

# **Inflation Monitor**

**June 2020**

**(New Base: 2015-16)**



**State Bank of Pakistan**

**Statistics & DWH Department**

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**Team**

- Mazhar Hussain                      Sr. Joint Director  
[mazhar.hussain@sbp.org.pk](mailto:mazhar.hussain@sbp.org.pk)
  
- Muhammad Abdus Salam              Joint Director  
[muhammad.abdussalam@sbp.org.pk](mailto:muhammad.abdussalam@sbp.org.pk)



## **Review**

### **1. Inflation in Brief**

- a) National CPI inflation (2015-16=100) is recorded at 8.6 percent on year-on-year basis in June 2020 as compared to 8.2 percent in the previous month and 8.0 percent during the corresponding month of last year.
- b) National CPI inflation on month-on-month basis is recorded at 0.8 percent in June 2020 as compared to 0.3 percent in the previous month and 0.5 percent during the corresponding month of last year. Seasonally adjusted month-on-month CPI inflation is recorded at 0.66 percent in June 2020 compared to 0.79 percent in the previous month.
- c) Urban CPI inflation (2015-16=100) is recorded at 7.6 percent on year-on-year basis in June 2020 as compared to 7.3 percent in the previous month and 8.1 percent during the corresponding month of last year.
- d) Urban CPI inflation on month-on-month basis is recorded at 0.7 percent in June 2020 as compared to 0.3 percent in the previous month and corresponding month of last year. Seasonally adjusted month-on-month Urban CPI inflation is recorded at 0.59 percent in June 2020 compared to 0.68 percent in the previous month.
- e) Rural CPI inflation (2015-16=100) is recorded at 10.0 percent on year-on-year basis in June 2020 as compared to 9.7 percent during the previous month. It was 7.9 percent during the corresponding month of last year.
- f) Rural CPI inflation on month-on-month basis is recorded at 1.0 percent in June 2020 as compared to 0.3 percent in the previous month and 0.7 percent during the corresponding month of last year. Seasonally adjusted month-on-month Rural CPI inflation is recorded at 0.77 percent in June 2020 compared to 0.97 percent in the previous month.

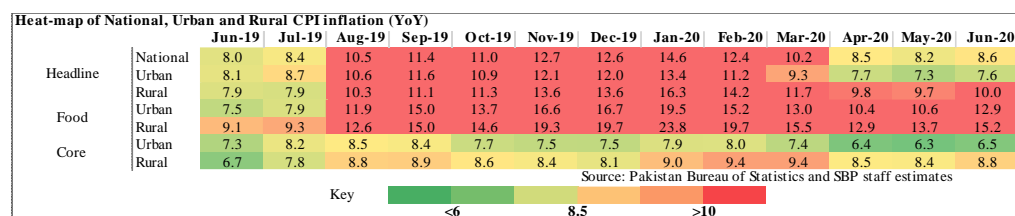
- g) Urban Core inflation (trimmed) on year-on-year basis is recorded at 7.4 percent in June 2020 as compared to 6.7 percent in the previous month and 7.3 percent during the corresponding month of last year.
- h) On month-on-month basis, the Urban Core inflation (trimmed) is recorded at 0.4 percent in June 2020 and was at same level as compared to previous month and corresponding month of last year.
- i) Rural Core inflation (trimmed) on year-on-year basis is recorded at 9.9 percent in June 2020 as compared to 8.9 percent in the previous month and 7.2 percent during the corresponding month of last year.
- j) On month-on-month basis, the Rural Core inflation (trimmed) is recorded at 0.9 percent in June 2020 as compared to 0.5 percent in the previous month and 0.7 percent during the corresponding month of last year.
- k) Urban Core (Non-food, non-energy (NFNE)) inflation on year-on-year basis is recorded at 6.5 percent in June 2020 as compared to 6.3 percent in the previous month. It was 7.3 percent during the corresponding month of last year.
- l) Urban Core (NFNE) inflation on month-on-month basis recorded at 0.4 percent in June 2020 and was at same level as compared to previous month and 0.2 percent during the corresponding month of last year.
- m) Rural Core (NFNE) inflation on year-on-year basis is recorded at 8.8 percent in June 2020 as compared to 8.4 percent in the previous month and 6.7 percent during the corresponding month of last year.
- n) Rural Core (NFNE) inflation on month-on-month basis recorded at 0.7 percent in June 2020 as compared to 0.4 percent in the previous month and 0.3 percent during the corresponding month of last year.



- o) WPI inflation on year-on-year basis recorded at 0.9 percent in June 2020 as compared to 1.5 percent in the previous month and 14.0 percent during the corresponding month of last year.
- p) WPI inflation on month-on-month basis recorded at -0.3 percent in June 2020 as compared to -2.1 percent in the previous month. It was 0.2 percent in the corresponding month of last year.
- q) SPI inflation on year-on-year basis recorded at 9.3 percent in June 2020 as compared to 9.6 percent in the previous month. It was 10.0 percent in the corresponding month of last year.
- r) SPI inflation on month-on-month basis recorded at 0.5 percent in June 2020 as compared to 1.7 percent in the previous month. It was 0.8 percent in the corresponding month of last year.

## 2. Heat-maps of CPI inflation

The heat map visually elaborates the evolution of inflation. A heat-map for National, Urban and Rural CPI inflation (YoY/MoM) and their important sub-indexes for the time span of last thirteen months is presented. The inflation is compared with the benchmark of medium-term inflation target of 8.5 percent and 0.75 percent on YoY and MoM basis, respectively. Greener areas indicate low inflation pressures and increasing order of red (light to dark color spectrum i.e. light green to orange to brown to red) represents higher and higher inflationary pressures.



## Inflation Monitor, June 2020

Heat-map of National, Urban and Rural CPI inflation (MoM)

		Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
Headline	National	0.5	1.8	1.6	0.8	1.8	1.3	-0.3	2.0	-1.0	0.0	-0.8	0.3	0.8
	Urban	0.3	2.0	1.5	0.7	1.6	1.0	-0.4	1.7	-1.1	0.1	-0.7	0.3	0.7
	Rural	0.7	1.6	1.9	0.8	2.2	1.9	-0.3	2.4	-1.0	-0.1	-1.1	0.3	1.0
Food	Urban	-0.3	1.0	3.1	2.0	1.4	2.4	-1.7	2.7	-1.4	0.6	-1.0	1.5	1.8
	Rural	0.7	1.7	2.9	1.8	2.6	3.4	-1.1	3.4	-1.6	-0.3	-1.7	1.4	2.0
	Core	0.2	1.8	0.4	0.4	0.5	0.3	0.4	1.1	0.2	0.3	0.2	0.4	0.4
	Urban	0.3	2.0	1.0	0.3	0.7	0.5	0.3	1.0	0.5	0.6	0.3	0.4	0.7
	Rural													

Source: Pakistan Bureau of Statistics and SBP staff estimates

Key: <0.00 0.75 >1.50

Heat-map of National CPI inflation (YoY)

	Weights	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
National	100.00	8.0	8.4	10.5	11.4	11.0	12.7	12.6	14.6	12.4	10.2	8.5	8.2	8.6
Food and non-alcoholic Beverages	34.58	8.4	8.3	12.6	15.8	15.0	19.4	19.7	23.7	18.4	14.7	11.7	12.2	14.6
Alcoholic Beverages, Tobacco	1.02	17.3	29.3	29.8	30.0	20.3	18.7	18.3	17.9	18.5	18.6	19.6	19.5	14.2
Clothing and footwear	8.60	6.4	7.5	8.9	8.9	9.3	9.4	9.7	9.6	10.1	11.0	10.2	10.3	11.0
Housing, water, Elec., Gas and other fuels	23.63	6.9	6.1	7.1	6.6	7.2	8.8	8.5	9.6	6.8	4.9	5.1	6.4	5.4
Furnishing and household equipment maintenance	4.10	9.3	11.0	11.6	11.7	11.3	10.8	10.4	10.1	10.0	10.1	9.0	8.7	8.8
Health	2.79	9.4	11.6	11.9	11.7	12.2	11.4	11.3	11.8	12.0	12.4	10.5	9.8	9.3
Transport	5.91	17.2	16.8	18.5	17.8	16.5	14.0	14.7	18.6	19.2	11.5	3.4	-7.5	-10.2
Communication	2.21	4.1	4.3	4.3	4.3	4.0	4.0	4.0	4.0	3.9	3.9	1.7	1.6	1.6
Recreation and culture	1.59	5.5	7.1	7.7	7.8	7.4	6.8	6.8	6.5	6.6	5.9	5.1	4.9	4.8
Education	3.79	5.8	6.8	6.9	6.2	6.0	6.1	6.0	7.3	7.4	4.5	3.2	2.0	2.0
Restaurants and hotels	6.92	3.9	5.8	6.2	6.1	6.0	6.4	6.1	7.4	8.7	8.7	8.5	8.6	9.0
Misc. goods and services	4.87	9.4	10.8	13.2	13.4	12.5	11.8	10.7	11.4	11.4	11.8	11.9	11.9	11.6

Source: Pakistan Bureau of Statistics and SBP staff estimates

Key: <6 8.5 >10

Heat-map of Urban CPI inflation (YoY)

	Weights	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
Urban	100.00	8.1	8.7	10.6	11.6	10.9	12.1	12.0	13.4	11.2	9.3	7.7	7.3	7.6
Food and non-alcoholic Beverages	30.42	7.7	7.7	12.6	16.3	15.0	18.6	18.8	22.0	16.4	13.7	10.7	10.9	13.8
Alcoholic Beverages, Tobacco	0.85	16.3	28.4	28.5	28.7	18.5	16.7	16.6	16.8	17.7	17.8	18.8	19.0	13.3
Clothing and footwear	8.01	6.8	7.5	9.1	9.0	9.0	9.1	9.6	9.0	9.6	9.9	9.5	9.5	10.1
Housing, water, Elec., Gas and other fuels	27.03	7.6	7.9	8.6	8.4	8.2	9.6	9.4	9.7	6.9	5.1	5.1	6.5	5.6
Furnishing and household equipment maintenance	4.09	10.5	12.3	12.4	12.5	11.6	11.2	11.0	10.4	10.0	9.8	8.3	7.7	7.7
Health	2.31	9.0	12.1	11.7	11.1	11.2	10.5	10.9	11.5	11.7	12.2	9.4	8.7	8.4
Transport	6.14	17.4	17.5	19.0	18.6	17.5	15.0	15.6	19.4	19.9	12.2	4.1	-6.5	-9.5
Communication	2.35	5.2	5.7	5.5	5.6	5.2	5.1	5.3	5.3	5.3	5.1	2.3	2.2	2.1
Recreation and culture	1.73	5.3	6.8	7.5	7.7	6.7	6.5	6.4	6.1	6.1	5.6	4.9	4.6	4.4
Education	4.88	6.4	7.3	7.4	6.4	6.2	6.3	6.3	7.5	7.5	4.5	3.4	1.9	1.9
Restaurants and hotels	7.41	4.5	5.4	5.0	5.0	4.9	5.2	4.9	6.5	7.7	7.5	7.4	7.2	7.7
Misc. goods and services	4.77	9.7	10.8	12.6	13.1	12.0	11.0	10.1	10.7	10.1	10.6	11.0	10.9	10.6

Source: Pakistan Bureau of Statistics and SBP staff estimates

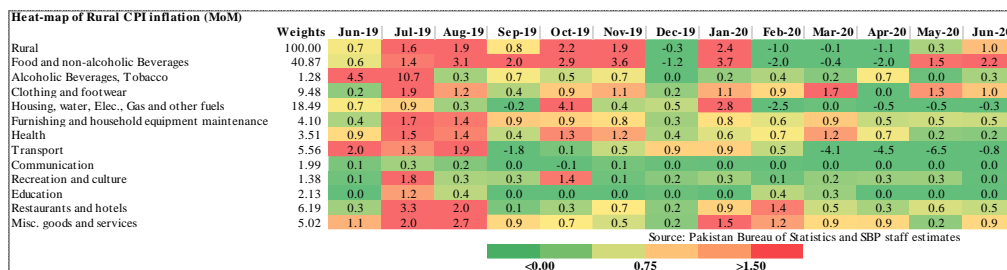
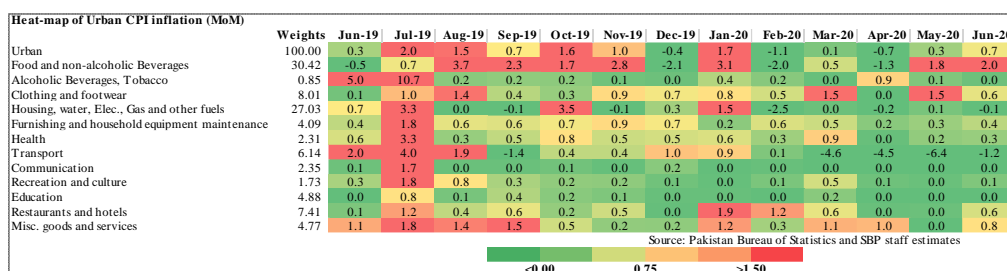
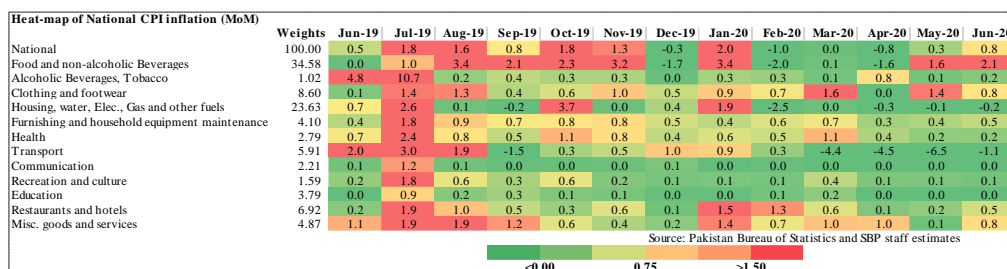
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Heat-map of Rural CPI inflation (YoY)

	Weights	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
Rural	100.00	7.9	7.9	10.3	11.1	11.3	13.6	13.6	16.3	14.2	11.7	9.8	9.7	10.0
Food and non-alcoholic Beverages	40.87	9.3	8.9	12.6	15.3	15.1	20.3	20.8	25.5	20.6	15.8	12.8	13.7	15.5
Alcoholic Beverages, Tobacco	1.28	18.4	30.4	31.3	31.4	22.4	21.0	20.2	19.2	19.4	19.5	20.4	20.1	15.3
Clothing and footwear	9.48	6.0	7.5	8.7	8.9	9.7	9.8	9.9	10.2	10.8	12.3	11.0	11.4	12.2
Housing, water, Elec., Gas and other fuels	18.49	5.3	2.0	3.7	2.8	4.9	6.9	6.6	9.4	6.6	4.6	5.2	6.0	4.9
Furnishing and household equipment maintenance	4.10	7.6	9.1	10.2	10.5	10.9	10.2	9.6	9.7	9.9	10.6	10.1	10.2	10.4
Health	3.51	9.8	11.1	12.2	12.2	13.1	12.3	11.7	12.1	12.4	12.6	11.6	10.9	10.1
Transport	5.56	16.9	15.7	17.6	16.4	14.7	12.2	13.1	17.2	18.0	10.2	2.3	-9.0	-11.5
Communication	1.99	2.1	2.0	2.1	2.0	2.0	1.9	1.7	1.7	1.6	1.6	0.8	0.7	0.6
Recreation and culture	1.38	5.9	7.7	8.0	8.0	8.9	7.4	7.5	7.3	7.3	6.5	5.4	5.5	5.5
Education	2.13	3.6	4.9	5.3	5.3	5.3	5.3	5.0	6.7	7.1	4.5	2.5	2.4	2.4
Restaurants and hotels	6.19	2.9	6.4	8.1	8.1	8.0	8.5	8.3	8.9	10.3	10.8	10.4	11.1	11.3
Misc. goods and services	5.02	9.0	10.7	14.1	13.9	13.2	12.9	11.6	12.5	13.4	13.6	13.2	13.5	13.2

