	32.2
Housing, Water, Elect, Gas & other Fuels	13.9	55.6	27.8	19.4	41.7	30.6	41.7	44.4	30.6	41.7	52.8	27.8	27.8
Furnishing & Household Equip. Maintenance etc	42.0	63.8	47.8	62.3	60.9	66.7	43.5	75.4	62.3	69.6	100.0	69.6	69.6
Health	7.7	30.8	20.5	33.3	25.6	33.3	35.9	43.6	33.3	30.8	48.7	33.3	33.3
Transport	16.3	16.3	16.3	20.9	34.9	25.6	20.9	32.6	23.3	27.9	25.6	34.9	34.9
Communication	33.3	16.7	0.0	16.7	25.0	25.0	8.3	41.7	41.7	25.0	33.3	0.0	0.0
Recreation & Culture	10.3	20.5	23.1	30.8	17.9	20.5	20.5	23.1	23.1	30.8	64.1	15.4	15.4
Education	12.5	18.8	6.3	0.0	50.0	50.0	0.0	0.0	0.0	25.0	37.5	18.8	18.8
Restaurant & Hotels	66.7	33.3	0.0	83.3	100.0	33.3	66.7	66.7	33.3	50.0	100.0	66.7	66.7
Miscellaneous	40.0	37.1	37.1	60.0	68.6	60.0	77.1	54.3	31.4	74.3	85.7	65.7	65.7
NFNE	28.4	42.3	33.4	38.2	43.2	45.0	43.2	51.5	36.7	46.2	69.2	39.3	39.3

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	Jun-17		May-18		Jun-18	
			YoY	MoM	YoY	MoM	YoY	MoM
1	Wheat	10 Kg	1.01	0.01	-0.10	-3.29	0.74	0.85
2	Wheat Flour Bag	10 Kg	0.18	-0.77	-1.76	-2.25	0.47	1.47
3	Rice Basmati Sup. Qty.	Kg	12.49	0.41	11.00	0.32	10.79	0.22
4	Pulse Masoor (Washed)	Kg.	-16.11	-1.02	-12.93	-0.59	-13.68	-1.87
5	Pulse Moong (Washed)	Kg.	-18.77	-0.85	-11.47	-0.42	-12.12	-1.59
6	Pulse Mash (Washed)	Kg.	-24.82	-0.15	-25.44	-1.65	-26.57	-1.66
7	Pulse Gram	Kg.	-8.86	-1.62	-13.25	-1.32	-12.58	-0.85
8	Vegetable Ghee (Loose)	Kg.	4.31	-0.03	1.82	0.57	3.01	1.14
9	Sugar Refined	Kg.	-11.01	-3.37	-10.07	-0.13	-6.35	0.62
10	Milk Fresh (Unboiled)	Ltr	3.92	0.00	3.50	0.59	3.65	0.14
11	Tapal Danedar Tea 200 Gm	Pkt	9.11	-0.03	10.43	0.00	11.68	1.10
12	Beef With Bone Av.Qlty.	Kg	5.57	1.23	8.42	0.71	8.33	1.14
13	Mutton Av.Qlty.	Kg	7.47	1.25	12.00	1.08	11.55	0.85
14	Chicken Farm Broiler (Live)	Kg	-5.70	-5.03	21.04	7.25	26.20	-0.98
15	Eggs Farm	Doz	13.72	4.46	6.55	1.04	-1.82	-3.75
16	Potatoes	Kg	26.54	8.25	-24.59	17.61	-25.61	6.78
17	Onion	Kg	-14.15	-7.17	-0.17	-2.57	14.17	6.17
18	Tomatoes	Kg	8.16	9.41	-9.82	3.07	16.77	41.67
19	Ginger	Kg	6.46	3.19	30.18	3.79	27.57	1.12
20	Garlic	Kg	7.56	-7.77	-36.03	-9.33	-36.92	-9.05

7. Global Commodity Prices

Table 7.1 Changes in Major Global Indices (percent)**

Item/ Group	May-17		Apr-18		May-18	
	YoY	MoM	YoY	MoM	YoY	MoM
Food	-1.2	3.0	8.0	2.3	5.5	0.6
Metals	21.4	-1.2	20.0	3.4	21.9	0.4
Energy	13.7	-4.1	30.6	8.2	46.3	7.4
Agricultural	-1.9	1.7	5.8	1.9	4.2	0.1
Cotton	26.1	1.8	6.0	0.1	6.6	2.4

**World Bank Commodity Prices Data has not been updated on World Bank website for the month of June, 2018

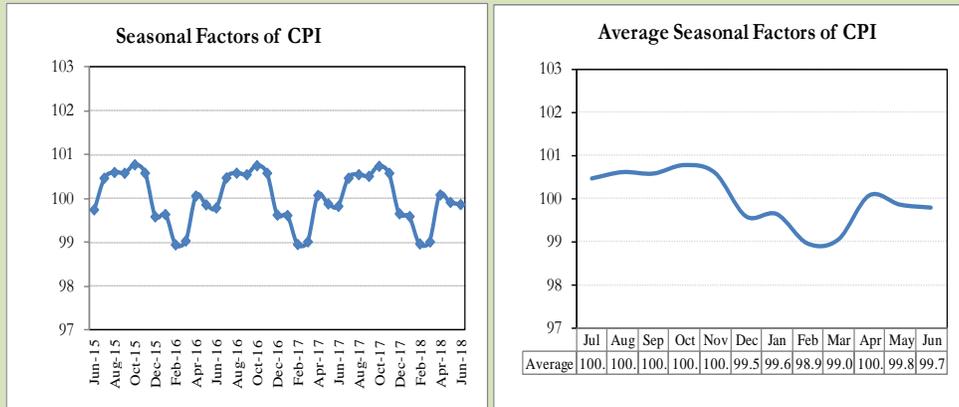
8. Seasonal Adjustment in CPI

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 June 2018 has been used for seasonal adjustment analysis. The seasonal analysis is carried out without taking trading-day or Islamic calendar month's effects.

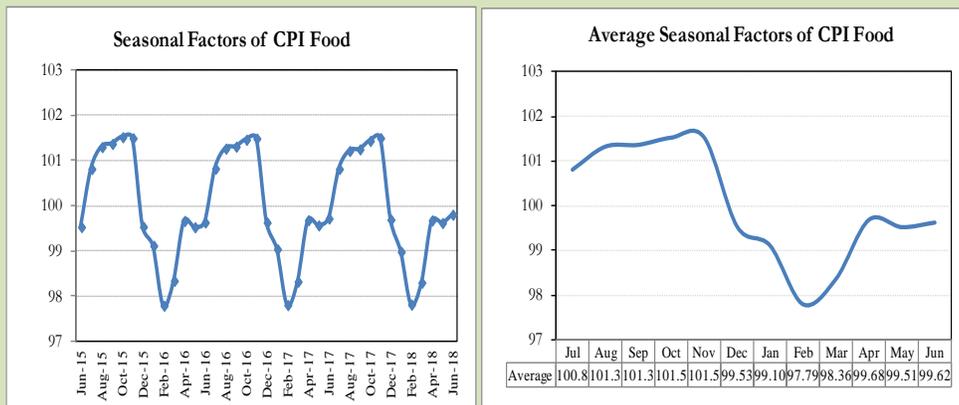
Figure 8.1 reveals that seasonality in CPI has been increasing over the period of last four years. Average seasonal factors reveal strong seasonality during the calendar year. There is an upward seasonality during the months from July to November and downward seasonality in the remaining months of the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



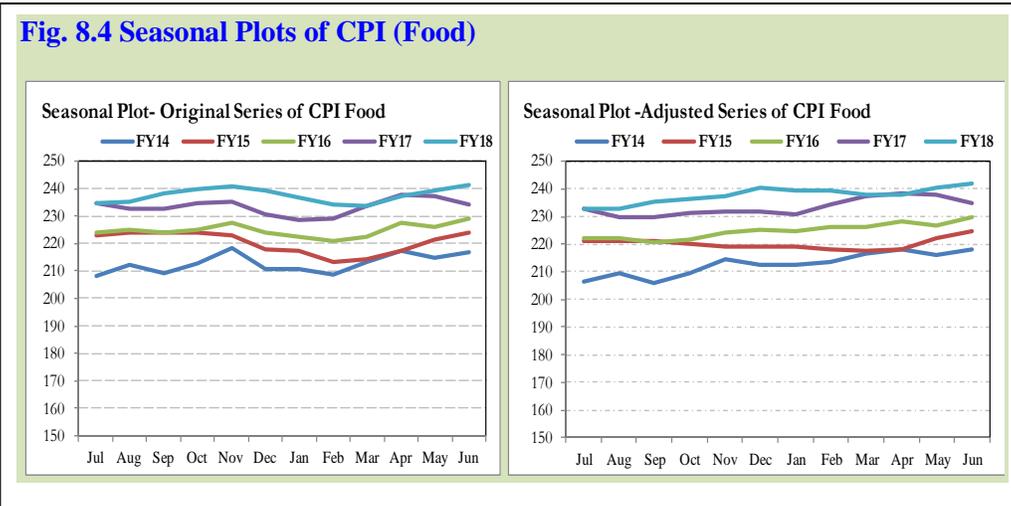
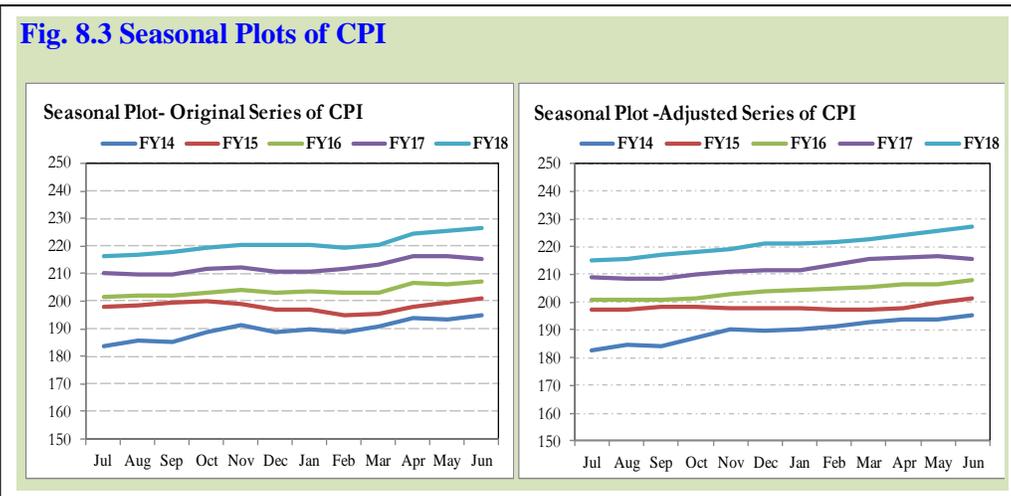
Note: Data Available in Annex Table 16.

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.



Seasonally adjusted CPI for June 2018 stood at 226.96 against 226.68 in original series showing an increase of 0.28 on account of adjustment of downward seasonality in June 2018.