Source: Pakistan Bureau of Statistics and SBP staff estimates

Key: <6 8.5 >10



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	Weights	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
Urban	100.00	8.1	8.7	10.6	11.6	10.9	12.1	12.0	13.4	11.2	9.3	7.7	7.3	7.6
Food	36.80	7.5	7.9	11.9	15.0	13.7	16.6	16.7	19.5	15.2	13.0	10.4	10.6	12.9
Non-perishable	32.34	6.5	8.3	11.7	13.3	10.5	10.3	10.2	13.8	13.8	13.0	10.6	12.1	14.2
Perishable	4.46	14.3	5.4	13.3	27.2	35.9	66.0	76.4	68.8	25.2	12.9	9.2	1.5	4.2
Non Food	63.20	8.4	9.2	9.9	9.7	9.3	9.6	9.5	10.2	9.1	7.3	6.2	5.4	4.7
Energy	9.47	15.4	14.5	18.1	16.8	18.1	21.0	20.6	22.8	15.3	6.6	4.6	0.5	-5.0
NFNE (Core)	53.73	7.3	8.2	8.5	8.4	7.7	7.5	7.5	7.9	8.0	7.4	6.4	6.3	6.5
HRI	19.26	6.3	6.5	6.5	6.5	5.0	5.0	5.0	5.6	5.6	5.6	4.2	4.2	4.2
Core Excl HRI	34.47	7.8	9.2	9.7	9.5	9.2	9.0	8.9	9.3	9.3	8.5	7.7	7.5	7.8

Source: Pakistan Bureau of Statistics and SBP staff estimates

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	Weights	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
Rural	100.00	7.9	7.9	10.3	11.1	11.3	13.6	13.6	16.3	14.2	11.7	9.8	9.7	10.0
Food	45.95	9.1	9.3	12.6	15.0	14.6	19.3	19.7	23.8	19.7	15.5	12.9	13.7	15.2
Non-perishable	40.16	8.3	8.8	11.9	13.4	11.5	11.9	11.8	16.2	17.0	15.1	12.8	14.1	15.8
Perishable	5.79	14.7	12.1	17.3	26.1	34.3	73.9	89.3	90.3	41.2	18.2	13.5	11.4	10.9
Non Food	54.05	7.0	6.8	8.4	8.0	8.7	9.0	8.8	10.5	9.8	8.5	7.4	6.4	5.8
Energy	11.41	8.5	2.9	6.7	4.8	9.1	11.4	11.3	15.9	11.4	5.4	3.2	-1.3	-5.3
NFNE (Core)	42.64	6.7	7.8	8.8	8.9	8.6	8.4	8.1	9.0	9.4	9.4	8.5	8.4	8.8
HRI	8.61	6.5	5.5	5.5	5.5	4.1	4.1	4.1	6.3	6.3	6.3	5.1	5.1	5.1
Core Excl HRI	34.03	6.7	8.4	9.7	9.7	9.7	9.5	9.2	9.7	10.2	10.2	9.3	9.3	9.7

Source: Pakistan Bureau of Statistics and SBP staff estimates

<6      8.5      >10

	Weights	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
Urban	100.00	0.3	2.0	1.5	0.7	1.6	1.0	-0.4	1.7	-1.1	0.1	-0.7	0.3	0.7
Food	36.80	-0.3	1.0	3.1	2.0	1.4	2.4	-1.7	2.7	-1.4	0.6	-1.0	1.5	1.8
Non-perishable	32.34	0.3	1.4	2.6	1.5	-0.1	1.2	0.0	3.0	0.5	0.1	-1.1	2.1	2.3
Perishable	4.46	-4.1	-1.2	6.5	5.3	10.7	9.2	-10.3	0.7	-12.6	3.5	-0.8	-2.6	-1.6
Non Food	63.20	0.7	2.5	0.5	0.0	1.7	0.2	0.4	1.1	-0.9	-0.1	-0.5	-0.4	0.0
Energy	9.47	3.2	6.3	1.1	-1.6	7.9	-0.1	0.6	1.2	-6.2	-2.1	-4.2	-4.6	-2.4
NFNE (Core)	53.73	0.2	1.8	0.4	0.4	0.5	0.3	0.4	1.1	0.2	0.3	0.2	0.4	0.4
HRI	19.26	0.0	1.5	0.0	0.0	0.5	0.0	0.0	1.9	0.0	0.0	0.3	0.0	0.0
Core Excl HRI	34.47	0.4	2.0	0.7	0.6	0.5	0.4	0.6	0.7	0.3	0.4	0.2	0.6	0.7

Source: Pakistan Bureau of Statistics and SBP staff estimates

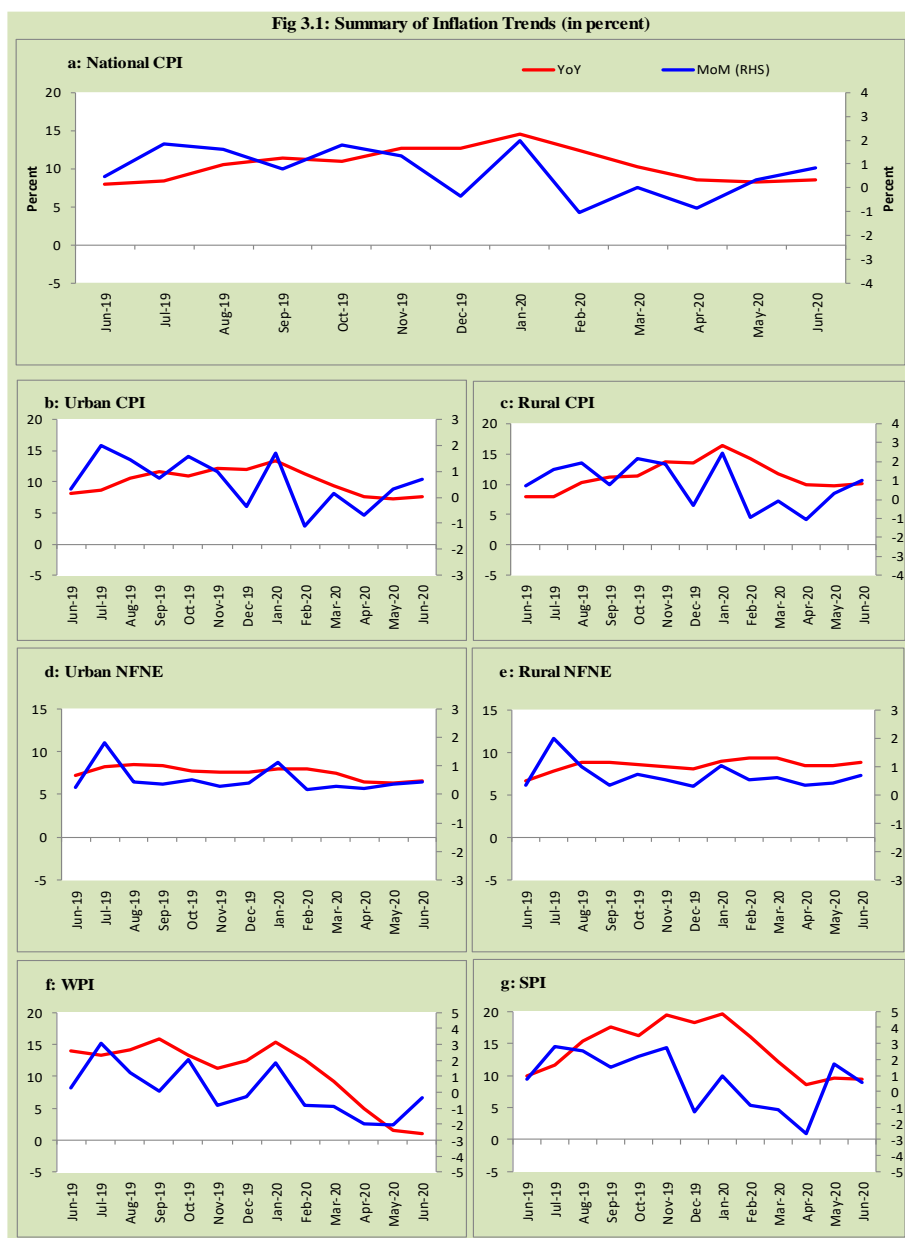
<0.00      0.75      >1.50

	Weights	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
Rural	100.00	0.7	1.6	1.9	0.8	2.2	1.9	-0.3	2.4	-1.0	-0.1	-1.1	0.3	1.0
Food	45.95	0.7	1.7	2.9	1.8	2.6	3.4	-1.1	3.4	-1.6	-0.3	-1.7	1.4	2.0
Non-perishable	40.16	1.3	1.4	2.2	1.3	0.2	1.7	0.5	3.9	1.1	-0.8	-1.2	1.8	2.8
Perishable	5.79	-2.7	3.7	7.1	4.5	17.6	11.9	-8.3	1.1	-15.9	2.9	-4.9	-1.7	-3.2
Non Food	54.05	0.7	1.5	1.1	0.0	1.8	0.6	0.4	1.5	-0.4	0.1	-0.5	-0.5	0.1
Energy	11.41	2.1	-0.3	1.7	-1.4	5.9	0.7	0.6	3.3	-3.8	-1.8	-3.6	-4.2	-2.0
NFNE (Core)	42.64	0.3	2.0	1.0	0.3	0.7	0.5	0.3	1.0	0.5	0.6	0.3	0.4	0.7
HRI	8.61	0.0	1.9	0.0	0.0	0.5	0.0	0.0	2.2	0.0	0.0	0.4	0.0	0.0
Core Excl HRI	34.03	0.4	2.0	1.3	0.4	0.8	0.7	0.4	0.7	0.7	0.8	0.3	0.5	0.8

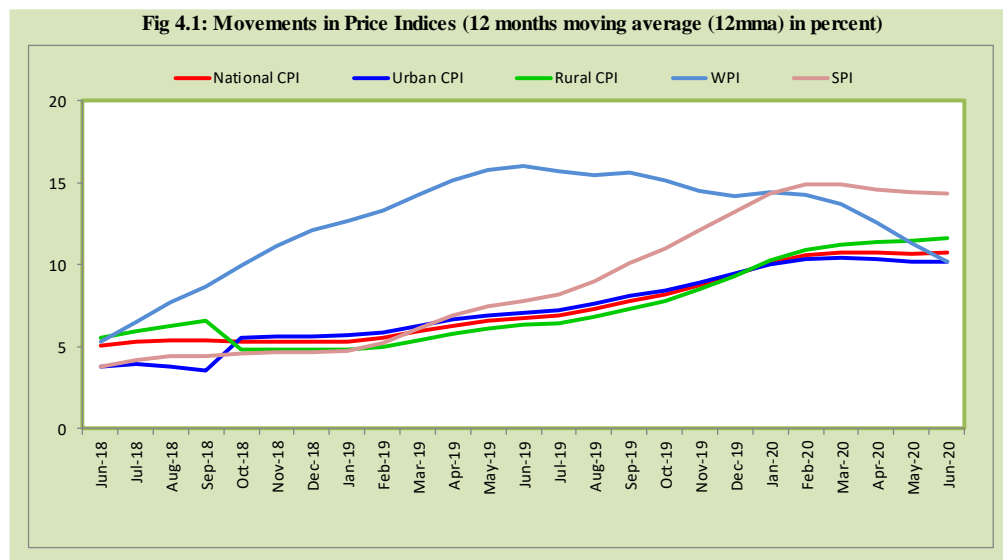
Source: Pakistan Bureau of Statistics and SBP staff estimates

<0.00      0.75      >1.50

### 3. Trends in Inflation



#### 4. Movement in Price Indices (Moving Averages)



## 5. Movement in Price Indices (Month-on-Month)

Fig 5.1: Movements in Price Indices (MoM in percent)

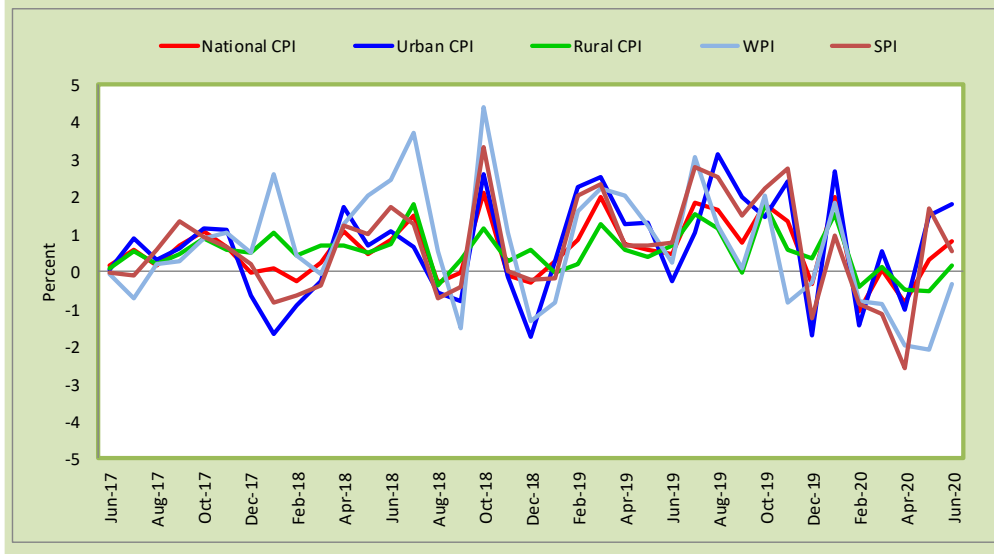
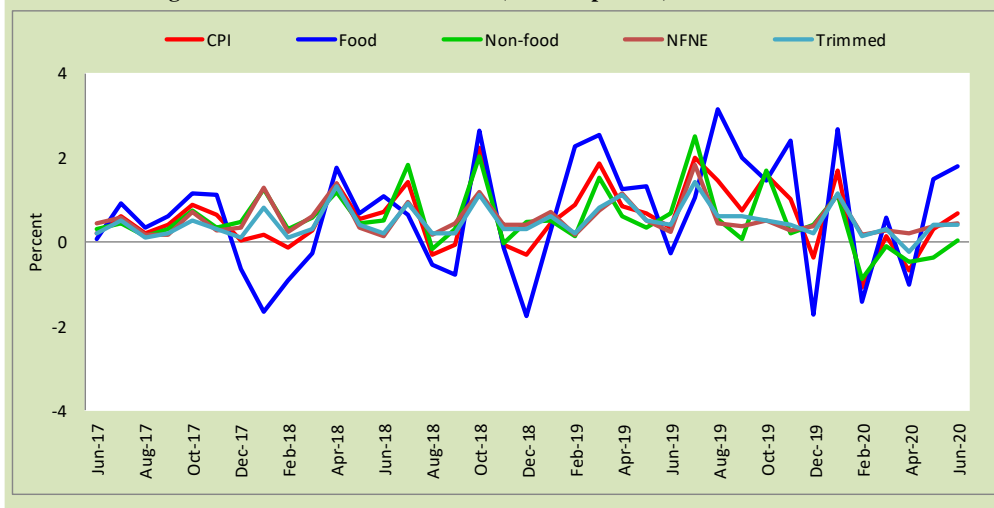
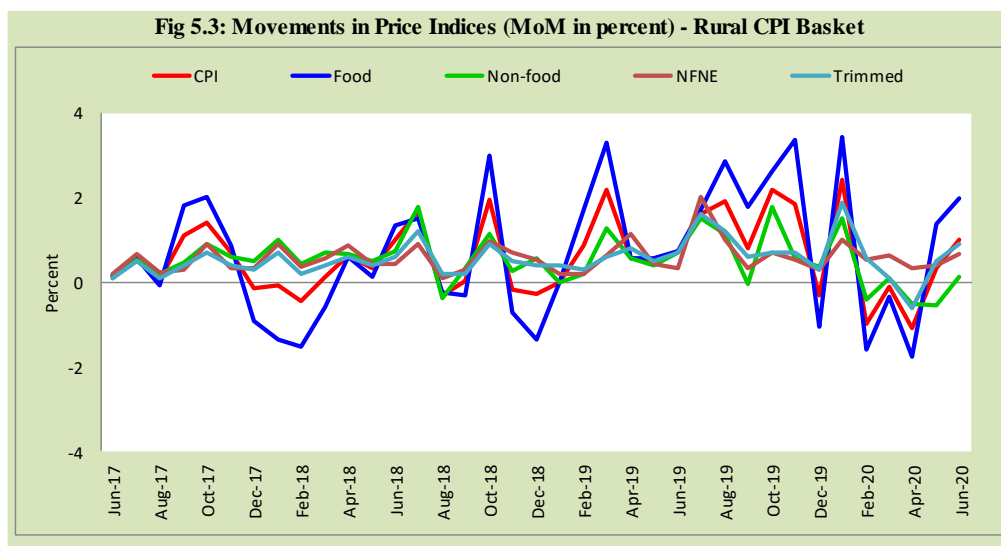


Fig 5.2: Movements in Price Indices (MoM in percent) - Urban CPI Basket



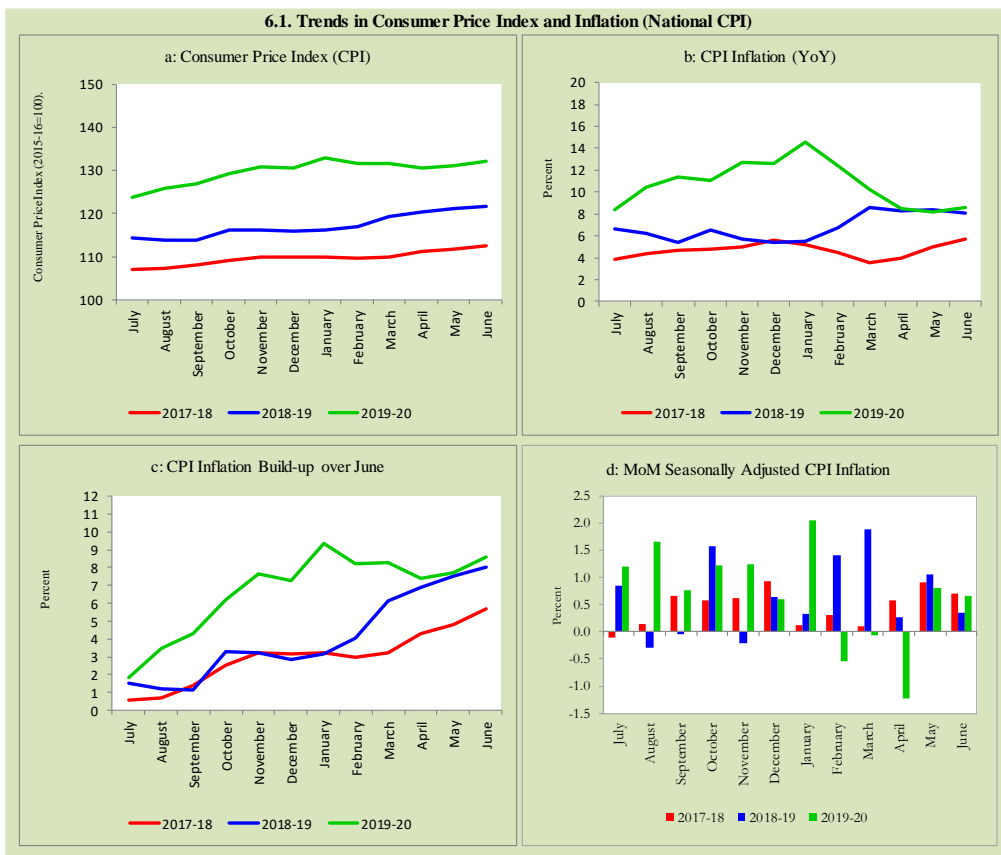


## 6. Trends in Consumer Price Indices and Inflation

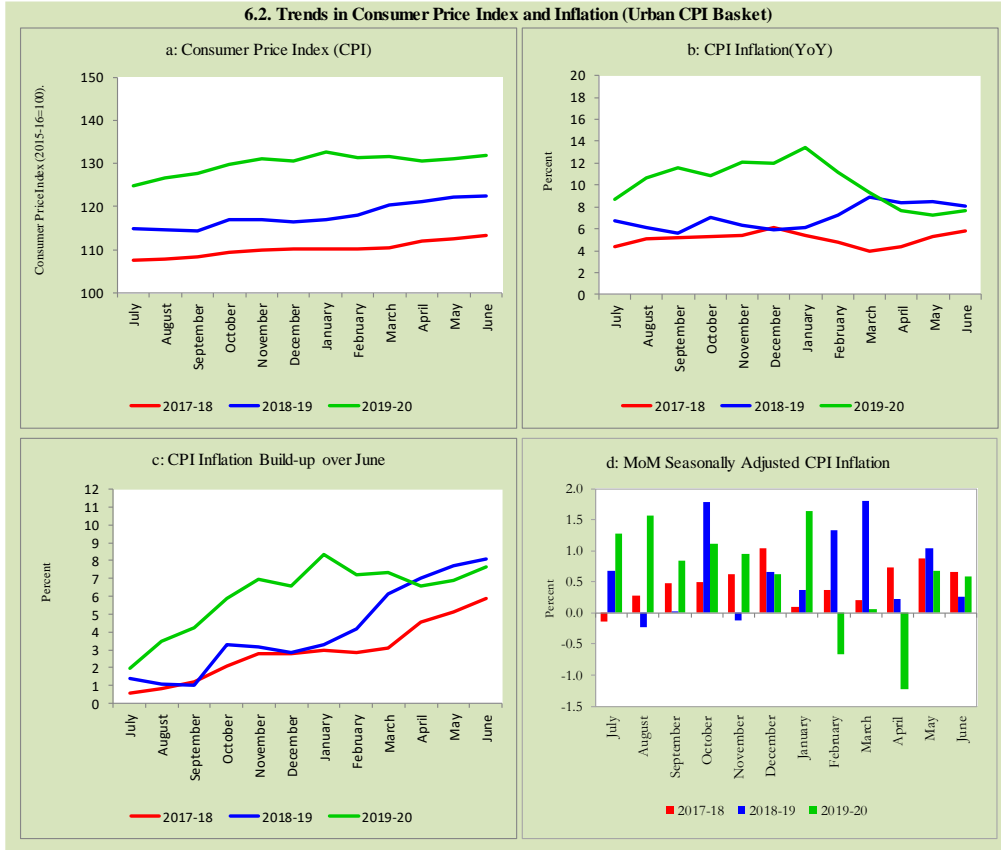
Monthly Consumer Price Indices, YoY growth rates and inflation build up over June along with seasonally adjusted (MoM) growth rates in CPI (National, Urban and Rural) is summarized in the following graphs (Figure 6.1 to 6.3).

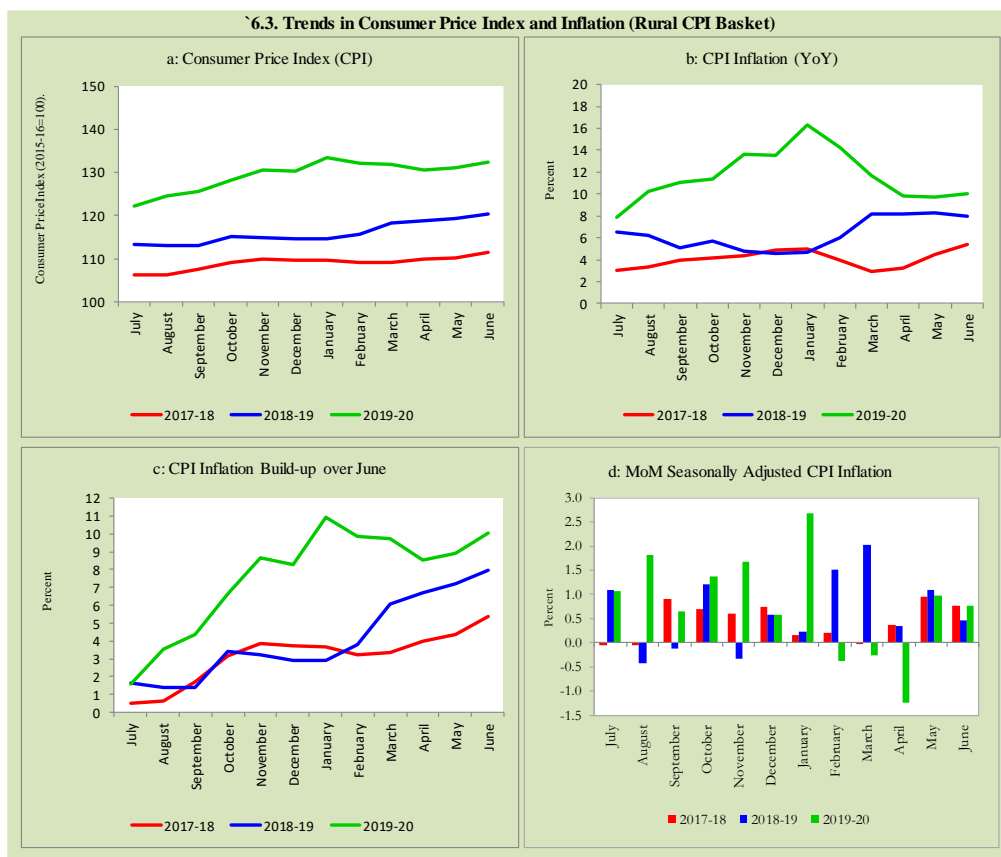


### 6.1. Trends in Consumer Price Index and Inflation (National CPI)



**6.2. Trends in Consumer Price Index and Inflation (Urban CPI Basket)**





## 7. Weighted Contribution

The weighted contribution of food group in the overall urban CPI inflation increased to 60.0 percent during June 2020 from 52.2 percent in previous month. It was 33.2 percent during corresponding month of last year. The weighted contribution of non-food group decreased to 40.0 percent in June 2020 from 47.8 percent in previous month. Non-food group was 66.8 percent during corresponding month of last year. Table 7.1 provide the historical perspective of weighted contribution of food group and non-food group and their respective sub-indexes (Perishable food, Non-Perishable food, Energy, Core Inflation (NFNE), NFNE excluding HRI and HRI) in

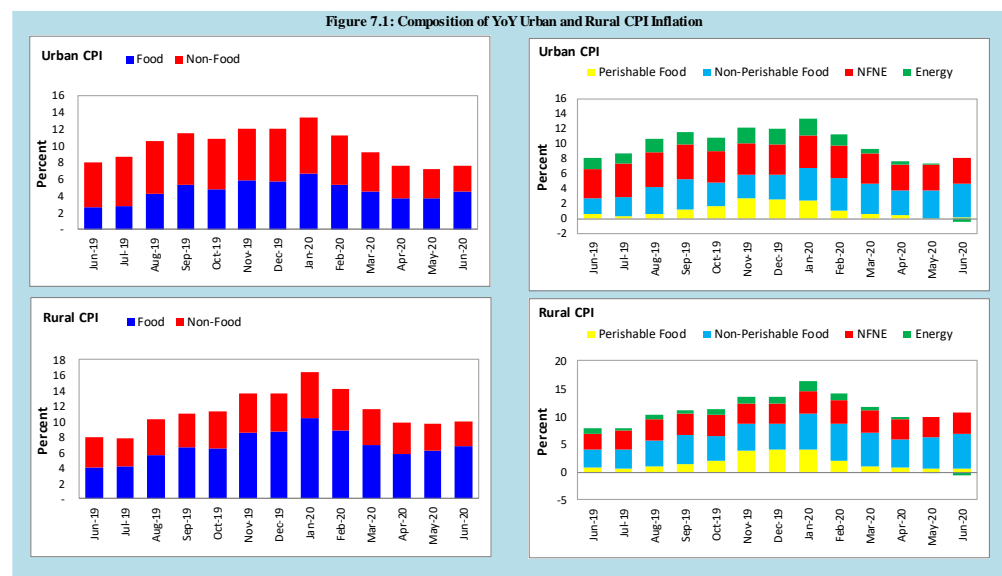
the overall inflation for urban basket. Figure 7.1 provides a graphical presentation of composition of YoY urban CPI inflation cascaded in food group and non-food groups and their respective sub-indexes.

<b>Table 7.1 Weighted Contribution (in percent) to Urban CPI Inflation (YoY)</b>									
Period	Overall CPI	Food Group			Non-Food Group				
		Food	Perishable food	Non-Perishable food	Non-food	Energy	Core Inflation (NFNE)	NFNE excl HRI	HRI
	a=(b+e)	b=(c+d)	c	d	e=(f+g)	F	g=(h+i)	h	i
Jun-19	100	33.2	8.0	25.2	66.8	17.7	49.1	33.6	15.5
Jul-19	100	32.3	3.0	29.3	67.7	16.4	51.3	36.5	14.8
Aug-19	100	39.7	6.0	33.7	60.3	16.5	43.8	31.6	12.2
Sep-19	100	45.8	10.5	35.3	54.2	14.1	40.1	28.9	11.2
Oct-19	100	44.7	14.9	29.7	55.4	16.8	38.6	29.3	9.2
Nov-19	100	48.7	22.1	26.6	51.3	17.1	34.2	25.9	8.3
Dec-19	100	48.4	21.8	26.6	51.7	17.1	34.6	26.2	8.4
Jan-20	100	50.5	18.4	32.1	49.6	16.8	32.8	24.3	8.5
Feb-20	100	47.7	9.4	38.3	52.3	13.3	39.0	29.0	10.1
Mar-20	100	49.4	6.5	42.8	50.7	7.2	43.4	31.5	11.9
Apr-20	100	48.3	5.8	42.5	51.7	5.9	45.8	35.0	10.8
May-20	100	52.2	1.0	51.1	47.8	0.7	47.1	35.8	11.4
Jun-20	100	60.0	2.6	57.4	40.0	-6.5	46.4	35.7	10.8

Also, for rural basket, the weighted contribution of food group in the overall rural CPI inflation increased to 68.2 percent during June 2020 from 63.8 percent in previous month. It was 50.9 percent during corresponding month of last year. On the other hand, the weighted contribution of non-food group decreased to 31.8 percent in June 2020 from 36.2 percent in previous month. Non-food group was 49.2 percent during corresponding month of last year. Table 7.2 provide the historical perspective of weighted contribution of food group (Perishable food, Non-Perishable food) and non-food group (Energy, Core Inflation (NFNE), NFNE excluding HRI and HRI) in the overall inflation for rural basket. Figure 7.1 provides a graphical display of composition of YoY rural CPI inflation distributed in food group and non-food groups and their respective sub-indexes.