Seasonally adjusted CPI food group for June 2018 stood at 241.85 against 241.37 in original series showing an increase of 0.48 on account of adjustment of downward seasonality in June 2018.

Month-on-month change of seasonally adjusted CPI series stood at 0.62% reflecting an increase during June 2018 over previous month and an increase of 0.57% in original series.

Month-on-month change of seasonally adjusted CPI food group series stood at 0.6% reflecting an increase during June 2018 over previous month and an increase of 0.84% 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 June 2018 (corresponding to the seasonally adjusted month-on-month rate) is 7.67 percent.

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

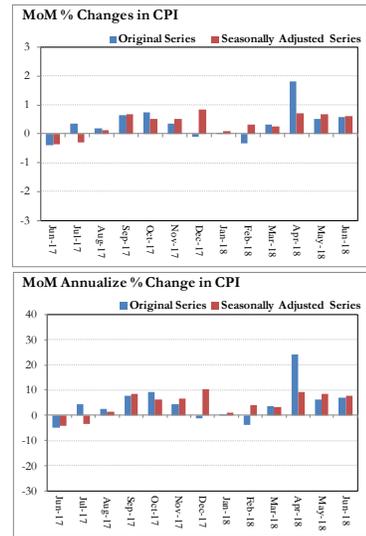
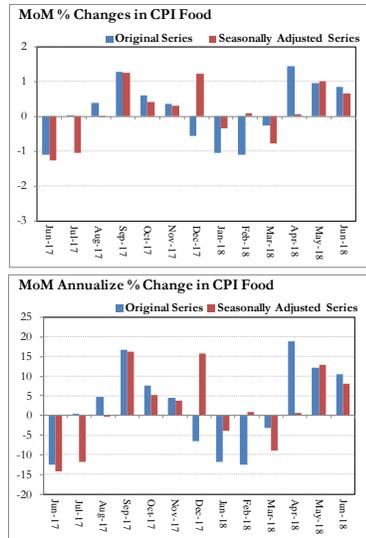


Fig. 8.6 Month-on-Month Percent Changes in CPI Food



Annexure A

	Weights	MoM change			YoY change		
		Jun-17	May-18	Jun-18	Jun-17	May-18	Jun-18
I. Food Group	37.5	-1.1	1.0	0.8	2.4	1.0	3.0
Food & Non-Alcoholic Beverages	34.8	-0.2	1.1	0.9	3.1	2.1	3.2
Alcoholic Beverages & Tobacco	1.4	-15.3	-0.8	-0.2	-10.0	-17.8	-3.1
Restaurant & Hotels	1.2	0.2	0.6	0.0	5.4	5.6	5.5
II. Non-Food Group	62.5	0.1	0.2	0.4	5.0	6.4	6.7
Clothing & Footwear	7.6	0.5	0.2	0.4	3.8	6.7	6.5
Housing, Water, Elect, Gas &	29.4	0.0	0.1	0.0	5.1	5.5	5.6
Furnishing & Household Equip. Maintenance etc	4.2	0.2	0.3	0.2	2.4	6.0	6.0
Health	2.2	0.0	0.3	0.3	13.3	5.2	5.5
Transport	7.2	-0.3	0.9	2.9	3.9	7.2	10.7
Communication	3.2	0.0	0.0	0.0	1.6	0.6	0.5
Recreation & Culture	2.0	0.0	0.2	0.0	0.2	6.2	6.2
Education	3.9	0.0	0.1	0.0	11.0	13.1	13.1
Miscellaneous	2.8	0.3	0.1	0.1	5.7	7.3	7.1
Headline	100.0	-0.4	0.5	0.6	3.9	4.2	5.2

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)	
		Jun-17	Jun-18	Jun-17	Jun-18	Jun-17	Jun-18	Jun-17	Jun-18	Jun-17	Jun-18
I. Food Group	3.0	126	127	34	32	46	42	32	28	14	25
Food & Non-Alcoholic Beverages	3.2	114	115	31	29	44	38	25	27	14	21
Alcoholic Beverages & Tobacco	-3.1	6	6	3	3	1	1	2	0	0	2
Restaurant & Hotels	5.5	6	6	0	0	1	3	5	1	0	2
II. Non-Food Group	6.7	348	348	75	45	184	119	65	119	24	65
Clothing & Footwear	6.5	59	59	8	4	35	17	16	30	0	8
Housing, Water, Elect, Gas & other Fuels	5.6	36	36	11	12	12	5	11	11	2	8
Furnishing & Household Equip. Maintenance etc	6.0	69	69	5	1	55	29	9	32	0	7
Health	5.5	39	39	4	7	21	21	8	7	6	4
Transport	10.7	43	43	25	11	11	12	3	8	4	12
Communication	0.5	12	12	3	5	4	5	3	0	2	2
Recreation & Culture	6.2	39	39	16	4	18	16	4	9	1	10
Education	13.1	16	16	2	0	4	2	5	4	5	10
Miscellaneous	7.1	35	35	1	1	24	12	6	18	4	4
Overall	5.2	474	475	109	77	230	161	97	147	38	90

Note: Prices of 12 seasonal items were not reported during the month.

Table A3: Top and Bottom 15 Contributors to CPI Inflation (YoY) in June, 2018					
Top 15 Contributors		Weights	YoY Change		Weighted Contribution
Items/ Contributors	Jun-17		Jun-18		
Ranked by Weighted Contribution					
1	House Rent	21.81	6.94	7.04	25.80
2	Education	3.94	10.98	13.09	11.46
3	Motor Fuel	3.03	8.92	17.30	6.89
4	Milk Fresh	6.68	3.84	3.72	6.05
5	Chicken	1.36	-5.70	26.20	5.79
6	Meat	2.43	6.22	9.45	5.69
7	Transport Services	2.70	0.23	8.17	3.81
8	Cotton Cloth	1.73	2.96	6.30	2.24
9	Rice	1.58	13.95	8.83	2.21
10	Personal Equipments	0.84	6.75	9.32	2.11
11	Tailoring	0.88	8.56	8.24	2.09
12	Fresh Fruits	1.86	14.17	3.42	1.73
13	Footware	1.55	0.64	7.36	1.70
14	Household Servent	1.04	1.91	7.15	1.68
15	Ready Made Food	1.23	5.45	5.45	1.66
Total		52.68			80.91
Bottom 15 Contributors					
1	Potatoes	0.46	26.54	-25.61	-2.63
2	Cigarettes	1.39	-10.17	-5.52	-2.23
3	Pulse Mash (Washed)	0.21	-24.83	-26.57	-1.40
4	Sugar	1.04	-11.01	-6.35	-1.21
5	Pulse Gram	0.24	-8.86	-12.58	-0.77
6	Fresh Vegetables	1.71	4.99	-1.69	-0.62
7	Pulse Moong	0.23	-18.78	-12.12	-0.61
8	Pulse Masoor	0.27	-16.08	-13.02	-0.56
9	Besan	0.15	-6.28	-8.65	-0.33
10	Gram Whole	0.16	5.31	-6.08	-0.25
11	Eggs	0.46	13.72	-1.82	-0.14
12	Gur	0.02	-4.74	-6.42	-0.03
13	Wheat Product	0.10	0.40	-0.76	-0.01
14	Motor Vehicle Tax	0.11	0.00	0.00	0.00
15	Electricity	4.40	0.00	0.00	0.00
Total		10.95			-10.80

Table A3.1: Top and Bottom 15 Contributors to CPI Inflation (MoM) in June, 2018					
Top 15 Contributors					
Items/ Contributors	Weights	MoM Change		Weighted Contribution	
		May-18	Jun-18		
Ranked by Weighted Contribution					
1	Fresh Fruits	1.86	6.01	5.47	23.78
2	Transport Services	2.70	0.79	4.02	17.11
3	Tomatoes	0.43	3.07	41.66	15.31
4	Motor Fuel	3.03	1.54	3.29	13.03
5	Wheat Flour	4.16	-1.89	1.00	6.74
6	Meat	2.43	0.84	1.04	5.94
7	Onion	0.52	-2.57	6.18	4.49
8	Potatoes	0.46	17.62	6.78	4.26
9	Footware	1.55	0.04	1.31	2.81
10	Tailoring	0.88	0.29	1.03	2.45
11	Milk Fresh	6.68	0.58	0.14	2.04
12	Vegetable Ghee	2.07	0.38	0.74	1.75
13	Spices	0.54	1.30	1.41	1.48
14	Tea	0.84	0.66	0.68	1.35
15	Cotton Cloth	1.73	0.51	0.35	1.15
Total		29.90			103.69
Bottom 15 Contributors					
1	Fresh Vegetables	1.71	2.62	-1.46	-4.66
2	Eggs	0.46	1.03	-3.74	-2.53
3	Chicken	1.36	7.25	-0.98	-2.43
4	Woolen Cloth	0.88	0.03	-0.89	-1.64
5	Betel Leaves & Nuts	0.02	-16.52	-7.68	-1.08
6	Besan	0.15	1.71	-2.78	-0.87
7	Rice	1.58	0.34	-0.30	-0.72
8	Pulse Moong	0.23	-0.42	-1.59	-0.63
9	Pulse Mash (Washed)	0.21	-1.65	-1.66	-0.58
10	Pulse Masoor	0.27	-0.09	-1.62	-0.54
11	Gram Whole	0.16	-1.11	-1.32	-0.46
12	Pulse Gram	0.24	-1.32	-0.86	-0.40
13	Household Textile	0.65	0.44	-0.32	-0.40
14	Cosmetics	0.39	0.45	-0.32	-0.21
15	Communication & Apparatus	3.15	0.00	-0.05	-0.17
Total		11.46			-17.33

Table A3.2: Top Fifteen Contributors to CPI Inflation (YoY) in June, 2018					
Items/ Contributors	Weights	YoY Change		Weighted Contribution	
		Jun-17	Jun-18		
A. Ranked by Percentage Change					
1	Betel Leaves & Nuts	0.02	3.41	190.86	0.97
2	Kerosene Oil	0.01	3.65	34.37	0.03
3	Chicken	1.36	-5.70	26.20	5.79
4	Motor Fuel	3.03	8.92	17.30	6.89
5	Tomatoes	0.43	8.16	16.77	0.85
6	Onion	0.52	-14.15	14.18	1.09
7	Education	3.94	10.98	13.09	11.46
8	News Papers	0.19	3.23	12.02	0.38
9	Construction Wage Rate	0.33	5.09	10.48	0.75
10	Dry Fruits	0.25	0.13	10.32	0.62
11	Water Supply	0.50	6.18	10.21	0.78
12	Meat	2.43	6.22	9.45	5.69
13	Personal Equipments	0.84	6.75	9.32	2.11
14	Postal Services	0.07	4.47	8.90	0.13
15	Rice	1.58	13.95	8.83	2.21
Total		15.51			39.75
B. Ranked by Weights					
1	House Rent	21.81	6.94	7.04	25.80
2	Milk Fresh	6.68	3.84	3.72	6.05
3	Electricity	4.40	0.00	0.00	0.00
4	Wheat Flour	4.16	-0.33	0.64	0.49
5	Education	3.94	10.98	13.09	11.46
6	Communication & Apparatus	3.15	1.45	0.20	0.07
7	Motor Fuel	3.03	8.92	17.30	6.89
8	Transport Services	2.70	0.23	8.17	3.81
9	Meat	2.43	6.22	9.45	5.69
10	Vegetable Ghee	2.07	3.77	2.55	0.67
11	Fresh Fruits	1.86	14.17	3.42	1.73
12	Cooking Oil	1.75	3.37	2.20	0.47
13	Cotton Cloth	1.73	2.96	6.30	2.24
14	Fresh Vegetables	1.71	4.99	-1.69	-0.62
15	Rice	1.58	13.95	8.83	2.21
Total		63.03			66.97
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 5.2 percent in June, 2018.					