Period	Overall CPI	Food Group			Non-Food Group				
		Food	Perishable food	Non-Perishable food	Non-food	Energy	Core Inflation (NFNE)	NFNE excl HRI	HRI
	a=(b+e)	b=(c+d)	c	d	e=(f+g)	f	g=(h+i)	h	i
Jun-19	100	50.9	10.0	40.9	49.2	12.4	36.7	29.4	7.3
Jul-19	100	52.4	8.7	43.7	47.6	4.4	43.2	36.9	6.4
Aug-19	100	54.8	9.8	45.1	45.2	7.7	37.5	32.6	4.9
Sep-19	100	60.0	13.3	46.7	40.0	5.1	34.9	30.4	4.5
Oct-19	100	57.8	18.5	39.3	42.2	9.5	32.7	29.5	3.3
Nov-19	100	63.3	28.7	34.5	36.7	9.8	26.9	24.2	2.7
Dec-19	100	63.9	29.4	34.5	36.1	9.8	26.3	23.6	2.8
Jan-20	100	64.2	24.8	39.3	35.8	11.4	24.4	20.9	3.5
Feb-20	100	61.7	14.6	47.1	38.2	9.3	28.9	24.9	4.0
Mar-20	100	59.9	9.5	50.4	40.2	5.5	34.7	29.9	4.8
Apr-20	100	58.8	8.2	50.6	41.2	3.8	37.5	32.8	4.7
May-20	100	63.8	7.0	56.9	36.2	-1.6	37.8	33.0	4.7
Jun-20	100	68.2	6.3	61.9	31.8	-6.2	38.0	33.4	4.5

Figure 7.1: Composition of YoY Urban and Rural CPI Inflation



## 8. Inflation Diffusion Index

Inflation diffusion index (IDI) is the difference (MoM change) 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 basket for which prices have reported. IDI for urban and rural baskets (CPI, Core and twelve groups) is presented in Table 8.1(a & b) for the last thirteen months.

**Table 8.1(a) Inflation Diffusion Index for Urban CPI Basket - based on MoM change**

	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
General	52.5	61.5	65.2	52.8	61.8	55.3	43.5	56.2	52.5	45.8	19.9	30.1	41.0
Food & Non-Alcoholic Beverages	43.3	50.0	65.6	50.0	67.8	45.6	35.6	66.7	35.6	31.1	26.7	4.4	34.4
Alcoholic Beverages & Tobacco	100.0	100.0	66.7	100.0	100.0	100.0	66.7	100.0	66.7	66.7	100.0	66.7	66.7
Clothing & Footwear	60.0	70.0	80.0	57.5	72.5	80.0	72.5	75.0	75.0	67.5	10.0	67.5	57.5
Housing, Water, Elect, Gas & other Fuels	65.5	44.8	37.9	10.3	55.2	24.1	20.7	3.4	6.9	27.6	24.1	17.2	10.3
Furnishing & Household Equip. Maintenance etc.	90.5	76.2	88.1	97.6	88.1	95.2	76.2	71.4	92.9	64.3	19.0	61.9	90.5
Health	75.0	0.0	100.0	0.0	100.0	50.0	25.0	75.0	75.0	100.0	-25.0	0.0	25.0
Transport	75.0	0.0	100.0	0.0	100.0	50.0	25.0	75.0	75.0	100.0	-25.0	0.0	25.0
Communication	20.0	40.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	0.0	20.0	-20.0
Recreation & Culture	36.0	56.0	60.0	32.0	24.0	32.0	20.0	20.0	28.0	20.0	12.0	20.0	24.0
Education	0.0	56.3	56.3	62.5	6.3	25.0	12.5	6.3	0.0	31.3	0.0	0.0	0.0
Restaurant & Hotels	50.0	78.6	85.7	78.6	78.6	71.4	28.6	71.4	85.7	64.3	14.3	57.1	71.4
Miscellaneous	82.8	69.0	79.3	96.6	79.3	65.5	34.5	82.8	75.9	69.0	37.9	41.4	72.4
NFNE	55.7	68.1	68.1	59.1	58.3	63.0	48.1	55.3	62.6	53.2	19.6	40.4	43.8

**Table 8.1(b) Inflation Diffusion Index (CPI Rural Basket) - based on MoM change**

	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
General	46.7	73.0	60.7	34.4	64.3	50.8	36.9	56.6	48.0	41.8	23.4	32.4	28.7
Food & Non-Alcoholic Beverages	36.7	65.8	55.7	22.8	69.6	46.8	25.3	67.1	32.9	16.5	25.3	8.9	17.7
Alcoholic Beverages & Tobacco	100.0	100.0	100.0	80.0	100.0	80.0	0.0	60.0	100.0	60.0	60.0	20.0	60.0
Clothing & Footwear	63.0	85.2	81.5	66.7	77.8	59.3	48.1	77.8	85.2	70.4	0.0	85.2	48.1
Housing, Water, Elect, Gas & other Fuels	60.9	39.1	52.2	-4.3	82.6	34.8	39.1	8.7	0.0	39.1	34.8	17.4	0.0
Furnishing & Household Equip. Maintenance etc.	42.3	84.6	88.5	73.1	84.6	80.8	57.7	69.2	73.1	80.8	23.1	53.8	65.4
Health	57.1	78.6	57.1	35.7	50.0	78.6	57.1	42.9	42.9	71.4	42.9	50.0	35.7
Transport	56.3	75.0	50.0	12.5	37.5	43.8	25.0	43.8	43.8	12.5	-6.3	0.0	18.8
Communication	20.0	40.0	20.0	0.0	-20.0	20.0	20.0	20.0	20.0	0.0	0.0	0.0	0.0
Recreation & Culture	11.1	72.2	11.1	22.2	27.8	11.1	27.8	22.2	33.3	27.8	22.2	11.1	5.6
Education	0.0	80.0	20.0	0.0	0.0	0.0	20.0	0.0	80.0	40.0	0.0	0.0	0.0
Restaurant & Hotels	35.7	85.7	57.1	21.4	42.9	42.9	35.7	78.6	71.4	78.6	28.6	64.3	57.1
Miscellaneous	76.5	100.0	88.2	70.6	70.6	64.7	58.8	70.6	82.4	52.9	41.2	70.6	35.3
NFNE	47.8	81.6	63.2	49.3	58.1	55.1	44.9	52.2	58.1	55.9	24.3	50.0	36.0

See annexure B (Technical Notes) for the methodology of Inflation Diffusion Index.

## 9. Domestic Commodity Prices

Inflation in domestic food commodities (YoY and MoM in percent) for selected essential food items covering both urban and rural CPI baskets is given in table 9.1.

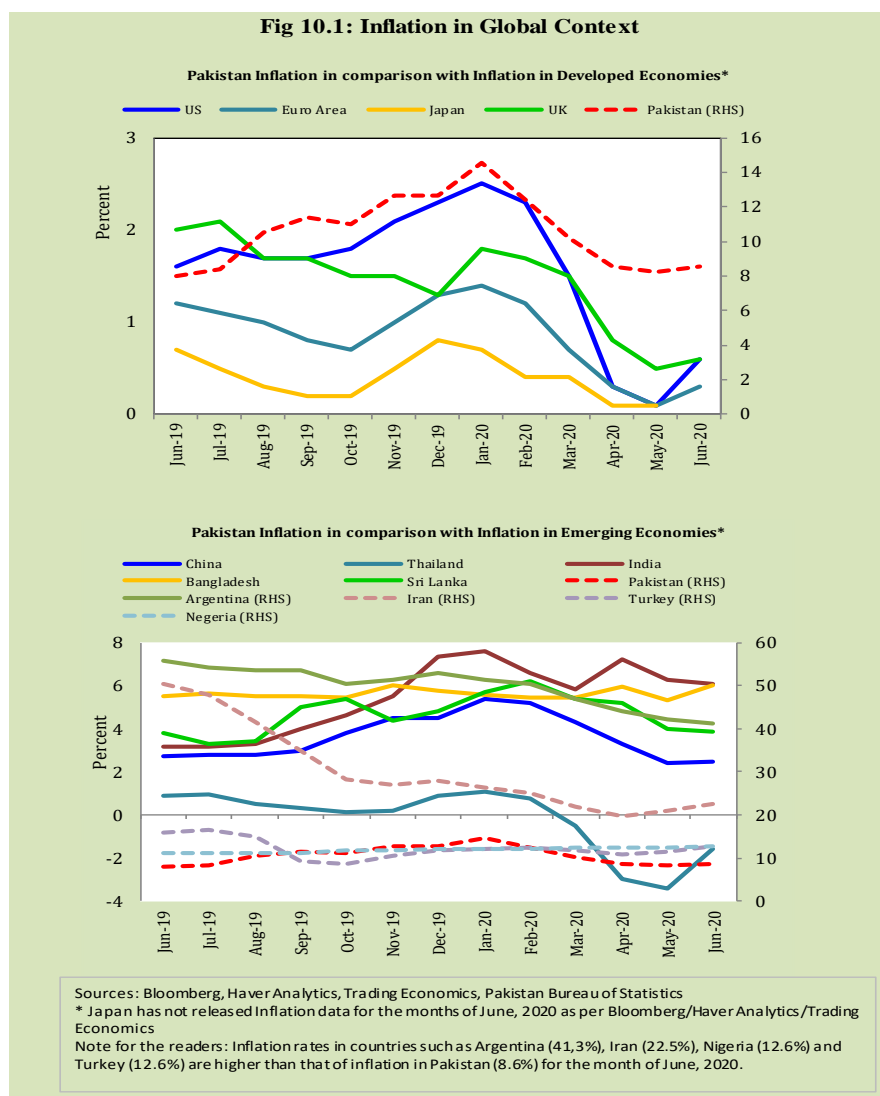
Table 9.1 Inflation in Domestic Urban and Rural CPI Food Commodities (in percent) - June 2020						
S. No	Item	Unit	Urban CPI		Rural CPI	
			YoY	MoM	YoY	MoM
1	Wheat	10 Kg	22.1	10.8	20.7	9.6
2	Wheat Flour Bag	20 Kg	24.1	14.4	22.7	13.7
3	Rice Basmati Broken (Superior/Average Quality)*	1 Kg	8.8	0.4	10.3	1.6
4	Beef with Bone (Average Quality)	1 Kg	11.6	0.5	9.1	0.9
5	Mutton (Average Quality)	1 Kg	8.3	0.8	9.3	1.0
6	Chicken Farm Broiler (Live)	1 Kg	18.6	1.5	13.7	4.1
7	Milk Fresh (Un-Boiled)	1 Litre	9.4	1.7	7.2	2.0
8	Eggs Farm	Dozen	44.9	21.7	28.0	13.2
9	Vegetable Ghee Dalda/Habib Or Other Superior Quality 1 Kg Pouch	Each	24.4	0.0	27.3	-1.3
10	Pulse Masoor (Washed)	1 Kg	34.8	-3.6	38.5	-1.6
11	Pulse Moong (Washed)	1 Kg	71.1	-2.6	79.3	0.0
12	Pulse Mash (Washed)	1 Kg	46.1	-3.0	48.1	3.1
13	Pulse Gram	1 Kg	12.8	-5.8	18.4	-3.6
14	Potatoes	1 Kg	74.4	2.0	102.0	7.4
15	Onions	1 Kg	-35.6	-17.1	-36.3	-25.4
16	Tomatoes	1 Kg	-22.9	13.1	-27.1	12.3
17	Sugar Refined	1 Kg	14.7	-0.5	15.1	-5.9
18	Garlic (Lehsun)	1 Kg	17.6	1.1	14.0	-0.1
19	Ginger (Adrak)	500 Gm	17.8	-2.7	43.2	-2.8
20	Tea Lipton Yellow Label 190 Gm Packet	Each	9.5	0.0	9.6	0.0

\*Superior Quality for Urban CPI Basket and Average Quality for Rural CPI Basket



## 10. Inflation in Global Context

In global context, Pakistan's inflation in comparison with inflation in selected developed and emerging economies is given in figure 10.1.



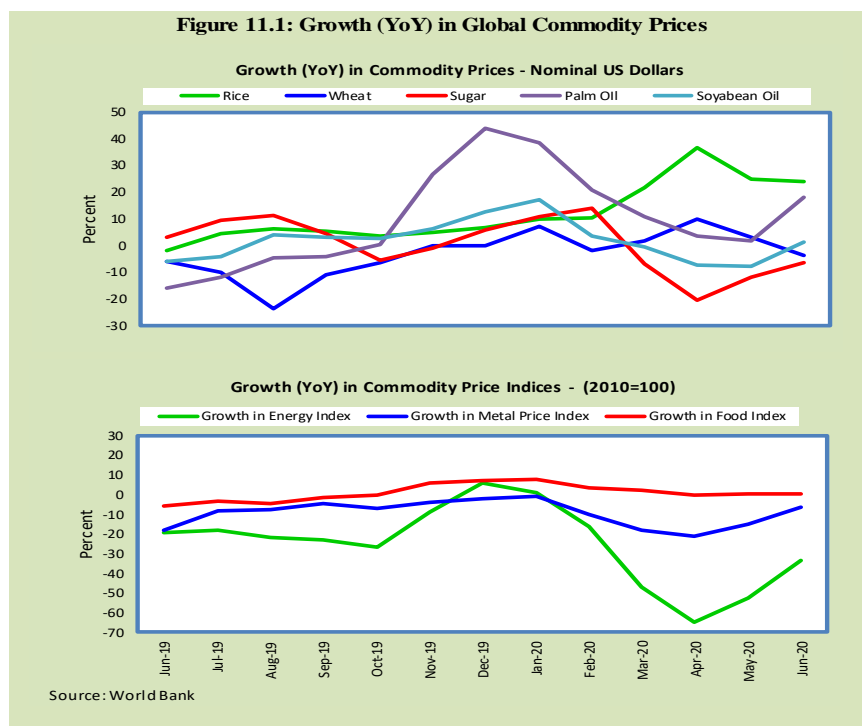
## 11. Global Commodity Prices

Global commodity prices and various group indexes have a relation with domestic inflation. In this context, changes in major global commodity prices and indexes along with price trends are given in table 11.1 and figure 11.1.