Table A3.3: Top Ten Contributors to CPI Food Inflation (YoY) in June, 2018					
Items/ Contributors	Weights	YoY Change		Weighted Contribution	
		Jun-17	Jun-18		
A. Ranked by Weighted Contribution					
1	Milk Fresh	6.68	3.84	3.72	6.05
2	Chicken	1.36	-5.70	26.20	5.79
3	Meat	2.43	6.22	9.45	5.69
4	Rice	1.58	13.95	8.83	2.21
5	Fresh Fruits	1.86	14.17	3.42	1.73
6	Ready Made Food	1.23	5.45	5.45	1.66
7	Onion	0.52	-14.15	14.18	1.09
8	Tea	0.84	13.51	4.90	1.06
9	Betel Leaves & Nuts	0.02	3.41	190.86	0.97
10	Bakery & Confectionary	1.16	2.10	3.82	0.86
Total		17.69			27.11
B. Ranked by Percentage Change					
1	Betel Leaves & Nuts	0.02	3.41	190.86	0.97
2	Chicken	1.36	-5.70	26.20	5.79
3	Tomatoes	0.43	8.16	16.77	0.85
4	Onion	0.52	-14.15	14.18	1.09
5	Dry Fruits	0.25	0.13	10.32	0.62
6	Meat	2.43	6.22	9.45	5.69
7	Rice	1.58	13.95	8.83	2.21
8	Sweet Meet	0.25	4.09	7.84	0.44
9	Spices	0.54	-2.03	5.98	0.68
10	Condiments	0.27	2.56	5.86	0.37
Total		7.66			18.72
C. Ranked by Weights					
1	Milk Fresh	6.68	3.84	3.72	6.05
2	Wheat Flour	4.16	-0.33	0.64	0.49
3	Meat	2.43	6.22	9.45	5.69
4	Vegetable Ghee	2.07	3.77	2.55	0.67
5	Fresh Fruits	1.86	14.17	3.42	1.73
6	Cooking Oil	1.75	3.37	2.20	0.47
7	Fresh Vegetables	1.71	4.99	-1.69	-0.62
8	Rice	1.58	13.95	8.83	2.21
9	Cigarettes	1.39	-10.17	-5.52	-2.23
10	Chicken	1.36	-5.70	26.20	5.79
Total		25.01			20.26
Note: Weighted contribution is estimated by multiplying the weights by the price change of an item; this is then reported as a share in YoY change in CPI Food, which is 3.0 percent in June, 2018.					

Table A3.4: Top Ten Contributors to CPI Non-food Inflation (YoY) in June, 2018					
Items/ Contributors	Weights	YoY Change		Weighted Contribution	
		Jun-17	Jun-18		
A. Ranked by Weighted Contribution					
1	House Rent	21.81	6.94	7.04	25.80
2	Education	3.94	10.98	13.09	11.46
3	Motor Fuel	3.03	8.92	17.30	6.89
4	Transport Services	2.70	0.23	8.17	3.81
5	Cotton Cloth	1.73	2.96	6.30	2.24
6	Personal Equipments	0.84	6.75	9.32	2.11
7	Tailoring	0.88	8.56	8.24	2.09
8	Footware	1.55	0.64	7.36	1.70
9	Household Servent	1.04	1.91	7.15	1.68
10	Personal Care	1.49	5.73	5.19	1.57
Total		39.03			59.35
B. Ranked by Percentage Change					
1	Kerosene Oil	0.01	3.65	34.37	0.03
2	Motor Fuel	3.03	8.92	17.30	6.89
3	Education	3.94	10.98	13.09	11.46
4	News Papers	0.19	3.23	12.02	0.38
5	Construction Wage Rate	0.33	5.09	10.48	0.75
6	Water Supply	0.50	6.18	10.21	0.78
7	Personal Equipments	0.84	6.75	9.32	2.11
8	Postal Services	0.07	4.47	8.90	0.13
9	Medical Test	0.32	4.73	8.74	0.49
10	Cosmetics	0.39	2.60	8.60	0.60
Total		9.62			23.62
C. Ranked by Weights					
1	House Rent	21.81	6.94	7.04	25.80
2	Electricity	4.40	0.00	0.00	0.00
3	Education	3.94	10.98	13.09	11.46
4	Communication & Apparatus	3.15	1.45	0.20	0.07
5	Motor Fuel	3.03	8.92	17.30	6.89
6	Transport Services	2.70	0.23	8.17	3.81
7	Cotton Cloth	1.73	2.96	6.30	2.24
8	Gas	1.58	0.00	0.00	0.00
9	Footware	1.55	0.64	7.36	1.70
10	Personal Care	1.49	5.73	5.19	1.57
Total		45.39			53.54
<p>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 6.7 percent in June, 2018.</p>					

Table A4: Distribution of Price Changes (YoY) - Selected CPI Items: June, 2018

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	Garlic, Pulse Mash (Washed), Potatoes, Pulse Masoor (Washed), Pulse Gram, Arvi, Pulse Moong (Washed), Pulse Masoor	Biscuit-Bakery (Loose), Cardamom Small Av.Qlty, Honey Langanese 500 Gm., Curd, Ice Cream Walls, Bread (Plain Medium Size)	Rice Basmati Broken Av.Ql, Salt-Powdered (Lahori) Loose, Beef With Bone Av.Qlty., Groundnuts (With Shell), Sweetmeat (Mixed) Biscuit	Grapes, Coconut Dry Av.Qlty., Ginger, Chicken Farm Broiler (Live), Aloo Bukhara, Tinda, Cucumber (Kheera), Cuminseed White National, Tomatoes, Onion, Raisins Av.Qlty., Chillies Powder (Loose), Turai, Dandel, Tea 200 Gm, Betel Nuts, Betel Leaves,
Alcoholic Beverages & Tobacco	Cigarettes Capstan 20,S, Cigarettes Morven Gold 20,S, Cigarettes K-20,S,	Cigarettes Gold Leaf 20,S,		
Clothing & Footwear	Georgette Av.Qlty, Gents Shoe, Art 1109 Servis, Gents Sandal Bata, Gents Shoes Paul Bata,	Dopatta Georgette Av.Qlty, Lungi/Dhoti(Cotton) Avg.Qlty, Shoe Repair Half Sole, Sewing Thread/Reel, Pullover Gents Oxford/Bon, Secondhand Winter Jacket,	School Uni. Pant,Shirt Boys, Vest/Shameez (Women) Avg.Qlty, Handkerchief Sup. Qlty Pak, Long Cloth 57" Gul Ahmed/Al Karam, Dopatta Cotton Av. Qlty, Shoe Polish	Ladies Sandal Bata, Child Shoe Power Lite Bata, Frock W/Wear Girls, Tailoring Shirt, Brassier Av.Qlty, Ladies Spoung Chappal Bata, Gloves Av.Qlty, Tailoring Charges Pant (Men),
Housing, Water, Elect, Gas & other Fuels	Elect.Charges Upto 50 Units, Elect.Charges 01 - 100 Units, Elect.Charges Above 1000 Units, Elect.Charges 301 - 1000 Units, Elect. Charges	Cement Blocks (6"X8"X12"), Cement (Local), Firewood Whole, Bricks (New) 1st Class, Sand (Black Pit Sand),	Unskilled Labour Wage Rat, Mason (Raj) Wage Rate, Synthetic Enemal Robialac, House Rent For Q-Iv, House Rent For Q-Ii, House Rent For Q-V, House Rent	Kerosene Oil, Iron Bar (M.S. Bar) 1/2", Carpenter Wage Rate, Synthetic Enemal Ici, Plumber Wage Rate, Water Charges Per House, Electrician Wage Rate(P/Day), Electrician Wage Rate(P/Pnt),
Furnishing & Household Equip. Maintenance etc	Washing Powder 1000 Grm (Express),	Chair Plastic (Chairman) Av. Qlty, Harpic, S.Steel Deghchi Medium Size, Electric Juicer, Cot Iron (With Niwar)Av.Qlty, Finis 500 ML,	Matress Single(4"Thick), Non Stick Cooking Pan, Almirah (Steel), Bulb Philips 100-Watt, Match Box (Small), Sewing Machine Needle	Single Bed Without Foam, Tea Set Pak. China Wear 21 Pcs, Thermos Starvac 1 Ltr, Toilet Paper Roll (R.Petal), Water Set Jug+6 Glasses, Dari Cotton (6'X2 1/2), Bed Sheet Single Bed Sup.Qlty,
Health	Calcium Syrup Sandoz, Betnesol Eye Drops, Sancos Syrup (50 ML), Burnol Cream 30 Gm, Vicks Vaporub/ Balm, Amoxil	Jouhar Joshanda, Sugar Test (Random/Fasting), Sepran Tablets, Cotton Bandage 2" - 4", Calpol Syrup 60 ML., Cac. 1000 Tab, Saniplast (1 Putty),	X-Ray (Chest) Charges, Gripe-Water Woodward's, Doctor (Mbbs) Clinic Fee, Ecg Charges, Thermometer China, Entox Tab., Trisil Tab.,	Dettol (Medium), Glycrine Small Bottle, Blood Test (Cp) Charges, Urine Test (Dr) Charges,
Transport	Train Fare 1st Slp. > 500, Train Fare 1st Slp. 101-500, Train Fare A/C Slp > 500K, Train Fare A/C Slp. 1-100, Train Fare Eco. > 500 Km.,	Tyre Car With Tube General, Cng, Suzuki Fare Maximum Wityin City, Tyre Motor Cycle Without Tube, Bicycle With Tyres & Tube, Cycle	Train Fare A/C Slp.101-500, Car Suzuki 800 Cc (W/O. Ac), Tyre Puncture Charges, Bus Fare Max (Within City), Car Honda Civic 1500 Cc, Suzuki	Train Fare Eco. 1-100 Km., Train Fare 1st Slp. 1-100, Bus Fare Outside City (A/C), Bus Fare Outside City (Non A/C), High Speed Diesel Hsd, Train Fare Eco. 101-500 K, Petrol Super, Gas Cylinder S.Size (L.P.G), Air Fare Economy
Communication	Telephone Charges Local Call, Telephone Charges Outside City, U.M.S. Reg Charges Min., Mobile Cell	Internet Charges, Fax Charges (Local), Mobile Set Nokia/Sony/Eriesson Av.Qlty, Postal Envelope Domestic,		T.C.S. Ch. Min.Within Zone, Telephone Set Av. Qlty,
Recreation & Culture	Maths Book Class Ix Or X, Maths Book Ist.Year (T.B. Board), V.C.P. Panasonic/Lg/National, Tv Licence Fee Domestic,	Computer Cd (Tdk/Imation), English Book Class V1, Radio With C.Player National, Urdu Book Ba/B.Sc, T.V. 20" Colored Sony, Pen Ink Dollor 57 MI Bottle, Personnel	Fountain Pen Hero/Wings/China, Weekly "Akhbar-E-Jahan", Exercise Book Lined 80/10, Pencil Goldfish/Deer, English Book Class Ix Or X, Urdu Book Ist	Cinema A/C High Class, Cinema Non-A/C High Class, English Book Ba/B.Sc, Pakistan Studies Book Ba/B.Sc, Daily "Nawa-E-Waqt", Daily "Jang", Urdu Book Class Ix/X (T.B.Board), Photostate Paper 70 Gm, Daily "Dawn", Weekly "Mag",
Education		Mba Tuition Fee, I.T. Tuition Fees,	Pvt School Fee Eng.Med (Class-Vi), Pvt School Fee Eng.Med (Class-X), Coaching Charges For Class Xi/ Xii	Govt. University Fee Msc/ Ma, Govt. Engg. Coll. Fee 1st Year, Govt. College Fee 1st. Year, Govt. College Fee 4Th. Year, Govt. Med. College Fee Mbbs 1st Year, Pvt Med.College Fee
Restaurant & Hotels		Cooked Dal (Av. Hotel), Tea Prepared (Ordinary), Bread Tandoori St. Size,	Chicken Biryani Full/Double,	Cooked Mutton (Av. Hotel), Cooked Beef (Av. Hotel),
Miscellaneous	Toothpaste Macleans 70 Gms,	Beauty Cream (Fair & Lovely), Suitcase Rixin (24"X16"X6"), Disposable Razor Gillette-Ii, Hair	Beauty Parlour Hair Style Charges, Shaving Charges, Gel Medium Size, Trunk Medium Size, Haircut Charges	Perfume Med.Size Medora/Broche, Wrist Watch Gents Citizen, Gold Tezabi 24 Ct, Purse Ladies (Leather) Av. Qlty,

Table A5: City- wise CPI Inflation by Income Groups, June, 2018

	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	3.4	3.4	1.7	1.7	5.3	5.3	3.6	3.6	2.1	2.1	5.2	5.2
2 Islamabad	2.5	2.5	1.2	1.2	3.9	3.9	2.9	2.9	1.4	1.4	4.5	4.5
3 Lahore	4.1	4.1	3.3	3.3	5.2	5.2	4.4	4.4	3.6	3.6	5.3	5.3
4 Gujranwala	3.4	3.4	2.4	2.4	4.5	4.5	3.6	3.6	2.7	2.7	4.5	4.5
5 Sialkot	7.9	7.9	7.5	7.5	8.5	8.5	8.0	8.0	7.9	7.9	8.1	8.1
6 Faisalabad	7.1	7.1	1.7	1.7	13.7	13.7	7.8	7.8	2.0	2.0	14.0	14.0
7 Multan	2.8	2.8	1.1	1.1	4.8	4.8	2.9	2.9	1.3	1.3	4.7	4.7
8 Sargodha	3.7	3.7	3.4	3.4	4.0	4.0	3.8	3.8	3.6	3.6	3.9	3.9
9 Bahawalpur	3.6	3.6	3.8	3.8	3.5	3.5	4.0	4.0	4.3	4.3	3.7	3.7
10 Karachi	3.8	3.8	3.6	3.6	4.0	4.0	4.1	4.1	4.3	4.3	4.0	4.0
11 Hyderabad	5.4	5.4	5.4	5.4	5.3	5.3	5.7	5.7	5.7	5.7	5.6	5.6
12 Sukkur	1.1	1.1	-2.4	-2.4	5.4	5.4	2.1	2.1	-1.3	-1.3	5.5	5.5
13 Larkana	1.7	1.7	-1.1	-1.1	4.6	4.6	2.0	2.0	-0.8	-0.8	4.6	4.6
14 Peshawar	2.9	2.9	0.5	0.5	5.5	5.5	3.2	3.2	0.9	0.9	5.3	5.3
15 Bannu	3.3	3.3	1.3	1.3	5.6	5.6	3.9	3.9	1.6	1.6	6.2	6.2
16 Quetta	8.7	8.7	8.8	8.8	8.7	8.7	8.9	8.9	8.7	8.7	9.1	9.1
17 Khuzdar	-0.7	-0.7	-5.3	-5.3	4.9	4.9	-0.6	-0.6	-5.2	-5.2	4.4	4.4
	Rs 12001-18000						Rs 18001-35000					
	General		Food		Non-Food		General		Food		Non-Food	
	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY
1 Rawalpindi	4.1	4.1	2.3	2.3	5.6	5.6	4.3	4.3	2.9	2.9	5.2	5.2
2 Islamabad	3.1	3.1	1.7	1.7	4.4	4.4	3.4	3.4	2.0	2.0	4.4	4.4
3 Lahore	4.7	4.7	3.7	3.7	5.8	5.8	5.1	5.1	3.9	3.9	6.3	6.3
4 Gujranwala	3.9	3.9	2.9	2.9	4.9	4.9	4.0	4.0	3.1	3.1	4.7	4.7
5 Sialkot	8.4	8.4	8.3	8.3	8.6	8.6	8.0	8.0	8.6	8.6	7.5	7.5
6 Faisalabad	8.5	8.5	2.3	2.3	14.6	14.6	9.1	9.1	2.8	2.8	14.7	14.7
7 Multan	3.4	3.4	1.6	1.6	5.0	5.0	3.5	3.5	2.0	2.0	4.7	4.7
8 Sargodha	4.2	4.2	3.7	3.7	4.6	4.6	4.6	4.6	3.8	3.8	5.2	5.2
9 Bahawalpur	4.5	4.5	4.8	4.8	4.4	4.4	4.8	4.8	5.2	5.2	4.5	4.5
10 Karachi	4.5	4.5	4.5	4.5	4.4	4.4	4.6	4.6	4.7	4.7	4.5	4.5
11 Hyderabad	6.1	6.1	5.7	5.7	6.6	6.6	6.2	6.2	6.3	6.3	6.2	6.2
12 Sukkur	3.0	3.0	-1.2	-1.2	7.0	7.0	3.8	3.8	-0.7	-0.7	7.4	7.4
13 Larkana	2.3	2.3	-0.5	-0.5	4.8	4.8	2.6	2.6	-0.1	-0.1	4.5	4.5
14 Peshawar	3.7	3.7	1.0	1.0	6.1	6.1	3.9	3.9	1.4	1.4	5.9	5.9
15 Bannu	4.1	4.1	1.4	1.4	6.6	6.6	4.1	4.1	1.5	1.5	6.1	6.1
16 Quetta	9.5	9.5	8.6	8.6	10.4	10.4	9.4	9.4	8.6	8.6	10.0	10.0
17 Khuzdar	0.5	0.5	-4.5	-4.5	5.5	5.5	0.8	0.8	-4.4	-4.4	5.4	5.4
	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	4.9	4.9	3.9	3.9	5.4	5.4	4.6	4.6	3.4	3.4	5.4	5.4
2 Islamabad	4.6	4.6	3.4	3.4	5.3	5.3	4.5	4.5	3.1	3.1	5.5	5.5
3 Lahore	5.7	5.7	4.6	4.6	6.2	6.2	5.2	5.2	4.2	4.2	6.1	6.1
4 Gujranwala	4.2	4.2	3.2	3.2	4.7	4.7	3.9	3.9	3.0	3.0	4.6	4.6
5 Sialkot	8.6	8.6	9.5	9.5	8.1	8.1	8.3	8.3	8.8	8.8	7.9	7.9
6 Faisalabad	10.7	10.7	5.2	5.2	13.5	13.5	9.0	9.0	3.0	3.0	13.4	13.4
7 Multan	4.5	4.5	3.3	3.3	5.0	5.0	3.8	3.8	2.3	2.3	4.8	4.8
8 Sargodha	5.3	5.3	4.7	4.7	5.6	5.6	4.5	4.5	3.9	3.9	4.8	4.8
9 Bahawalpur	5.7	5.7	6.9	6.9	5.2	5.2	4.8	4.8	5.3	5.3	4.5	4.5
10 Karachi	5.1	5.1	5.1	5.1	5.1	5.1	4.8	4.8	4.8	4.8	4.9	4.9
11 Hyderabad	7.1	7.1	7.1	7.1	7.1	7.1	6.3	6.3	6.3	6.3	6.4	6.4
12 Sukkur	4.1	4.1	0.8	0.8	5.7	5.7	3.1	3.1	-0.8	-0.8	5.8	5.8
13 Larkana	3.0	3.0	0.1	0.1	4.2	4.2	2.3	2.3	-0.4	-0.4	4.0	4.0
14 Peshawar	6.3	6.3	2.8	2.8	8.0	8.0	4.8	4.8	1.6	1.6	6.9	6.9
15 Bannu	4.8	4.8	2.3	2.3	6.0	6.0	4.0	4.0	1.6	1.6	5.7	5.7
16 Quetta	9.5	9.5	8.1	8.1	10.1	10.1	9.3	9.3	8.5	8.5	9.8	9.8
17 Khuzdar	3.1	3.1	-2.7	-2.7	6.2	6.2	0.2	0.2	-4.8	-4.8	3.7	3.7

Table A6: City- wise CPI Inflation (YoY) June, 2018

City	High inflation cities			City	Low inflation cities		
	General	Food	Non-food		General	Food	Non-food
D. I. Khan	10.6	6.7	13.2	Mianwali	5.1	1.8	7.1
Mithi	10.0	7.5	11.6	Attock	5.1	5.0	5.2
Quetta	9.3	8.5	9.8	Vehari	5.1	1.3	7.6
Faisalabad	9.0	3.0	13.4	Karachi	4.8	4.8	4.9
Sialkot	8.3	8.8	7.9	Mardan	4.8	3.7	5.4
Bahawalnagar	6.9	2.1	10.0	Peshawar	4.8	1.6	6.9
Turbat	6.5	-1.1	10.7	Bahawalpur	4.8	5.3	4.5
Hyderabad	6.3	6.3	6.4	Nawabshah	4.7	4.0	5.1
Dadu	6.0	0.3	10.2	Rawalpindi	4.6	3.4	5.4
Jhelum	5.7	5.9	5.6	Islamabad	4.5	3.1	5.5
D. G. Khan	5.6	4.4	6.3	Sargodha	4.5	3.9	4.8
Lahore	5.2	4.2	6.1	Sahiwal	4.1	0.1	6.6
Loralai	5.2	-0.1	8.7	Gawadar	4.1	-0.2	7.0
				Bannu	4.0	1.6	5.7
				Gujranwala	3.9	3.0	4.6
				Jhang	3.9	0.9	5.7
				D. M. Jamali	3.8	1.4	5.5
				Wazirabad	3.8	2.4	4.8
				Multan	3.8	2.3	4.8
				Abbottabad	3.5	2.1	4.5
				R. Y. Khan	3.3	-0.2	5.6
				Mingora	3.3	1.2	4.5
				Sukkur	3.1	-0.8	5.8
				Muzaffargarh	2.7	0.9	4.0
				Mirpukhas	2.7	0.3	4.4
				Larkana	2.3	-0.4	4.0
				Khuzdar	0.2	-4.8	3.7