**Table 11.1 Changes in Major Global Indices (percent)**

Item/ Group	June-19		May-20		June-20	
	YoY	MoM	YoY	MoM	YoY	MoM
Food	-12.2	-1.2	0.5	-0.3	0.2	3.3
Metals	-16.0	-5.4	-14.9	2.4	-6.4	7.9
Energy	-10.9	-2.8	-52.6	32.2	-33.7	24.7
Agricultural	-10.5	-1.0	-0.8	-0.1	-1.2	2.4
Cotton	-28.2	-22.2	-25.3	1.0	-21.9	4.9

**Figure 11.1: Growth (YoY) in Global Commodity Prices**



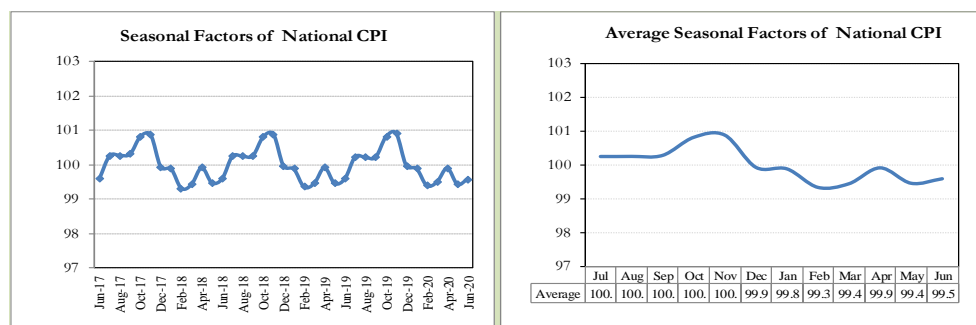
## **12. Seasonal Adjustment in CPI**

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 these 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.

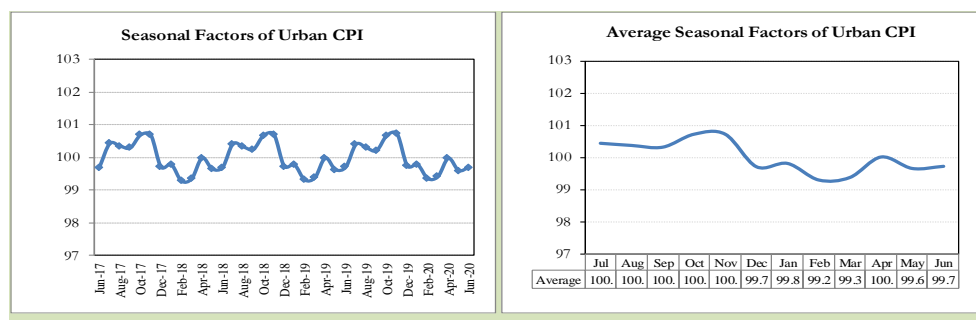
The changes in consumer prices are normally reported in terms of year-on-year and month-on-month basis. Seasonal adjustment is particularly useful for analyzing month-on-month changes. The monthly data series of Consumer Price Indices (National CPI, Urban CPI and Rural CPI) from July 2008 to June 2020 has been used for seasonal adjustment analysis. The seasonal analysis is carried out without taking trading-day or Islamic calendar month's effects.

Figure 12.1 reveals that seasonality in all CPI series has been increasing over the period. Average seasonal factors reveal strong seasonality during the calendar year. There is an upward seasonality during the months from July to December 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 estimate historical data and that the future data June not necessarily show the same seasonal pattern.

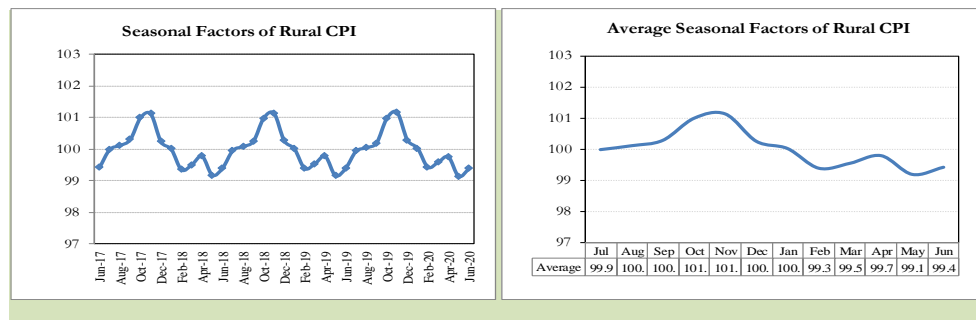
**Fig. 12.1 (a) Seasonal Factors of National CPI**



**Fig. 12.1 (b) Seasonal Factors of Urban CPI**

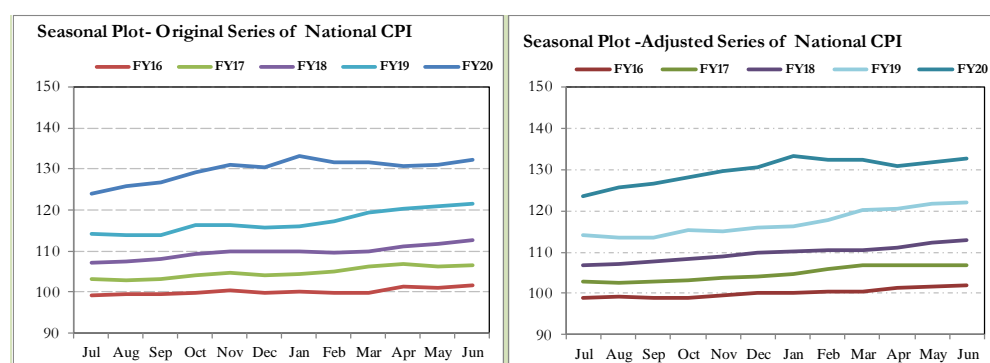


**Fig. 12.1 (c) Seasonal Factors of Rural CPI**

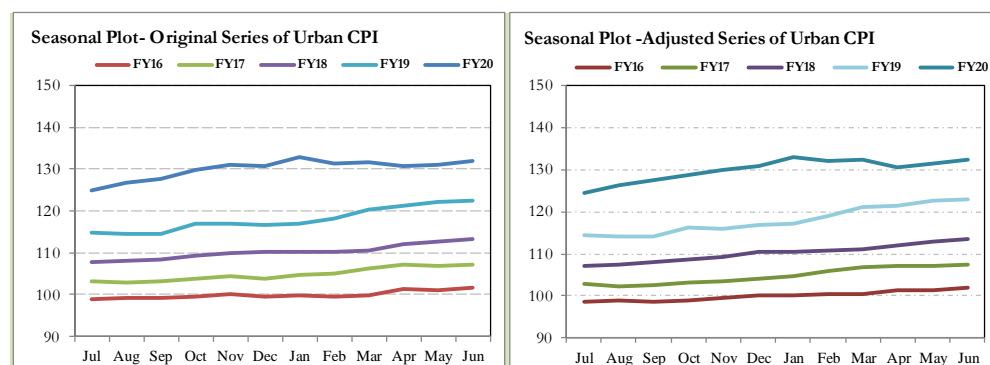


Figures 12.2 show that seasonally adjusted series are relatively smoother than the original series due to the removal of the seasonal variations. The trend follows the long-term movement in original series, and is smoother than the original series because some irregular fluctuations have been removed.

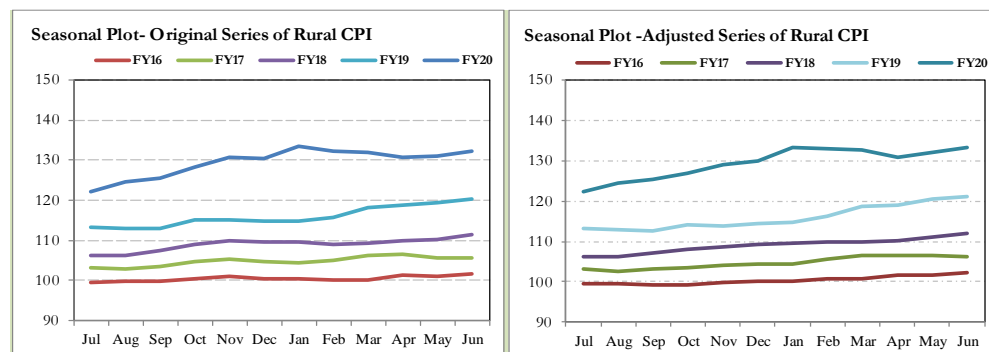
**Fig. 12.2 (a) Seasonal Plots of National CPI**



**Fig. 12.2 (b) Seasonal Plots of Urban CPI**



**Fig. 12.2 (c) Seasonal Plots of Rural CPI**



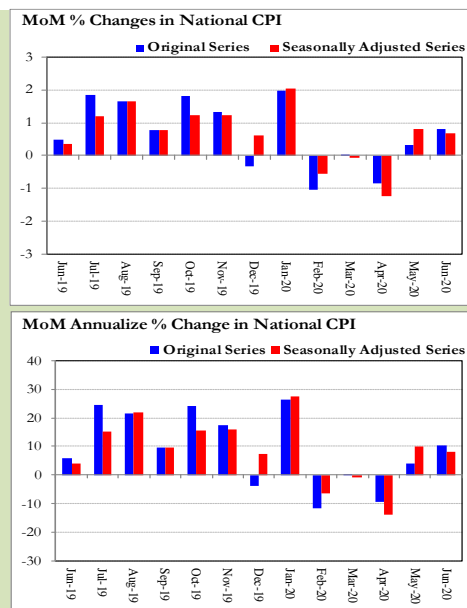
Seasonally adjusted National CPI for June 2020 stood at 132.64 against 132.08 in original series showing an increase of 0.56 on account of adjustment of downward seasonality in June 2020.

Seasonally adjusted Urban CPI for June 2020 stood at 132.28 against 131.89 in original series showing an increase of 0.39 on account of adjustment of downward seasonality in June 2020.

Seasonally adjusted Rural CPI for June 2020 stood at 133.18 against 132.36 in original series showing an increase of 0.82 on account of adjustment of downward seasonality in June 2020.

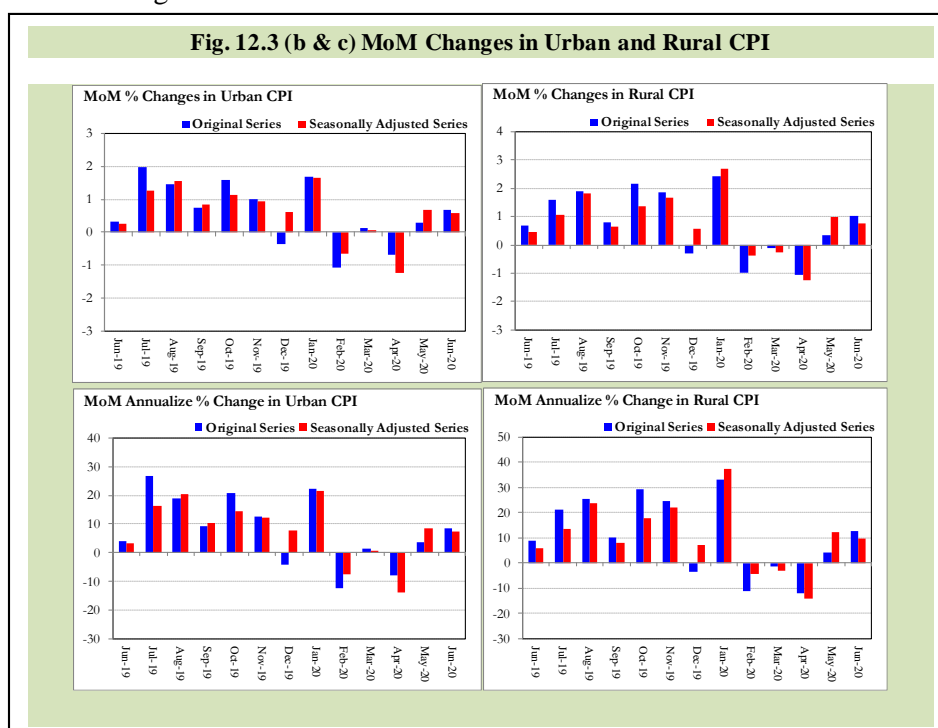
Month-on-month change of seasonally adjusted National CPI series stood at 0.66% reflecting an increase during June 2020 over previous month and an increase of 0.82% in original series.

**Fig. 12.3 (a) MoM Changes in National CPI**



Month-on-month change of seasonally adjusted Urban CPI series stood at 0.59% reflecting an increase during June 2020 over previous month and an increase of 0.69% in original series.

Month-on-month change of seasonally adjusted Rural CPI series stood at 0.77% reflecting an increase during June 2020 over previous month and an increase of 1.02% in original series.



It is pertinent to note that in case of MoM inflation, seasonally adjusted rates provide important information. The most recent annual rate of inflation is usually indicated by annualizing the seasonally adjusted month-on-month rate. Annualized rate of National CPI inflation in June 2020 (corresponding to the seasonally adjusted month-on-month rate) is 8.28 percent.