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		
	Jun-17	May-18	Jun-18	Jun-17	May-18	Jun-18
<u>Up to Rs. 8000</u>						
General	-0.5	0.4	0.7	3.1	2.6	3.8
Food	-1.0	0.7	0.9	1.6	-0.1	1.8
Non-food	0.1	0.1	0.5	5.0	5.8	6.2
<u>Rs. 8001- 12000</u>						
General	-0.5	0.5	0.7	3.3	3.0	4.2
Food	-1.0	0.8	0.9	1.9	0.3	2.2
Non-food	0.1	0.2	0.4	4.8	5.8	6.2
<u>Rs. 12001- 18000</u>						
General	-0.5	0.5	0.6	3.4	3.3	4.4
Food	-1.2	0.9	0.9	2.0	0.4	2.5
Non-food	0.1	0.2	0.4	4.9	6.0	6.3
<u>Rs. 18001- 35000</u>						
General	-0.5	0.5	0.6	3.6	3.6	4.8
Food	-1.3	1.0	0.9	2.1	0.6	2.8
Non-food	0.1	0.2	0.4	4.8	6.1	6.5
<u>Above Rs. 35000</u>						
General	-0.3	0.5	0.5	4.4	5.1	5.9
Food	-1.0	1.1	0.8	2.9	1.9	3.7
Non-food	0.1	0.2	0.3	5.2	6.7	7.0
<u>All income groups</u>						
General	-0.4	0.5	0.6	3.9	4.2	5.2
Food	-1.1	1.0	0.8	2.4	1.0	3.0
Non-food	0.1	0.2	0.4	5.0	6.4	6.7

Table A8: SPI Item-wise Price Movements

Sr.No.	Items	Unit	Prices	Percentage change	
			June-18	YoY	MoM
1	Wheat	10Kg.	326.2	0.8	1.6
2	Wheat Flour Bag	10Kg.	361.5	-1.4	2.1
3	Rice Basmati Broken	Kg.	74.5	8.4	-0.2
4	Rice Irri-6/9	Kg.	53.2	7.1	0.5
5	Bread Plain Med.Size (340-400 Gm.)	Each	42.6	3.5	0.0
6	Beef	Kg.	366.9	9.5	1.4
7	Mutton	Kg.	772.7	12.4	0.6
8	Chicken Live (Farm)	Kg.	198.6	30.1	5.6
9	Milk Fresh	Litr	84.8	4.2	1.0
10	Curd	Kg.	101.5	4.5	0.2
11	Milk Powdered Nido	500G	385.1	5.9	0.2
12	Egg Hen (Farm)	Doz.	89.1	-1.4	-2.2
13	Mustard Oil	Kg.	185.6	2.3	0.6
14	Cooking Oil (Tin)	2.5Ltr	476.9	1.6	0.1
15	Veg. Ghee (Tin)	2.5Kg.	471.4	1.9	0.2
16	Veg.Ghee Loose	Kg.	149.1	3.0	0.5
17	Bananas	Doz.	119.3	3.4	6.3
18	Masoor Pulse Washed	Kg.	111.0	-12.8	-1.3
19	Moong Pulse Washed	Kg.	112.7	-11.9	-1.1
20	Mash Pulse Washed	Kg.	147.4	-23.7	-0.1
21	Gram Pulse Washed	Kg.	113.4	-12.2	-0.3
22	Potatoes	Kg.	30.7	-19.5	13.1
23	Onions	Kg.	32.8	13.1	13.9
24	Tomatoes	Kg.	42.6	-4.2	35.8
25	Sugar	Kg.	53.7	-4.9	2.0
26	Gur	Kg.	79.3	-5.9	0.9
27	Salt Powdered Loose (Lahori)	Kg.	11.6	8.2	0.6
28	Red Chillies Powder Loose	Kg.	316.0	19.9	12.5
29	Garlic	Kg.	125.2	-41.0	-4.0
30	Tea (Yellow Lable 200 Gm.)	200Gm.	201.2	-1.2	1.0
31	Cooked Beef Plate	Each	110.9	18.5	0.1
32	Cooked Dal Plate	Each	61.4	7.8	0.0
33	Tea Prepared (Sada)	Cup	21.5	3.5	0.0
34	Cigarettes K-2 (20'S)	20'S	51.2	-9.4	0.0
35	Long Cloth (Coarse Latha)	Mtr.	231.2	10.1	3.0
36	Shirting	Mtr.	178.3	6.1	0.8
37	Lawn	Mtr.	281.3	10.0	3.1
38	Georgette (Voil Printed)	Mtr.	131.5	5.0	0.0
39	Sandal Gents Bata	Pair	699.0	0.0	0.0
40	Chappal Spng.Bata (Gents)	Pair	199.0	11.1	0.0
41	Sandal Ladies Bata	Pair	599.0	19.2	0.0
42	Electric Charges 1-50	Unit	2.0	0.0	0.0
43	Gas Charges Upto 3.3719	Mmbtu	128.7	0.0	0.0
44	Kerosene	Litr	119.3	51.4	1.9
45	Firewood	40Kg	626.3	2.8	0.0
46	Energy Savor 14 Watt	Each	171.2	2.0	0.0
47	Washing Soap (200-250 Gm.)	Cake	27.7	7.1	0.0
48	Match Box	Each	2.3	5.0	0.9
49	Petrol	Litr	91.8	25.2	3.6
50	Diesel	Litr	104.6	27.1	5.0
51	L.P.G.(11 Kg Cylander.)	Each	1270.6	28.7	3.9
52	Tele. Local Call	Call	3.9	0.0	0.0
53	Bath Soap Lifebouy (Standard)	Cake	39.2	-5.4	0.0
Maximum				51.4	35.8
Median				3.5	0.2
Minimum				-41.0	-4.0

Table A9: Distribution of Price Changes (YoY) - WPI Items: June, 2018				
Groups	Decrease or no change	Subdued increase (Greater than 0% but less than 5%)	Moderate increase (5% but less than 10%)	Double digit increase (10% or more)
Agriculture Forestry & Fishery Products	Edible Roots/Potatos, Hides And Fur Skins,Raw, Pulses, Sugar Crops, Cotton Seeds, Fish Live Fresh Or Chilled, Wheat,	Other Oil Seeds, Fresh Fruits, Eggs, Vegetables, Fuel Wood In Logs, Raw Animal Material/Wool,	Maize, Rice, Unmanufactured Tobacco, Milk From Bovine Animals,	Stimulant And Spice Crops, Sorghum/Jowar, Millet/Bajra, Poultry, Dry Fruits, Fibre Crops,
Ores & Minerals, Electricity Gas & Water	Electrical Energy, Coal Not Agglomerated,	Natural Gas Liquified,	Salt & Pure Sodium Chloride,	
Food Products, Beverages and Tobacco, Textiles, Apparel and Leather Products	Other Cereal Flour, Sugar Refined, Leather With Out Hairs, Sugar Confectionary, Other Leather N.E.C, Tobacco Products, Nylon Yarn, Woolen Carpets, Chocolate, Synthetic Carpets, Bed Sheets,	Coffee And Tea, Cotton Fabrics, Oil Cakes, Vegetable Ghee, Hosiery Products, Vegetable Oil Refined, Fruit Juices, Milk And Cream In Solid Form, Ice Cream, Ready Made Garments, Woven Fabrics, Vegetables & Fruit Juices, Beverages, Other Fabrics, Other Food Products, Wheat Flour, Silk And Reyon Fabrics,	Quilts, Processed Liquid Milk, Dairy Products N.E.C, Blended Yarn, Blankets, Spices, Mineral Water,	Cotton Yarn, Footwears, Meat Of Animals, Towels, Dried Fruits & Nuts,
Other Transportable Goods except Metal Products, Machinery and Equipments	Soaps & Detergent, Coke, Matches,	Paints & Varnishes, Printing Paper, Bed Foams, Dying Materials, Pesticides, Timber, Medicines, Glass Sheets, Mobil Oil, Ceramics And Sanitary, Bricks Blocks And Tiles, Insecticised, Other Glass Articles, Auto Tyres,	Cement, Fertilizers, Plastic Products,	Kerosine Oil, Furnace Oil, Diesel Oil, Motor Sprit, Hard Board, Chemicals,
Metal Product Machinery & Equipment	Steel Products, Engines And Motors, Vacuum Pumps, Pig Iron, Concrate Mixer, Radio And Television, Cultivators, Lathe Machines, Chuff Cutter, Pipe Fittings,	Lighting Equipments, Bicycles, Air Conditioners, Electrical Wires,	Motor Vehicales, Tractors, Refrige,Wash& Sew Mach,Iron,Fan, Motor Cycles,	Steel Bars & Sheets,

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

Items and specification	Weights	Index		
		Jun-17	May-18	Jun-18
General	100.00	215.45	225.40	226.68
Food & Non-Alcoholic Beverages.	34.83	229.18	234.40	236.58
1 Wheat	0.35	192.58	192.37	194.00
2 Wheat Flour	4.16	206.83	206.09	208.16
3 Wheat Product	0.10	214.38	212.42	212.75
4 Besan	0.15	285.65	268.40	260.94
5 Rice	1.58	178.03	194.33	193.75
6 Cereals	0.16	254.31	264.30	263.90
7 Bakery & Confectionary	1.16	218.31	225.94	226.64
8 Nimco	0.46	254.89	259.43	259.97
9 Meat	2.43	278.12	301.28	304.41
10 Chicken	1.36	182.45	232.54	230.25
11 Fish	0.30	217.81	228.10	228.77
12 Milk Fresh	6.68	273.62	283.40	283.79
13 Milk Product	0.63	262.51	275.28	275.29
14 Milk Powder	0.11	233.49	243.79	244.05
15 Eggs	0.46	186.21	189.94	182.83
16 Mustard Oil	0.10	159.86	164.68	163.47
17 Cooking Oil	1.75	137.77	140.71	140.80
18 Vegetable Ghee	2.07	142.61	145.16	146.24
19 Dry Fruits	0.25	264.11	289.34	291.36
20 Fresh Fruits	1.86	304.46	298.56	314.88
21 Pulse Masoor	0.27	178.77	158.06	155.50
22 Pulse Moong	0.23	243.58	217.50	214.05
23 Pulse Mash (Washed)	0.21	282.75	211.12	207.61
24 Pulse Gram	0.24	290.14	255.84	253.65
25 Gram Whole	0.16	287.99	274.09	270.48
26 Beans	0.03	235.22	244.28	244.55
27 Potatoes	0.46	250.82	174.73	186.58
28 Onion	0.52	165.29	177.74	188.72
29 Tomatoes	0.43	132.17	108.95	154.34
30 Fresh Vegetables	1.71	240.24	239.66	236.17
31 Sugar	1.04	204.50	190.33	191.51
32 Gur	0.02	261.06	243.56	244.30
33 Honey	0.04	331.39	346.18	346.18
34 Sweet Meet	0.25	251.16	270.67	270.86
35 Beverages	1.20	227.14	231.59	232.53
36 Jam, Tomato Ketchup & Pickle	0.25	218.46	230.45	230.49
37 Condiments	0.27	269.13	284.34	284.91
38 Spices	0.54	236.29	246.93	250.42
39 Tea	0.84	290.45	302.62	304.69
Alcoholic Beverages, Tobacco	1.41	324.60	315.26	314.62
40 Cigarettes	1.39	325.84	307.50	307.85
41 Betel Leaves & Nuts	0.02	249.57	786.31	725.90
Clothing & Footwear	7.57	237.99	252.58	253.49
42 Cotton Cloth	1.73	231.26	244.99	245.84
43 Woolen Cloth	0.88	256.38	268.37	265.97
44 Ready Made Garments	0.97	246.39	262.95	263.47
45 Woolen Readymade Garments	0.40	258.35	266.50	266.61
46 Hosiery	0.51	247.18	265.27	265.52
47 Dopatta	0.44	244.81	261.94	262.16
48 Cleaning & Laundering	0.21	270.23	290.46	290.46

Table A10: Consumer Price Index Numbers by Major Groups and Composite Commodities				
Items and specification	Weights	Index		
		Jun-17	May-18	Jun-18
49 Tailoring	0.88	321.93	344.90	348.45
50 Footware	1.55	167.43	177.43	179.75
Housing, Water, Elect, Gas & Other Fuel	29.41	196.71	207.58	207.63
51 House Rent	21.81	188.68	201.96	201.96
52 Construction Input Item	0.56	251.12	270.82	272.48
53 Construction Wage Rate	0.33	240.47	264.70	265.67
54 Water Supply	0.50	171.58	189.09	189.09
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	200.60	264.32	269.54
58 Fire Wood Whole	0.23	290.23	297.93	298.03
Furnished H.Hold Equip.& Maint. Etc	4.21	226.80	239.94	240.51
59 Furniture	0.33	218.43	235.84	235.86
60 Household Textile	0.65	228.35	243.30	242.51
61 Household Equipment	0.59	182.57	189.68	190.12
62 Utensils	0.32	232.11	249.89	251.00
63 Plastic Products	0.25	210.85	225.28	225.46
64 Washing Soap & Detergent	0.79	231.80	239.22	240.20
65 Sewing Needle & Dry Cell	0.15	206.48	219.11	219.11
66 Household Servant	1.04	253.47	270.32	271.59
67 Marriage Hall Charges	0.08	248.67	260.28	261.86
Health	2.19	212.66	223.74	224.36
68 Drug Medicine	1.27	184.69	189.28	189.52
69 Medical Equipment	0.01	251.21	259.89	260.09
70 Doctor (MBBS) Clinic Fee	0.59	280.95	302.67	304.41
71 Medical Test	0.32	196.52	213.70	213.70
Transport	7.20	175.87	189.16	194.64
72 Motor Vehicle	0.66	175.81	187.54	187.53
73 Motor Vehicle Accessories	0.24	211.58	216.95	216.26
74 Motor Fuel	3.03	147.67	167.71	173.22
75 Mechanical Service	0.46	230.82	242.09	244.37
76 Motor Vehicle Tax	0.11	210.18	210.18	210.18
77 Transport Services	2.70	193.59	201.31	209.41
Communication	3.22	132.91	133.67	133.61
78 Postal Services	0.07	250.18	272.18	272.45
79 Communication & Apparatus	3.15	130.44	130.77	130.70
Recreation & Culture	2.02	196.15	208.32	208.37
80 Recreation & Culture	0.86	129.73	134.12	134.21
81 Text Books	0.57	287.98	304.43	304.43
82 News Papers	0.19	181.16	202.94	202.94
83 Stationery	0.40	215.98	234.29	234.35
Education	3.94	249.26	281.88	281.89
84 Education	3.94	249.26	281.88	281.89
Restaurants And Hotels	1.23	277.76	292.77	292.90
85 Ready Made Food	1.23	277.76	292.77	292.90
Miscellaneous Goods And Services	2.76	246.71	263.91	264.25
86 Personal Care	1.49	227.42	238.37	239.22
87 Cosmetics	0.39	204.96	223.29	222.58
88 Blades	0.03	197.80	204.05	204.05
89 Personal Equipments	0.84	301.76	329.93	329.88

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

Items and Specifications	Index		
	Jun-17	May-18	Jun-18
General	217.77	230.98	234.40
Agriculture Forestry & Fishery	255.41	263.65	266.18
1 Wheat	197.88	193.89	197.00
2 Maize	194.40	220.29	209.74
3 Rice	166.29	178.91	178.97
4 Sorghum/Jowar	211.32	292.47	289.95
5 Millet/Bajra	163.48	210.95	216.72
6 Vegetables	241.83	230.36	248.68
7 Fresh Fruits	362.37	358.47	375.03
8 Dry Fruits	236.63	283.68	287.26
9 Cotton Seeds	277.99	273.24	267.32
10 Other Oil Seeds	181.04	186.14	189.36
11 Edible Roots/ Potatoes	271.09	161.85	178.71
12 Stimulant And Spice Crops	221.79	282.74	307.03
13 Pulses	266.71	239.75	238.72
14 Sugar Crops	268.94	257.62	257.62
15 Fibre Crops	219.02	239.28	243.36
16 Unmanufactured Tobacco	291.25	309.16	309.38
17 Poultry	192.50	249.20	251.13
18 Milk From Bovine Animals	268.56	283.49	283.49
19 Eggs	182.17	194.33	188.20
20 Raw Animal Material/Wool	176.22	176.72	176.84
21 Hides And Fur Skins, Raw	106.42	94.24	95.00
22 Fuel Wood In Logs	279.63	283.56	283.56
23 Fishes Live Fresh Or Chilled	466.43	451.10	451.10
Ores/Minerals, Gas & Elect.	241.61	242.99	243.23
24 Coal Not Agglomerated	155.29	155.29	155.29
25 Natural Gas Liquefied	208.46	211.12	211.61
26 Salt & Pure Sodium Chloride	246.13	269.74	269.74
27 Electrical Energy	288.00	288.00	288.00
Food, Beverages, Tobacco, Textiles	222.73	235.86	238.47
28 Meat Of Animals	291.67	325.47	331.21
29 Vegetables & Fruit Juices	224.14	226.66	226.66
30 Dried Fruits & Nuts	268.30	295.32	296.19
31 Fruit Juices	181.82	185.23	185.75
32 Vegetable Oil Refined	155.51	158.97	158.88
33 Vegetable Ghee	126.16	129.83	129.89
34 Oil Cakes	227.93	232.12	236.30
35 Processed Liquid Milk	266.86	289.45	289.96
36 Milk And Cream In Solid Form	219.35	223.82	223.82
37 Ice Cream	261.28	266.02	266.02
38 Dairy Products N.E.C	258.19	278.71	279.94
39 Wheat Flour	189.57	188.12	189.88
40 Other Cereal Flour	247.19	215.85	215.32
41 Sugar Refined	210.04	196.39	200.66
42 Chocolate	100.00	100.00	100.00
43 Sugar Confectionary	128.44	127.55	127.55
44 Coffee And Tea	263.86	274.13	275.43
45 Spices	189.72	202.25	202.25
46 Other Food Products	294.01	294.50	294.50
47 Mineral Water	198.57	211.50	211.50
48 Beverages	172.03	173.22	173.22
49 Tobacco Products	318.37	318.37	318.37
50 Cotton Yarn	203.44	236.05	242.86
51 Nylon Yarn	143.99	143.99	143.99
52 Blended Yarn	182.11	195.38	196.66
53 Woven Fabrics	316.28	321.49	321.49
54 Cotton Fabrics	211.60	219.99	220.18
55 Other Fabrics	227.16	227.85	227.85

Inflation Monitor, June 2018

Table A11: Wholesale Price Index Numbers by Major Groups and Composite Commodities				
Items and Specifications		Index		
		Jun-17	May-18	Jun-18
56	Silk And Rayon Fabrics	188.89	188.95	189.05
57	Towels	276.14	287.65	305.52
58	Blankets	247.52	265.03	265.03
59	Bed Sheets	256.87	256.87	256.87
60	Quilts	203.79	222.32	222.32
61	Woolen Carpets	196.43	196.43	196.43
62	Synthetic Carpets	130.95	130.95	130.95
63	Hosiery Products	243.31	250.36	250.36
64	Ready Made Garments	201.37	201.16	204.85
65	Leather With Out Hairs	221.97	212.68	212.68
66	Other Leather N.E.C	207.31	207.02	207.02
67	Footwear's	145.51	168.09	168.09
Other Transportable Goods		170.67	198.63	206.51
68	Timber	231.53	237.00	237.00
69	Printing Paper	165.67	170.68	171.07
70	Hard Board	220.83	260.42	260.42
71	Coke	163.45	163.45	163.45
72	Motor Sprit	122.95	148.14	155.34
73	Diesel Oil	155.08	211.29	227.66
74	Kerosene Oil	117.12	212.90	224.83
75	Furnace Oil	98.32	148.26	162.84
76	Mobil Oil	201.29	201.08	203.46
77	Chemicals	172.93	191.65	191.65
78	Dying Materials	146.55	146.55	150.72
79	Fertilizers	216.40	228.94	232.29
80	Pesticides	304.43	312.26	312.26
81	Insecticides	141.88	142.19	142.29
82	Paints & Varnishes	294.51	301.12	304.87
83	Medicines	174.00	177.04	177.06
84	Soaps & Detergent	191.14	190.80	190.80
85	Auto Tyres	177.07	177.11	177.14
86	Plastic Products	225.88	240.04	240.04
87	Glass Sheets	298.97	302.27	302.27
88	Other Glass Articles	317.24	318.10	318.10
89	Ceramics And Sanitary	233.92	236.41	236.41
90	Bricks Blocks And Tiles	220.73	221.69	222.34
91	Cement	215.12	223.54	232.31
92	Bed Foams	170.00	175.33	175.33
93	Matches	171.36	171.36	171.36
Metal Product Machinery & Equip		176.73	183.47	185.32
94	Pig Iron	128.97	128.97	128.97
95	Steel Bars & Sheets	136.91	163.92	164.94
96	Pipe Fittings	215.66	215.66	215.66
97	Steel Products	177.56	177.24	177.24
98	Engines And Motors	116.98	116.98	116.98
99	Vacuum Pumps	123.69	123.69	123.69
100	Air Conditioners	200.10	203.80	203.80
101	Cultivators	190.66	190.66	190.66
102	Chuff Cutter	153.46	153.46	153.46
103	Tractors	201.75	201.75	216.82
104	Lathe Machines	241.06	241.06	241.06
105	Concrete Mixer	138.83	138.83	138.83
106	Refrige,Wash& Sew Mach, Iron,Fan	214.85	226.35	228.70
107	Electrical Wires	204.51	208.22	208.22
108	Lighting Equipments	170.73	174.04	174.04
109	Radio And Television	140.42	140.42	140.42
110	Motor Vehicles	195.36	211.00	211.00
111	Motor Cycles	125.89	133.88	133.88
112	Bicycles	187.65	187.65	191.22