## **Annexure A**

<b>Table A1: National CPI Inflation by Groups (YoY and MoM in percent)</b>							
	<b>Weights</b>	<b>MoM change</b>			<b>YoY change</b>		
		<b>Jun-19</b>	<b>May-20</b>	<b>Jun-20</b>	<b>Jun-19</b>	<b>May-20</b>	<b>Jun-20</b>
Food & Non-Alcoholic Beverages	34.6	0.0	1.6	2.1	8.4	12.2	14.6
Alcoholic Beverages & Tobacco	1.0	4.8	0.1	0.2	17.3	19.5	14.2
Clothing & Footwear	8.6	0.1	1.4	0.8	6.4	10.3	11.0
Housing, Water, Elec, Gas & other Fuels	23.6	0.7	-0.1	-0.2	6.9	6.4	5.4
Furnishing & Household Equip. Maintenance	4.1	0.4	0.4	0.5	9.3	8.7	8.8
Health	2.8	0.7	0.2	0.2	9.4	9.8	9.3
Transport	5.9	2.0	-6.5	-1.1	17.2	-7.5	-10.2
Communication	2.2	0.1	0.0	0.0	4.1	1.6	1.6
Recreation & Culture	1.6	0.2	0.1	0.1	5.5	4.9	4.8
Education	3.8	0.0	0.0	0.0	5.8	2.0	2.0
Restaurants & Hotels	6.9	0.2	0.2	0.5	3.9	8.6	9.0
Miscellaneous	4.9	1.1	0.1	0.8	9.4	11.9	11.6
<b>Overall National CPI</b>	<b>100.0</b>	<b>0.5</b>	<b>0.3</b>	<b>0.8</b>	<b>8.0</b>	<b>8.2</b>	<b>8.6</b>

<b>Table A2: Urban CPI Inflation by Groups (YoY and MoM in percent)</b>							
	<b>Weights</b>	<b>MoM change</b>			<b>YoY change</b>		
		<b>Jun-19</b>	<b>May-20</b>	<b>Jun-20</b>	<b>Jun-19</b>	<b>May-20</b>	<b>Jun-20</b>
<b>I. Food Group</b>	<b>36.8</b>	<b>-0.3</b>	<b>1.5</b>	<b>1.8</b>	<b>7.5</b>	<b>10.6</b>	<b>12.9</b>
Food & Non-Alcoholic Beverages	30.4	-0.5	1.8	2.0	7.7	10.9	13.8
Alcoholic Beverages & Tobacco	0.9	5.0	0.1	0.0	16.3	19.0	13.3
Restaurant & Hotels (Food Component)	5.5	0.2	0.1	0.7	5.2	7.4	8.0
<b>II. Non-Food Group</b>	<b>63.2</b>	<b>0.7</b>	<b>-0.4</b>	<b>0.0</b>	<b>8.4</b>	<b>5.4</b>	<b>4.7</b>
Clothing & Footwear	8.0	0.1	1.5	0.6	6.8	9.5	10.1
Housing, Water, Elec, Gas & other Fuels	27.0	0.7	0.1	-0.1	7.6	6.5	5.6
Furnishing & Household Equip. Maintenance	4.1	0.4	0.3	0.4	10.5	7.7	7.7
Health	2.3	0.6	0.2	0.3	9.0	8.7	8.4
Transport	6.1	2.0	-6.4	-1.2	17.4	-6.5	-9.5
Communication	2.4	0.1	0.0	0.0	5.2	2.2	2.1
Recreation & Culture	1.7	0.3	0.0	0.1	5.3	4.6	4.4
Education	4.9	0.0	0.0	0.0	6.4	1.9	1.9
Restaurants & Hotels (Non-food Component)	1.9	0.0	0.0	0.0	2.7	6.8	6.8
Miscellaneous	4.8	1.1	0.0	0.8	9.7	10.9	10.6
<b>Overall Urban CPI</b>	<b>100.0</b>	<b>0.3</b>	<b>0.3</b>	<b>0.7</b>	<b>8.1</b>	<b>7.3</b>	<b>7.6</b>



Table A3: Rural CPI Inflation by Groups (YoY and MoM in percent)							
	Weights	MoM change			YoY change		
		Jun-19	May-20	Jun-20	Jun-19	May-20	Jun-20
<b>I. Food Group</b>	<b>45.9</b>	<b>0.7</b>	<b>1.4</b>	<b>2.0</b>	<b>9.1</b>	<b>13.7</b>	<b>15.2</b>
Food & Non-Alcoholic Beverages	40.9	0.6	1.5	2.2	9.3	13.7	15.5
Alcoholic Beverages & Tobacco	1.3	4.5	0.0	0.3	18.4	20.1	15.3
Restaurant & Hotels (Food Component)	3.8	0.5	0.9	0.8	4.6	12.1	12.4
<b>II. Non-Food Group</b>	<b>54.1</b>	<b>0.7</b>	<b>-0.5</b>	<b>0.1</b>	<b>7.0</b>	<b>6.4</b>	<b>5.8</b>
Clothing & Footwear	9.5	0.2	1.3	1.0	6.0	11.4	12.2
Housing, Water, Elec, Gas & other Fuels	18.5	0.7	-0.5	-0.3	5.3	6.0	4.9
Furnishing & Household Equip. Maintenance etc.	4.1	0.4	0.5	0.5	7.6	10.2	10.4
Health	3.5	0.9	0.2	0.2	9.8	10.9	10.1
Transport	5.6	2.0	-6.5	-0.8	16.9	-9.0	-11.5
Communication	2.0	0.1	0.0	0.0	2.1	0.7	0.6
Recreation & Culture	1.4	0.1	0.3	0.0	5.9	5.5	5.5
Education	2.1	0.0	0.0	0.0	3.6	2.4	2.4
Restaurants & Hotels (Non-food Component)	2.4	0.0	0.0	0.0	0.0	9.4	9.4
Miscellaneous	5.0	1.1	0.2	0.9	9.0	13.5	13.2
<b>Overall Rural CPI</b>		<b>0.7</b>	<b>0.3</b>	<b>1.0</b>	<b>7.9</b>	<b>9.7</b>	<b>10.0</b>

<b>Table A4: Top Ten Contributors to Urban CPI Inflation (YoY) in June 2020</b>					
<b>Items/ Contributors</b>		<b>Weights</b>	<b>YoY Change</b>		<b>Weighted Contribution (%)</b>
			<b>Jun-19</b>	<b>Jun-20</b>	
<b>A. Ranked by Weighted Contribution</b>					
1	House Rent	19.26	6.29	4.20	10.77
2	Gas Charges	1.08	38.63	54.84	8.86
3	Milk Fresh	7.11	3.27	9.67	8.28
4	Wheat Flour	3.01	6.08	24.45	8.22
5	Condiments And Spices	1.33	20.28	29.84	5.74
6	Readymade Food	5.52	5.19	7.97	5.66
7	Potatoes	0.45	12.63	72.01	4.64
8	Cotton Cloth	2.22	11.62	11.58	3.36
9	Vegetable Ghee	1.03	11.16	24.79	3.27
10	Personal Effects N.E.C.	0.94	14.28	21.65	3.23
<b>Total</b>		<b>41.96</b>			<b>62.02</b>
<b>B. Ranked by Percentage Change</b>					
1	Potatoes	0.45	12.63	72.01	4.64
2	Pulse Moong	0.17	40.97	71.07	1.29
3	Gas Charges	1.08	38.63	54.84	8.86
4	Pulse Mash	0.12	17.79	46.10	0.41
5	Eggs	0.51	-9.23	44.85	2.23
6	Butter	0.09	13.92	37.15	0.46
7	Pulse Masoor	0.16	8.49	34.76	0.49
8	Beans	0.04	9.13	30.73	0.15
9	Condiments And Spices	1.33	20.28	29.84	5.74
10	Vegetable Ghee	1.03	11.16	24.79	3.27
<b>Total</b>		<b>4.99</b>			<b>27.54</b>
<b>C. Ranked by Weights</b>					
1	House Rent	19.26	6.29	4.20	10.77
2	Milk Fresh	7.11	3.27	9.67	8.28
3	Readymade Food	5.52	5.19	7.97	5.66
4	Education	4.88	6.36	1.87	1.39
5	Electricity Charges	4.56	9.08	-3.54	-1.93
6	Wheat Flour	3.01	6.08	24.45	8.22
7	Appliances/Articles/Products For P	2.98	9.28	7.75	2.93
8	Motor Fuel	2.91	21.40	-28.03	-13.44
9	Cotton Cloth	2.22	11.62	11.58	3.36
10	Meat	2.04	10.94	10.20	2.98
<b>Total</b>		<b>54.48</b>			<b>28.21</b>
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 Urban CPI, which is 7.6 percent in June 2020.					

Table A5: Top Ten Contributors to Urban CPI Inflation (MoM) in June 2020

House Rent Top Ten Contributors to Urban Inflation (2017) in June 2020					
Items/ Contributors		Weights	MoM Change		Weighted Contribution (%)
			May-20	Jun-20	
A. Ranked by Weighted Contribution					
1	Wheat Flour	3.01	-0.17	11.92	46.38
2	Transport Services	1.75	0.00	7.28	17.08
3	Milk Fresh	7.11	4.63	1.53	14.69
4	Condiments And Spices	1.33	3.71	5.44	13.43
5	Eggs	0.51	-18.74	21.71	13.37
6	Wheat	0.61	-3.37	10.83	8.62
7	Fresh Vegetables	1.53	-19.62	4.05	7.67
8	Readymade Food	5.52	0.07	0.74	5.83
9	Cotton Cloth	2.22	4.04	1.76	5.83
10	Personal Effects N.E.C.	0.94	-0.69	2.08	3.84
24.54					136.74
B. Ranked by Percentage Change					
1	Eggs	0.51	-18.74	21.71	13.37
2	Tomatoes	0.35	-7.74	13.09	3.16
3	Wheat Flour	3.01	-0.17	11.92	46.38
4	Wheat	0.61	-3.37	10.83	8.62
5	Transport Services	1.75	0.00	7.28	17.08
6	Condiments And Spices	1.33	3.71	5.44	13.43
7	Fresh Vegetables	1.53	-19.62	4.05	7.67
8	Therapeutic Appliances And	0.01	0.00	3.60	0.02
9	Wheat Products	0.09	0.65	2.17	0.28
10	Personal Effects N.E.C.	0.94	-0.69	2.08	3.84
10.13					113.85
C. Ranked by Weights					
1	House Rent	19.26	0.00	0.00	0.00
2	Milk Fresh	7.11	4.63	1.53	14.69
3	Readymade Food	5.52	0.07	0.74	5.83
4	Education	4.88	0.00	0.00	0.00
5	Electricity Charges	4.56	0.00	0.00	0.00
6	Wheat Flour	3.01	-0.17	11.92	46.38
7	Appliances/Articles/Products For P	2.98	0.09	0.26	1.09
8	Motor Fuel	2.91	-13.43	-7.29	-28.25
9	Cotton Cloth	2.22	4.04	1.76	5.83
10	Meat	2.04	0.94	0.63	2.11
54.48					47.68

Note: Weighted contribution is estimated by multiplying the weights by the price change of an item; this is then reported as a share in MoM change in Urban CPI, which is 0.7 percent in June 2020.

Table A6: Top and Bottom Fifteen Contributors to Urban CPI Inflation (YoY) in June 2020					
Top 15 Contributors			YoY Change		Weighted Contribution (%)
Items/ Contributors	Weights	Jun-19	Jun-20		
Ranked by Weighted Contribution					
1	House Rent	19.26	6.29	4.20	10.77
2	Gas Charges	1.08	38.63	54.84	8.86
3	Milk Fresh	7.11	3.27	9.67	8.28
4	Wheat Flour	3.01	6.08	24.45	8.22
5	Condiments And Spices	1.33	20.28	29.84	5.74
6	Readymade Food	5.52	5.19	7.97	5.66
7	Potatoes	0.45	12.63	72.01	4.64
8	Cotton Cloth	2.22	11.62	11.58	3.36
9	Vegetable Ghee	1.03	11.16	24.79	3.27
10	Personal Effects N.E.C.	0.94	14.28	21.65	3.23
11	Chicken	1.36	-13.31	18.55	3.14
12	Meat	2.04	10.94	10.20	2.98
13	Appliances/Articles/Products For P	2.98	9.28	7.75	2.93
14	Cooking Oil	1.10	13.67	20.19	2.86
15	Transport Services	1.75	12.96	11.90	2.57
Total		51.19			76.50
Bottom 15 Contributors					
1	Motor Fuel	2.91	21.40	-28.03	-13.44
2	Onions	0.59	78.04	-35.62	-2.93
3	Electricity Charges	4.56	9.08	-3.54	-1.93
4	Tomatoes	0.35	-1.46	-22.87	-0.78
5	Liquefied Hydrocarbons	0.51	-4.11	-3.45	-0.23
6	Fish	0.39	12.01	-3.47	-0.17
7	Postal Services	0.02	0.73	0.00	0.00
8	Newspapers	0.07	26.29	0.00	0.00
9	Therapeutic Appliances And	0.01	0.53	4.43	0.00
10	Accommodation Services	0.13	0.76	0.46	0.01
11	Major Tools & Equipments	0.01	2.47	9.58	0.01
12	Electrical Appliances For Personal	0.05	1.20	1.95	0.01
13	Dental Services	0.02	-0.43	6.22	0.01
14	Motor Vehicle Tax	0.05	17.24	2.19	0.01
15	Carpets	0.03	1.56	5.30	0.02
Total		9.67			-19.41

<b>Table A7: Top and Bottom Fifteen Contributors to Urban CPI Inflation (MoM) in June 2020</b>				
<b>Top 15 Contributors</b>				
<b>Items/ Contributors</b>	<b>Weights</b>	<b>MoM Change</b>		<b>Weighted Contribution (%)</b>
		<b>May-20</b>	<b>Jun-20</b>	
<b>Ranked by Weighted Contribution</b>				
1 Wheat Flour	3.01	-0.17	11.92	46.38
2 Transport Services	1.75	0.00	7.28	17.08
3 Milk Fresh	7.11	4.63	1.53	14.69
4 Condiments And Spices	1.33	3.71	5.44	13.43
5 Eggs	0.51	-18.74	21.71	13.37
6 Wheat	0.61	-3.37	10.83	8.62
7 Fresh Vegetables	1.53	-19.62	4.05	7.67
8 Readymade Food	5.52	0.07	0.74	5.83
9 Cotton Cloth	2.22	4.04	1.76	5.83
10 Personal Effects N.E.C.	0.94	-0.69	2.08	3.84
11 Chicken	1.36	41.46	1.54	3.17
12 Tomatoes	0.35	-7.74	13.09	3.16
13 Potatoes	0.45	31.19	2.00	2.26
14 Meat	2.04	0.94	0.63	2.11
15 Rice	1.18	0.76	0.89	1.56
<b>Total</b>	<b>29.92</b>			<b>148.98</b>
<b>Bottom 15 Contributors</b>				
1 Motor Fuel	2.91	-13.43	-7.29	-28.25
2 Fresh Fruits	1.44	9.72	-4.36	-11.75
3 Onions	0.59	-23.35	-17.07	-11.36
4 Liquefied Hydrocarbons	0.51	-4.12	-5.46	-3.94
5 Pulse Gram	0.17	-7.25	-5.84	-1.36
6 Pulse Moong	0.17	-0.50	-2.63	-0.87
7 Sugar	1.11	-0.31	-0.53	-0.85
8 Pulse Masoor	0.16	-4.43	-3.57	-0.74
9 Besan	0.08	-4.38	-4.18	-0.49
10 Pulse Mash	0.12	0.02	-2.98	-0.41
11 Construction Input Items	0.38	0.38	-0.35	-0.21
12 Gur	0.04	1.19	-3.08	-0.18
13 Gram Whole	0.09	-2.82	-1.06	-0.14
14 Beans	0.04	0.77	-0.51	-0.03
15 House Rent	19.26	0.00	0.00	0.00
<b>Total</b>	<b>27.06</b>			<b>-60.59</b>