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

Period	CPI			WPI			SPI *	
	Overall	Food	Non-food	Overall	Food	Non-Food		
2008-09	117.03	123.11	113.37	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	167.27	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	
2016-17	212.29	233.37	199.65	216.02	248.74	195.27	220.10	
2016	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
	Jun	215.45	234.37	204.11	217.77	248.90	198.02	220.68
	Jul	216.19	234.47	205.23	217.24	249.95	196.63	219.28
	Aug	216.61	235.38	205.36	217.96	251.05	196.96	219.82
	Sep	217.98	238.43	205.72	218.08	252.27	196.39	223.38
	Oct	219.61	239.89	207.45	219.41	254.40	197.22	225.15
	Nov	220.42	240.79	208.21	220.20	252.83	199.49	226.29
	Dec	220.20	239.43	208.67	221.00	253.31	200.49	225.66
2018	Jan	220.27	236.92	210.29	224.99	252.74	207.38	224.13
	Feb	219.58	234.31	210.75	224.66	250.56	208.23	222.19
	Mar	220.25	233.67	212.21	225.22	251.00	208.52	221.67
	Apr	224.25	237.08	216.56	228.07	254.52	211.28	223.13
	May	225.40	239.36	217.03	230.98	257.57	214.11	224.51
	Jun	226.68	241.37	217.87	234.40	259.86	218.25	228.00

*: all groups combined

Table A13: International Commodity Prices/Indices**				
	Feb-18	Mar-18	Apr-18	May-18
Energy				
Crude Oil (US\$ per barrel) *	63.5	64.2	68.8	73.4
Energy Index (2010 = 100)	80.5	81.0	87.6	94.1
Food				
Rice (\$/MT)	425.0	430.0	451.0	451.0
Wheat (\$/MT)	-	-	213.8	-
Sugar (US cent/ pound)^	0.3	0.3	0.3	0.3
Palm Oil (\$/MT)	663.0	681.0	664.0	660.0
Soybean Oil (\$/MT)	842.0	834.0	827.0	793.0
Non-Food Non-Energy				
Cotton Outlook 'A' Index #^	1.9	2.0	2.0	2.1
Metal Price Index (2010 = 100)	96.9	92.9	96.1	96.4
Copper (\$/MT)	7,006.5	6,799.2	6,851.5	6,825.3
Aluminum (\$/MT)	2,181.8	2,069.2	2,254.7	2,299.7
Iron Ore (\$ cents/dry MT)	77.5	70.4	65.8	66.1
Tin (\$/MT)	21,651.6	21,211.9	21,291.1	20,858.8
Nickel (\$/MT)	13,595.9	13,392.5	13,938.1	14,366.5
Zinc (\$/MT)	3,532.9	3,269.2	3,188.1	3,059.9
Lead (\$/MT)	2,581.1	2,390.0	2,352.4	2,360.9
Uranium (\$/MT)@	21.4	21.1	21.0	22.7
DAP (\$/MT)	405.0	413.0	411.0	407.0
Urea (\$/MT)	229.8	235.9	224.0	217.7
Source: World Bank for all variables / indices except Uranium which is taken from Cameco (World Largest Uranium Producer)				
@ Data has been taken from Cameco website as it is not available in World Bank dataset.				
^ The measurement unit for sugar and Cotton is US cent/ pound in IMF data source, whereas it is US dollar / kg in World bank dataset. The result of two datasets can be reconciled using conversion formula: 1 US \$ / kilogram = 45.359237 U.S. \$/MT = US\$ per metric tonne.				
* 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 Prices Data has not been updated on World Bank website for the month of June, 2018				

Table 14: CPI Data Series Original and Seasonally Adjusted					
Original Series					
Period	FY14	FY15	FY16	FY17	FY18
Jul	183.58	198.05	201.76	210.08	216.19
Aug	185.71	198.70	202.25	209.46	216.61
Sep	185.18	199.40	202.04	209.88	217.98
Oct	188.82	199.81	203.03	211.57	219.61
Nov	191.21	198.79	204.22	212.01	220.42
Dec	188.68	196.79	203.06	210.57	220.20
Jan	189.60	196.95	203.49	210.94	220.27
Feb	189.00	195.13	202.98	211.54	219.58
Mar	190.82	195.57	203.28	213.32	220.25
Apr	194.06	198.16	206.43	216.30	224.25
May	193.55	199.66	205.99	216.33	225.40
Jun	194.74	200.89	207.30	215.45	226.68
Seasonally Adjusted Series					
Jul	182.76	197.12	200.80	209.07	215.16
Aug	184.43	197.42	201.03	208.23	215.41
Sep	184.00	198.17	200.85	208.72	216.85
Oct	187.28	198.22	201.45	209.97	217.98
Nov	190.01	197.59	203.02	210.77	219.13
Dec	189.60	197.67	203.88	211.34	220.94
Jan	190.21	197.61	204.21	211.73	221.15
Feb	191.00	197.20	205.12	213.75	221.85
Mar	192.55	197.40	205.24	215.42	222.42
Apr	193.94	198.02	206.28	216.12	224.04
May	193.95	199.98	206.26	216.57	225.57
Jun	195.31	201.38	207.72	215.80	226.96

Table 15: CPI Food Data Series Original and Seasonally Adjusted					
Original Series					
Period	FY14	FY15	FY16	FY17	FY18
Jul	208.19	222.80	224.14	234.69	234.47
Aug	212.27	224.05	224.86	232.48	235.38
Sep	209.09	224.12	223.87	232.80	238.43
Oct	212.61	223.74	224.86	234.68	239.89
Nov	218.16	222.74	227.55	235.17	240.79
Dec	210.89	218.08	223.90	230.69	239.43
Jan	210.81	217.10	222.58	228.45	236.92
Feb	208.74	213.15	221.07	229.19	234.31
Mar	213.11	214.25	222.25	233.47	233.67
Apr	217.33	217.26	227.53	237.50	237.08
May	214.75	221.22	225.84	237.01	239.36
Jun	216.98	223.84	228.95	234.37	241.37
Seasonally Adjusted Series					
Jul	206.64	221.04	222.33	232.78	232.58
Aug	209.26	221.04	221.98	229.58	232.56
Sep	206.14	220.99	220.85	229.80	235.49
Oct	209.25	220.31	221.50	231.30	236.50
Nov	214.77	219.36	224.20	231.72	237.24
Dec	212.29	219.32	224.95	231.55	240.17
Jan	212.48	218.92	224.57	230.67	239.36
Feb	213.48	218.01	226.07	234.34	239.55
Mar	216.49	217.78	226.00	237.45	237.71
Apr	217.99	217.98	228.30	238.26	237.85
May	216.06	222.39	226.92	238.05	240.28
Jun	218.27	224.90	229.80	235.03	241.85

Period	FY14	FY15	FY16	FY17	FY18	Average
Jul	100.45	100.47	100.48	100.48	100.48	100.47
Aug	100.69	100.65	100.61	100.59	100.56	100.62
Sep	100.64	100.62	100.59	100.56	100.52	100.59
Oct	100.82	100.80	100.78	100.76	100.75	100.78
Nov	100.63	100.61	100.59	100.59	100.59	100.60
Dec	99.51	99.56	99.60	99.64	99.67	99.59
Jan	99.68	99.67	99.65	99.63	99.60	99.65
Feb	98.95	98.95	98.96	98.97	98.98	98.96
Mar	99.10	99.07	99.05	99.03	99.02	99.05
Apr	100.06	100.07	100.07	100.08	100.10	100.08
May	99.79	99.84	99.87	99.89	99.93	99.86
Jun	99.71	99.76	99.80	99.84	99.88	99.79

Period	FY14	FY15	FY16	FY17	FY18	Average
Jul	100.75	100.80	100.82	100.82	100.81	100.80
Aug	101.44	101.36	101.30	101.26	101.21	101.32
Sep	101.43	101.42	101.37	101.31	101.25	101.35
Oct	101.60	101.56	101.52	101.46	101.44	101.52
Nov	101.58	101.54	101.49	101.49	101.50	101.52
Dec	99.34	99.44	99.54	99.63	99.69	99.53
Jan	99.21	99.17	99.12	99.04	98.98	99.10
Feb	97.78	97.77	97.79	97.80	97.81	97.79
Mar	98.44	98.38	98.34	98.32	98.30	98.36
Apr	99.70	99.67	99.66	99.68	99.68	99.68
May	99.39	99.47	99.53	99.57	99.62	99.51
Jun	99.41	99.53	99.63	99.72	99.80	99.62

Table 18: CPI Month-on-Month % Change Original & Seasonally Adjusted					
Original Series					
Period	FY14	FY15	FY16	FY17	FY18
Jul	2.02	1.70	0.43	1.34	0.34
Aug	1.16	0.33	0.24	-0.30	0.19
Sep	-0.29	0.35	-0.10	0.20	0.63
Oct	1.97	0.21	0.49	0.81	0.75
Nov	1.27	-0.51	0.59	0.21	0.37
Dec	-1.32	-1.01	-0.57	-0.68	-0.10
Jan	0.49	0.08	0.21	0.18	0.03
Feb	-0.32	-0.92	-0.25	0.28	-0.31
Mar	0.96	0.23	0.15	0.84	0.31
Apr	1.70	1.32	1.55	1.40	1.82
May	-0.26	0.76	-0.21	0.01	0.51
Jun	0.61	0.62	0.64	-0.41	0.57
Seasonally Adjusted Series					
Jul	1.23	0.92	-0.29	0.65	-0.30
Aug	0.92	0.15	0.11	-0.40	0.11
Sep	-0.23	0.38	-0.09	0.24	0.67
Oct	1.78	0.03	0.30	0.60	0.52
Nov	1.46	-0.32	0.78	0.38	0.53
Dec	-0.22	0.04	0.43	0.27	0.82
Jan	0.32	-0.03	0.16	0.19	0.09
Feb	0.42	-0.21	0.45	0.95	0.32
Mar	0.81	0.10	0.06	0.78	0.26
Apr	0.72	0.32	0.51	0.33	0.73
May	0.01	0.99	-0.01	0.21	0.68
Jun	0.70	0.70	0.71	-0.35	0.62

Table 19: CPI Food Month-on-Month % Change Original & Seasonally Adjusted					
Original Series					
Period	FY14	FY15	FY16	FY17	FY18
Jul	3.01	2.68	0.13	2.50	0.04
Aug	1.96	0.56	0.32	-0.94	0.39
Sep	-1.50	0.03	-0.44	0.14	1.29
Oct	1.68	-0.17	0.44	0.81	0.61
Nov	2.61	-0.45	1.20	0.21	0.37
Dec	-3.33	-2.09	-1.61	-1.90	-0.56
Jan	-0.04	-0.45	-0.59	-0.97	-1.05
Feb	-0.98	-1.82	-0.68	0.32	-1.11
Mar	2.10	0.52	0.54	1.87	-0.27
Apr	1.98	1.41	2.38	1.73	1.46
May	-1.19	1.82	-0.74	-0.21	0.96
Jun	1.04	1.18	1.38	-1.11	0.84
Seasonally Adjusted Series					
Jul	1.53	1.27	-1.14	1.30	-1.04
Aug	1.27	0.00	-0.16	-1.37	-0.01
Sep	-1.49	-0.02	-0.51	0.09	1.26
Oct	1.51	-0.31	0.30	0.65	0.43
Nov	2.64	-0.43	1.22	0.18	0.31
Dec	-1.16	-0.02	0.33	-0.07	1.24
Jan	0.09	-0.18	-0.17	-0.38	-0.34
Feb	0.47	-0.42	0.67	1.59	0.08
Mar	1.41	-0.10	-0.03	1.33	-0.77
Apr	0.70	0.09	1.01	0.34	0.06
May	-0.88	2.03	-0.60	-0.09	1.02
Jun	1.02	1.13	1.27	-1.27	0.65



Figure A2: Frequency Distribution of Price Changes of CPI Items, June 2018

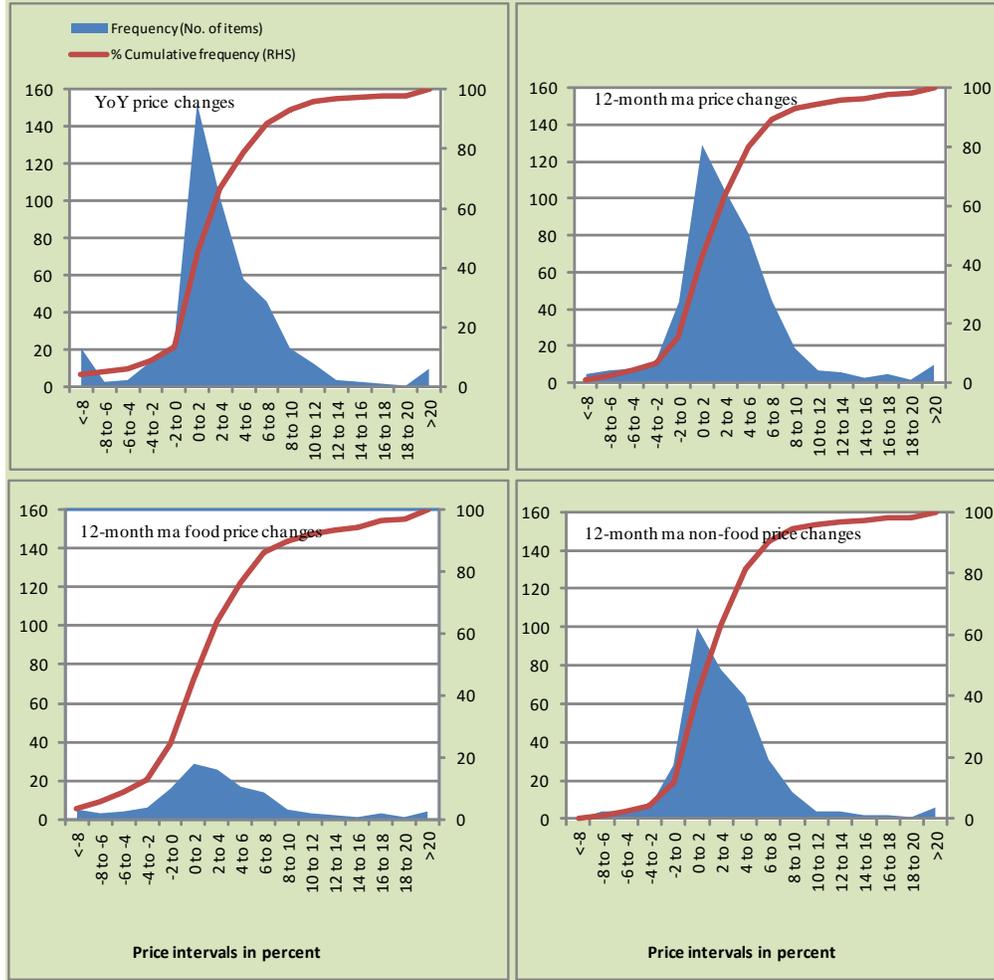


Figure A3: Frequency Distribution of Price Changes of WPI Commodities, June 2018

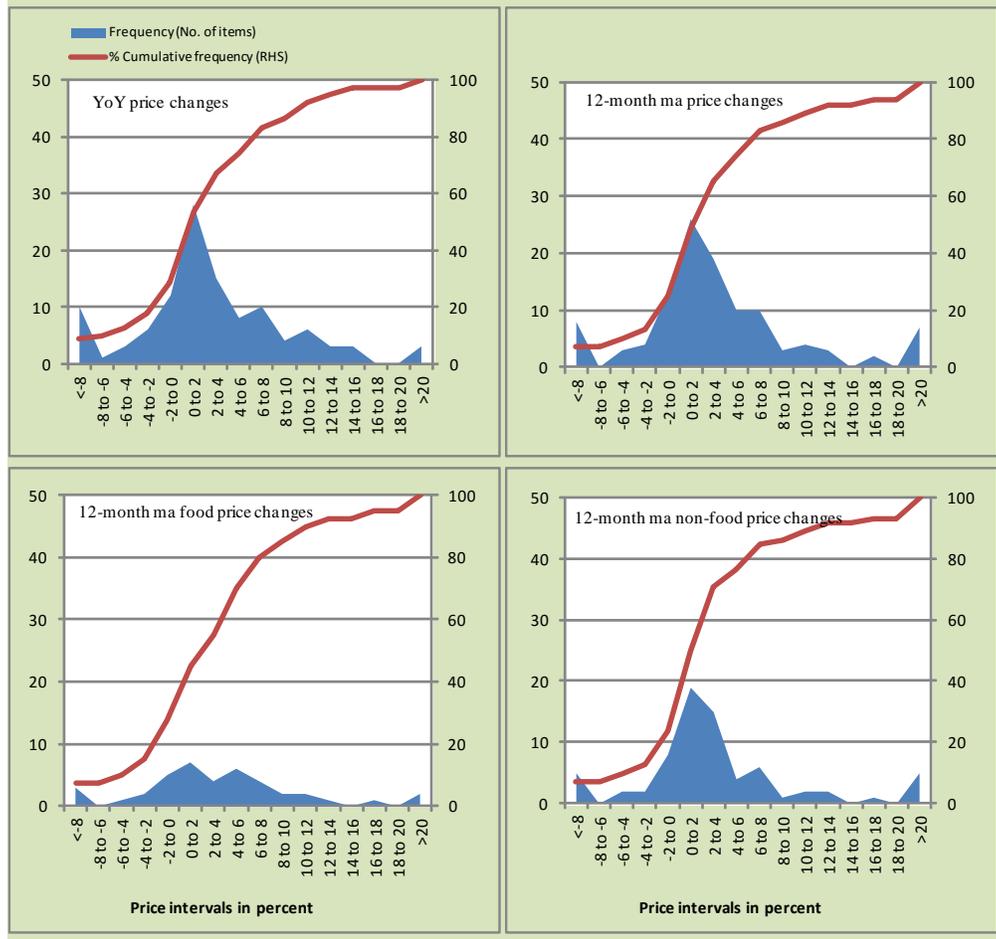
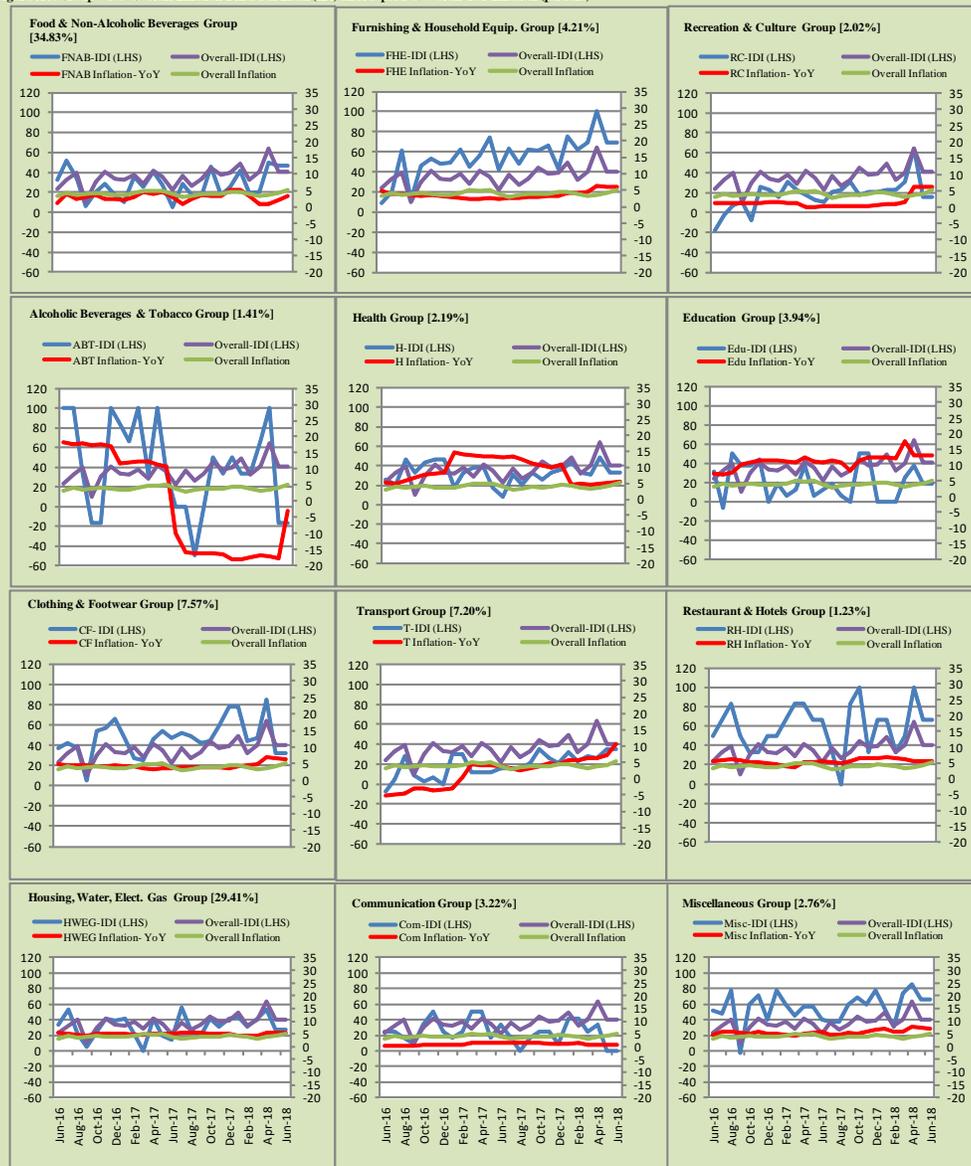


Figure A4: Group-wise/ Overall Inflation Diffusion Index (IDI) and respective/ overall YoY Inflation (percent)



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

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

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:

$$IDI = \frac{\text{No. of items with positive MoM change in price} - \text{No. of items with negative MoM change in price}}{\text{No. of items for which prices are reported}}$$

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.