<b>Table A8: Top and Bottom Fifteen Contributors to MoM Urban CPI Food Inflation in June 2020</b>				
<b>Top 15 Contributors</b>				
<b>Items/ Contributors</b>	<b>Weights</b>	<b>MoM Change</b>		<b>Weighted Contribution (%)</b>
		<b>May-20</b>	<b>Jun-20</b>	
<b>Ranked by Weighted Contribution</b>				
1 Wheat Flour	3.01	-0.17	11.92	46.38
2 Milk Fresh	7.11	4.63	1.53	14.69
3 Condiments And Spices	1.33	3.71	5.44	13.43
4 Eggs	0.51	-18.74	21.71	13.37
5 Wheat	0.61	-3.37	10.83	8.62
6 Fresh Vegetables	1.53	-19.62	4.05	7.67
7 Readymade Food	5.52	0.07	0.74	5.83
8 Chicken	1.36	41.46	1.54	3.17
9 Tomatoes	0.35	-7.74	13.09	3.16
10 Potatoes	0.45	31.19	2.00	2.26
11 Meat	2.04	0.94	0.63	2.11
12 Rice	1.18	0.76	0.89	1.56
13 Sweet Meat	0.35	0.45	1.25	0.69
14 Milk Products	0.64	1.85	0.74	0.65
15 Beverages	0.89	1.44	0.23	0.29
<b>Total</b>	<b>26.89</b>			<b>123.86</b>
<b>Bottom 15 Contributors</b>				
1 Fresh Fruits	1.44	9.72	-4.36	-11.75
2 Onions	0.59	-23.35	-17.07	-11.36
3 Pulse Gram	0.17	-7.25	-5.84	-1.36
4 Pulse Moong	0.17	-0.50	-2.63	-0.87
5 Sugar	1.11	-0.31	-0.53	-0.85
6 Pulse Masoor	0.16	-4.43	-3.57	-0.74
7 Besan	0.08	-4.38	-4.18	-0.49
8 Pulse Mash	0.12	0.02	-2.98	-0.41
9 Gur	0.04	1.19	-3.08	-0.18
10 Gram Whole	0.09	-2.82	-1.06	-0.14
11 Beans	0.04	0.77	-0.51	-0.03
12 Tea	0.84	0.00	0.00	0.00
13 Marriage Hall Charges	1.75	0.00	0.00	0.00
14 Mustard Oil	0.01	0.07	0.00	0.00
15 Pan Prepared	0.14	0.08	0.00	0.00
<b>Total</b>	<b>6.75</b>			<b>-28.19</b>

**Table A9: Top and Bottom Fifteen Contributors to MoM Urban CPI Non-food Inflation in June 2020**

<u>Top 15 Contributors</u>		Weights	<u>MoM Change</u>		Weighted Contribution (%)
Items/ Contributors			May-20	Jun-20	
Ranked by Weighted Contribution					
1	Transport Services	1.75	0.00	7.28	17.08
2	Cotton Cloth	2.22	4.04	1.76	5.83
3	Electrical Appliances For Personal	0.94	-0.69	2.08	3.84
4	Household Equipments	1.00	0.37	0.85	1.21
5	Personal Grooming Services	2.98	0.09	0.26	1.09
6	Woolen Cloth	0.84	0.18	0.70	0.82
7	Washing Soap/Detergents/Match Box	1.41	0.26	0.31	0.63
8	Motor Vehicles	0.81	0.26	0.41	0.54
9	Furniture And Furnishing	0.48	0.65	0.72	0.49
10	Medical Tests	0.24	0.01	1.33	0.44
11	Drugs And Medicines	1.07	0.24	0.24	0.41
12	Tailoring	1.07	2.53	0.19	0.32
13	Garbage Collection	0.11	0.00	1.52	0.28
14	Recreation And Culture	0.65	0.05	0.35	0.28
15	Hosiery	0.41	0.07	0.42	0.24
Total		15.98			33.50
<u>Bottom 15 Contributors</u>					
1	Motor Fuel	2.91	-13.43	-7.29	-28.25
2	Liquefied Hydrocarbons	0.51	-4.12	-5.46	-3.94
3	Construction Input Items	0.38	0.38	-0.35	-0.21
4	House Rent	19.26	0.00	0.00	0.00
5	Woolen Readymade Garments	0.43	0.00	0.00	0.00
6	Personal Effects N.E.C.	0.00	0.00	0.00	0.00
7	Appliances/Articles/Products For P	0.00	0.00	0.00	0.00
8	Postal Services	0.02	0.00	0.00	0.00
9	Motor Vehicle Tax	0.05	0.00	0.00	0.00
10	Newspapers	0.07	0.00	0.00	0.00
11	Communication Services	1.88	0.00	0.00	0.00
12	Gas Charges	1.08	0.00	0.00	0.00
13	Electricity Charges	4.56	0.00	0.00	0.00
14	Communication Apparatus	0.45	0.00	0.00	0.00
15	Dental Services	0.02	0.00	0.00	0.00
Total		31.60			-32.40

Table A10: Top Ten Contributors to Rural CPI Inflation (YoY) in June 2020					
Items/ Contributors		Weights	YoY Change		Weighted Contribution (%)
			Jun-19	Jun-20	
A. Ranked by Weighted Contribution					
1	Condiments And Spices	1.49	15.21	59.10	8.70
2	Potatoes	0.74	6.30	100.58	7.85
3	Milk Fresh	10.38	4.63	7.24	7.23
4	Wheat Flour	3.43	12.54	23.21	6.98
5	Vegetable Ghee	2.38	9.05	26.95	6.62
6	Wheat	3.47	8.19	20.70	6.26
7	Solid Fuel	4.48	1.24	13.19	5.62
8	Cotton Cloth	2.84	6.12	18.13	5.54
9	Readymade Food	3.80	4.62	12.38	4.84
10	House Rent	8.61	6.49	5.14	4.54
Total		41.62			64.18
B. Ranked by Percentage Change					
1	Potatoes	0.74	6.30	100.58	7.85
2	Pulse Moong	0.25	44.60	79.34	1.75
3	Condiments And Spices	1.49	15.21	59.10	8.70
4	Pulse Mash	0.15	21.29	48.09	0.43
5	Pulse Masoor	0.21	9.06	38.47	0.55
6	Beans	0.09	8.39	34.43	0.31
7	Eggs	0.57	-4.31	27.96	1.28
8	Vegetable Ghee	2.38	9.05	26.95	6.62
9	Personal Effects N.E.C.	1.21	16.78	24.20	3.33
10	Gur	0.15	32.23	24.19	0.34
Total		7.23			31.17
C. Ranked by Weights					
1	Milk Fresh	10.38	4.63	7.24	7.23
2	House Rent	8.61	6.49	5.14	4.54
3	Solid Fuel	4.48	1.24	13.19	5.62
4	Readymade Food	3.80	4.62	12.38	4.84
5	Wheat	3.47	8.19	20.70	6.26
6	Electricity Charges	3.44	9.08	-3.54	-1.13
7	Wheat Flour	3.43	12.54	23.21	6.98
8	Cotton Cloth	2.84	6.12	18.13	5.54
9	Motor Fuels	2.49	21.56	-30.07	-9.59
10	Vegetable Ghee	2.38	9.05	26.95	6.62
Total		45.32			36.91
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 Rural CPI, which is 10.0 percent in June 2020.					



**Table A11: Top Ten Contributors to Rural CPI Inflation (MoM) in June 2020**

Table 10: Top Ten Contributors to Rural Off-Farm Income (MoM) in June 2020					
Items/ Contributors		Weights	MoM Change May-20      Jun-20		Weighted Contribution (%)
A. Ranked by Weighted Contribution					
1	Wheat Flour	3.43	-1.41	10.43	31.77
2	Wheat	3.47	-7.57	9.61	29.04
3	Milk Fresh	10.38	4.23	2.04	19.43
4	Transport Services	1.80	0.00	7.52	12.51
5	Condiments And Spices	1.49	8.60	5.30	10.70
6	Potatoes	0.74	41.55	7.34	9.72
7	Cotton Cloth	2.84	1.31	2.70	8.60
8	Chicken	1.46	41.15	4.13	6.35
9	Eggs	0.57	-13.82	13.15	6.15
10	Rice	1.55	1.09	1.63	3.16
					27.73
					137.44
B. Ranked by Percentage Change					
1	Eggs	0.57	-13.82	13.15	6.15
2	Tomatoes	0.51	-21.82	12.31	2.47
3	Wheat Flour	3.43	-1.41	10.43	31.77
4	Wheat	3.47	-7.57	9.61	29.04
5	Transport Services	1.80	0.00	7.52	12.51
6	Potatoes	0.74	41.55	7.34	9.72
7	Condiments And Spices	1.49	8.60	5.30	10.70
8	Chicken	1.46	41.15	4.13	6.35
9	Pulse Mash	0.15	2.13	3.07	0.36
10	Cotton Cloth	2.84	1.31	2.70	8.60
					16.46
					117.67
C. Ranked by Weights					
1	Milk Fresh	10.38	4.23	2.04	19.43
2	House Rent	8.61	0.00	0.00	0.00
3	Solid Fuel	4.48	-0.03	0.42	1.85
4	Readymade Food	3.80	0.89	0.75	2.97
5	Wheat	3.47	-7.57	9.61	29.04
6	Electricity Charges	3.44	0.00	0.00	0.00
7	Wheat Flour	3.43	-1.41	10.43	31.77
8	Cotton Cloth	2.84	1.31	2.70	8.60
9	Motor Fuels	2.49	-14.01	-7.62	-16.68
10	Vegetable Ghee	2.38	-0.44	-0.67	-1.89
					45.32
					75.09

Note: Weighted contribution is estimated by multiplying the weights by the price change of an item; this is then reported as a share in MoM change in Rural CPI, which is 1.0 percent in June 2020.

Table A12: Top and Bottom Fifteen Contributors to Rural CPI Inflation (YoY) in June 2020					
Top 15 Contributors			YoY Change		Weighted Contribution (%)
Items/ Contributors	Weights	Jun-19	Jun-20		
Ranked by Weighted Contribution					
1	Condiments And Spices	1.49	15.21	59.10	8.70
2	Potatoes	0.74	6.30	100.58	7.85
3	Milk Fresh	10.38	4.63	7.24	7.23
4	Wheat Flour	3.43	12.54	23.21	6.98
5	Vegetable Ghee	2.38	9.05	26.95	6.62
6	Wheat	3.47	8.19	20.70	6.26
7	Solid Fuel	4.48	1.24	13.19	5.62
8	Cotton Cloth	2.84	6.12	18.13	5.54
9	Readymade Food	3.80	4.62	12.38	4.84
10	House Rent	8.61	6.49	5.14	4.54
11	Personal Effects N.E.C.	1.21	16.78	24.20	3.33
12	Sugar	2.03	32.30	13.97	2.70
13	Rice	1.55	8.82	13.48	2.58
14	Marriage Hall Charges	2.25	0.03	9.92	2.14
15	Chicken	1.46	-7.02	13.73	2.13
Total		50.12			77.06
Bottom 15 Contributors					
1	Motor Fuels	2.49	21.56	-30.07	-9.59
2	Onions	0.90	66.57	-36.28	-3.10
3	Electricity Charges	3.44	9.08	-3.54	-1.13
4	Liquefied Hydrocarbons	1.00	2.90	-10.65	-1.07
5	Tomatoes	0.51	-0.68	-27.09	-0.92
6	Fish	0.26	12.53	-2.62	-0.07
7	Motor Vehicle Tax	0.02	17.87	0.00	0.00
8	Newspapers	0.02	33.33	0.00	0.00
9	Accommodation Services	0.14	0.00	0.00	0.00
10	Postal Services	0.01	31.58	0.00	0.00
11	Garbage Collection	0.01	1.94	3.68	0.00
12	Honey	0.03	5.47	3.66	0.01
13	Major Tools And Equipments	0.03	1.20	3.77	0.01
14	Dessert Preparation	0.01	4.68	9.62	0.01
15	Mustard Oil	0.01	6.22	13.56	0.02
Total		8.88			-15.82

<b>Table A13: Top and Bottom Fifteen Contributors to Rural CPI Inflation (MoM) in June 2020</b>				
<b>Top 15 Contributors</b>				
<b>Items/ Contributors</b>	<b>Weights</b>	<b>MoM Change</b>		<b>Weighted Contribution (%)</b>
		<b>May-20</b>	<b>Jun-20</b>	
<b>Ranked by Weighted Contribution</b>				
1 Wheat Flour	3.43	-1.41	10.43	31.77
2 Wheat	3.47	-7.57	9.61	29.04
3 Milk Fresh	10.38	4.23	2.04	19.43
4 Transport Services	1.80	0.00	7.52	12.51
5 Condiments And Spices	1.49	8.60	5.30	10.70
6 Potatoes	0.74	41.55	7.34	9.72
7 Cotton Cloth	2.84	1.31	2.70	8.60
8 Chicken	1.46	41.15	4.13	6.35
9 Eggs	0.57	-13.82	13.15	6.15
10 Rice	1.55	1.09	1.63	3.16
11 Personal Effects N.E.C.	1.21	-0.39	1.99	3.03
12 Readymade Food	3.80	0.89	0.75	2.97
13 Tomatoes	0.51	-21.82	12.31	2.47
14 Solid Fuel	4.48	-0.03	0.42	1.85
15 Meat	1.71	0.95	0.94	1.78
<b>Total</b>	<b>39.44</b>			<b>149.54</b>
<b>Bottom 15 Contributors</b>				
1 Onions	0.90	-21.77	-25.40	-16.80
2 Motor Fuels	2.49	-14.01	-7.62	-16.68
3 Fresh Fruits	1.45	11.46	-5.99	-11.56
4 Liquefied Hydrocarbons	1.00	-9.69	-6.92	-6.06
5 Fresh Vegetables	2.09	-21.08	-1.27	-2.13
6 Vegetable Ghee	2.38	-0.44	-0.67	-1.89
7 Construction Input Items	0.63	0.58	-1.74	-1.00
8 Pulse Gram	0.28	-2.41	-3.57	-0.94
9 Fish	0.26	1.23	-2.56	-0.63
10 Pulse Masoor	0.21	1.90	-1.62	-0.30
11 Sugar	2.03	-0.34	-0.12	-0.24
12 Besan	0.07	-2.19	-2.56	-0.18
13 Gram Whole	0.11	-1.17	-1.41	-0.15
14 Cooking Oil	0.60	-1.13	-0.19	-0.13
15 House Rent	8.61	0.00	0.00	0.00
<b>Total</b>	<b>23.11</b>			<b>-58.70</b>

<b>Table A14: Top and Bottom Fifteen Contributors to MoM Rural CPI Food Inflation in June 2020</b>				
<b>Top 15 Contributors</b>				
<b>Items/ Contributors</b>	<b>Weights</b>	<b>MoM Change</b>		<b>Weighted Contribution (%)</b>
		<b>May-20</b>	<b>Jun-20</b>	
<b>Ranked by Weighted Contribution</b>				
1 Wheat Flour	3.43	-1.41	10.43	31.77
2 Wheat	3.47	-7.57	9.61	29.04
3 Milk Fresh	10.38	4.23	2.04	19.43
4 Condiments And Spices	1.49	8.60	5.30	10.70
5 Potatoes	0.74	41.55	7.34	9.72
6 Chicken	1.46	41.15	4.13	6.35
7 Eggs	0.57	-13.82	13.15	6.15
8 Rice	1.55	1.09	1.63	3.16
9 Readymade Food	3.80	0.89	0.75	2.97
10 Tomatoes	0.51	-21.82	12.31	2.47
11 Meat	1.71	0.95	0.94	1.78
12 Butter	0.33	0.00	2.03	0.65
13 Milk Products	0.96	2.06	0.58	0.52
14 Cigarettes	1.24	0.05	0.36	0.43
15 Dry Fruits	0.25	0.15	1.57	0.41
<b>Total</b>	<b>31.90</b>			<b>125.55</b>
<b>Bottom 15 Contributors</b>				
1 Onions	0.90	-21.77	-25.40	-16.80
2 Fresh Fruits	1.45	11.46	-5.99	-11.56
3 Fresh Vegetables	2.09	-21.08	-1.27	-2.13
4 Vegetable Ghee	2.38	-0.44	-0.67	-1.89
5 Pulse Gram	0.28	-2.41	-3.57	-0.94
6 Fish	0.26	1.23	-2.56	-0.63
7 Pulse Masoor	0.21	1.90	-1.62	-0.30
8 Sugar	2.03	-0.34	-0.12	-0.24
9 Besan	0.07	-2.19	-2.56	-0.18
10 Gram Whole	0.11	-1.17	-1.41	-0.15
11 Cooking Oil	0.60	-1.13	-0.19	-0.13
12 Honey	0.03	0.00	0.00	0.00
13 Marriage Hall Charges	2.25	0.00	0.00	0.00
14 Pan Prepared	0.04	0.00	0.00	0.00
15 Tea	1.26	0.00	0.00	0.00
<b>Total</b>	<b>13.96</b>			<b>-34.96</b>

**Table A15: Top and Bottom Fifteen Contributors to MoM Rural CPI Non-food Inflation in June 2020**

<u>Top 15 Contributors</u>		<u>MoM Change</u>			Weighted Contribution (%)
Items/ Contributors	Weights	May-20	Jun-20		
Ranked by Weighted Contribution					
1	Transport Services	1.80	0.00	7.52	12.51
2	Cotton Cloth	2.84	1.31	2.70	8.60
3	Personal Effects N.E.C.	1.21	-0.39	1.99	3.03
4	Solid Fuel	4.48	-0.03	0.42	1.85
5	Household Equipments	1.28	0.32	0.90	1.15
6	Appliances/Articles/Products For	2.27	0.60	0.47	0.97
7	Woolen Cloth	1.10	0.58	0.72	0.75
8	Drugs And Medicines	1.58	0.37	0.32	0.55
9	Personal Grooming Services	1.54	0.28	0.31	0.50
10	Furniture And Furnishing	0.58	1.08	0.71	0.40
11	Washing Soaps, Detergents And	1.70	0.48	0.19	0.31
12	Hosiery	0.43	1.26	0.33	0.17
13	Doctor (Mbbs) Clinic Fee	0.51	0.00	0.21	0.13
14	Construction Wage Rates	0.25	0.84	0.44	0.13
15	Household Textiles	0.44	0.45	0.12	0.05
Total		21.99			31.10
<u>Bottom 15 Contributors</u>					
1	Motor Fuels	2.49	-14.01	-7.62	-16.68
2	Liquefied Hydrocarbons	1.00	-9.69	-6.92	-6.06
3	Construction Input Items	0.63	0.58	-1.74	-1.00
4	House Rent	8.61	0.00	0.00	0.00
5	Hospitals Services	1.01	0.00	0.00	0.00
6	Mechanical Services	0.36	0.00	0.00	0.00
7	Garbage Collection	0.01	0.00	0.00	0.00
8	Education	2.13	0.00	0.00	0.00
9	Text Books	0.50	0.00	0.00	0.00
10	Dental Services	0.02	0.00	0.00	0.00
11	Woolen Readymade Garments	0.54	0.00	0.00	0.00
12	Communication Apparatus	0.34	0.00	0.00	0.00
13	Accommodation Services	0.14	0.00	0.00	0.00
14	Water Supply	0.06	0.00	0.00	0.00
15	Postal Services	0.01	0.00	0.00	0.00
Total		17.86			-23.75

**Table A16: Distribution of Price Changes (YoY) - Selected Urban CPI Items: June 2020**

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-Beverages	Onions, Tomatoes, Lemon, Bananas (Kela) Local, Fish Rahu (Medium Size), Chilies (Green)	Fruit Juice Small Packet 250 Ml, Mineral Water Nestle 1.5 Liter, Pepper Black National 50 Gm Packet	Tea Lipton Yellow Label 190 Gm Packet, Milk Fresh (Un-Boiled), Rice Basmati (Superior Quality)	Cardamom Small (Average Quality), Potatoes, Pulse Moong (Washed), Chilies Powder National 200 Gm Packet, Pulse Mash (Washed), Eggs Farm, Butter Local Packed 50 Gm
Alcoholic Beverages & Tobacco			Pan Prepared (Sweet With Beetle Nuts)	Cigarettes Capstan 20'S Packet, Cigarettes Gold Leaf 20'S Packet
Clothing & Footwear	Gents Sponge Chappal Bata, Ladies Sandal Bata, Ladies Sponge Chappal Bata	Lawn Printed Gul Ahmed/Al Karam, Vest "Baniyan" For Men Average Quality, Pant Cloth Wash & Wear (Average Quality), Brassier (Average Quality)	Awami Suit Gents Wash & Wear (Average Quality), Chaddar (Wash-N-Wear) (2X2.5 Meter), Children Shoes Power Lite Bata, Shirt Boy Length 24"/26"	Gents Shoes Servis, Gents Sandal Bata, Cheetah 50 Size 3-5 Servis, Dopatta Cotton (Average Quality), Gents Shoes Paul Bata, Long Cloth 57" Gul Ahmed/Al Karam, Heavy Weight Suiting Lawrance Pur (Average Quality), Dopatta Geogette (Average Quality)
Housing, Water, Elect, Gas & other Fuels	Electricity Charges 51-100 Units, Electricity Charges 101-300 Units, Electricity Charges 301-700 Units, Electricity Charges Upto 50 Units	Bajri, House Rent Combined, Cement Blocks (6"X8"X12"), Electricity Charges Above 700 Units, Cement (Local) 50 Kg Bag	Charges For Refuse/Waste Collection, Mason Wage Rate, Unskilled Labor Wage Rate, Sand (Black Pit), Painter Wage Rate, Firewood Whole, Plumber Wage Rate	Gas Charges 6.7438 - 10.1157 Mmbtu, Gas Charges 10.1157 - 13.4876 Mmbtu, Gas Charges Combined, Gas Charges Above 13.4876 Mmbtu, Water Charges Per House, Synthetic Enamel Ici Balti 3.64 Litre, Gas Charges 3.3719 - 6.7438 Mmbtu
Furnishing & Household Equip. Maintenance etc		Sofa Set Five Seater, Lota Plastic Medium Size (Average Quality), Towel Medium Size (3' X 2'), Frying Pan Non-Stick Medium Size Sonex	Water Pump Golden Monoblock/Donkey 0.5 H.P., Tea Set Pakistani (China-Ware) Set Of 21 Pieces, Harpic 500 Ml Bottle	Tube Light Philips 40 Watt, Phenyl Tyfon/Finis 2.75 Litre Bottle, Robin Blue Liquid 75 Ml Bottle, Geyser Super Asia Large Size 30 Gallons (Gas), Central Table Set With Glass Top, Chair Plastic (Chairman) (Average Quality)
Health	Hydriyllin Syrup 120 Ml Bottle, Johar Joshanda Instant (Sachet) Packet	Glucometer, Dental Extraction Fee, Electronic Bp Checking Apparatus, Panadol Tablets Plain, Ecg Charges	Betnovate-N Ointment 10 Gm Tube, Flagyl Tablets 400 Mg, Dental Surgeon Fee Per Visit, Cac 1000 Tablets Sandobz	Ventolin Tablets 2 Mg, Septtran Tablets, Indental Tablets 10 Mg, Doctor (Mbbs) Clinic Fee, Dettol Medium Bottle, Lederplex Syrup Bottle, Calpol Syrup 100 Ml Bottle, Urine Test (Dr) Charges
Transport	Hi-Speed Diesel, Petrol Super, Cng, Bus Fare Outside City (Non Ac)	Bus Fare Outside City (Ac), Car Tax 800 Cc To 1500 Cc	Train Fare Economy Per Person, Train Fare Ac Lower Per Person, Auto Rickshaw Fare	Suzuki Fare Maximum Within City, Bus Fare Maximum Within City, Mini Bus Fare Maximum Within City, Car Suzuki 1000 Cc, Car Toyota 1300 Cc Xli, Suzuki Fare Minimum Within City, Car Honda Civic Turbo 1.5 Vtec
Communication	Courier Charges Minimum Within Zone Outside City (Tcs), Telephone Call Charges	Internet Charges (Dsl) 1 Mb (Unlimited)	Mobile Set With Rear Camera And Without Touch Screen	
Recreation & Culture	Mathematics Book Class V (Text Book Board), Urdu Book Class V (Text Book Board), Newspaper Daily Jang, Mag The Weekly (Magazine)	Laptop Dell/HP/Acer Core I5, Display (14'-15'), English Book Class Xi Complete Set, English Book Ba/B.Sc., Recreational Park Charges (Minimum Playland Ticket)	Urdu Book Ba/B.Sc, Led Sony/Samsung 32" Colored, Lead Pencil Goldfish, Mathematics Book Class Xi (Text Book Board)	English Book Class Ix And X, Urdu Book Class Xi/Inter, Ballpoint Pen Local, Photostat Paper 70 Gm
Education	Coaching Fee For Class Xi/Xii Commerce Group	Government College Fee First Year, Private School Fee English Medium Average Standard (Class I)	Government Engineering University Tuition Fee For Be (1St Year), Tuition Fee Private University M.Sc/M.A	
Restaurant & Hotels		Cooked Chicken At Average Hotel, Chicken Biryani Full/Double	Bread Tandoori Standard Size, Cooked Daal At Average Hotel, Cooked Beef At Average Hotel	
Miscellaneous		Tissue Paper Perfumed Box 100 Napkins, Purse Ladies Medium Size (Average Quality)	Disposable Razor Gillette Blue Li, Talcum Powder Viceroy/Black Cat Large Size, Lipstick Swiss Miss/Medora (Medium), Hair Oil Tooth Paste Colgate 75 Gm	Blue Gold Tezabi 24 Carett, Silver Tezabi 24 Carett, Pampers (Medium Size), Tooth Brush (Shield), (Kala Kola Hair Tonic)

**Table A17: Distribution of Price Changes (YoY) - Selected Rural CPI Items: June 2020**

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	Onions, Lemon, Tomatoes, Watermelon (Turbooz), Karela, Mango Kalmi (Average Quality)	Curd, Honey Mahaba Bottle 500 Gm, Nimko (Loose, Average Quality), Chilies (Green)	Custard Powder Rafhan 300 Gm Packet, Tea Lipton Yellow Label 190 Gm Packet, Mutton (Average Quality)	Chilies Powder Loose, Potatoes, Pulse Moong (Washed), Pulse Mash (Washed), Ginger (Adrak), Pulse Masoor (Washed), Beans Red/White (Lobia)
Alcoholic Beverages & Tobacco			Tobacco Hukka Twisted	Cigarettes Capstan 20'S Packet, Chewing Tobacco (Niswar), Pan Prepared (Sweet With Beetle Nuts), Cigarettes Gold Leaf 20'S Packet
Clothing & Footwear			Socks Nylon Local (Average Quality), Georgette (Average Quality), Footware Gents Local (Average Quality), Dopatta Georgette (Average Quality)	Brassier (Average Quality), Shirting (Average Quality), Lawn Printed (Average Quality), Long Cloth, Dopatta Cotton (Average Quality), Shoe Repair Full Sole, Washing Charges Shalwar Kameez, Underwear Medium Size (Average Quality), Shoe Polish Charges
Housing, Water, Elect, Gas & other Fuels	Kerosene Oil, Electricity Charges 51-100 Units, Electricity Charges 101-300 Units, Electricity Charges 301-1000 Units, Electricity Charges Upto 50 Units	Charges For Refuse/Waste Collection, Electricity Charges Above 1000 Units	Mason Wage Rate, Bajri, House Rent Combined	Water Charges Per House, Sand (Black Pit), Carpenter Wage Rate, Coal, Bricks New 1St Class, Painter Wage Rate, Firewood Whole, Electrician Charges, Unskilled Labor Wage Rate, Plumber Wage Rate
Furnishing & Household Equip. Maintenance etc.		Refrigerator Dawlance/Pel 10 Cubic Feet Double Door, Water Pump Golden Monoblock/Donkey 0.5 H.P, Readymade Quilt (3 Kg)	Express Washing Powder 1 Kg Tube Light Philips 40 Watt, Robin Blue Liquid Polybag, Aluminium Cooking 75 Ml Bottle, Towel Medium Size (2 X 3'), Pan (Degchi), Finis 400 Ml Bottle, Dinner Set Plastic 72 Pieces Super Quality	Washing Soap 250 Gm Cake (Specify Name), Bucket (Balti) Plastic Medium Size, Match Box, Boot Polish Cherry/Kiwi 42 Ml, Cot Iron
Health		Cost Of Surgery (C-Section), Physiotherapist Fee Per Visit, Johar Joshanda Instant (Sachet) Packet	Cac 1000 Tablets Sandobz Bottle, Panadol Tablets Plain	Dettol Medium Bottle, Inderal Tablets 10 Mg, Doctor (Mbbs) Clinic Fee, Amoxil Capsule 250 Mg, Daonil Tablets 5 Mg, Blood Test (Cp) Charges, Dental Surgeon Fee Per Visit, X-Ray
Transport	Hi-Speed Diesel, Petrol Super, Cng, Car Tax 800 Cc To 1500 Cc, Bus Fare Outside City (Non Ac)		Train Fare Economy Per Person, Tire Motorcycle Cg 70 (Back Wheel), Car Suzuki 800 Cc Without Ac, Air Fare Economy Class Per Kilometer	Tire Car Mehran Tubeless (General), Mobil Oil 70 (Havoline 20W-50), Chingchi Rickshaw Charges Minimum, Bicycle
Communication	Telephone Call Charges, Mobile Call Charges, Postal Registration Charges	Internet Charges (Dsl) 1 Mb (Unlimited), Mobile Set With Rear Camera And Without Touch Screen		
Recreation & Culture	Urdu Books Class V (Text Book Board), Newspaper Daily Jang	Exercise Book (With Lines) 80 To 100 Pages, English Books Class Ix And X, English Books Class Xi Complete Set, Lead Pencil Goldfish, Ballpoint Pen Local	80 Led Sony/Samsung 32" Colored, English Books Class Vi	Pets Feed
Education	Vocational Training Basic Computer Short Course Fee (3 Months)	Private School Fee English Medium Average Standard (Class V)		
Restaurant & Hotels			Cooked Beef At Average Hotel, Cooked Chicken At Average Hotel	Cooked Daal At Average Hotel, Chicken Biryani Full/Double, Tea Prepared Ordinary, Bread Tandoori Standard Size
Miscellaneous		Trunk Medium Size (Average Quality), Hair Removing Cream (Eu-Cream) 30Ml Tube, Toilet Soap Lux 75 Gm	Talcum Powder Viceroy/Black Cat, Purse Ladies Medium Size (Average Quality)	Black Gold Tezabi 24 Carett, Shaving Charges, Hair Cut Charges For Men, Disposable Razor Gillette Blue II, Artificial Jewelry (Locket Set) (Average Quality), Hair Color (Kala Kola)

<b>Table A18: Distribution of Price Changes (YoY) - WPI Items: June 2020</b>				
<b>Groups</b>	<b>Decrease or no change</b>	<b>Subdued increase (Greater than 0% but less than 5%)</b>	<b>Moderate increase (5% but less than 10%)</b>	<b>Double digit increase (10% or more)</b>
<b>Agriculture Forestry &amp; Fishery Products</b>	Millet / Bajra, Hides, Skins & Fur Skins, Raw, Fibre Crops, Vegetables, Raw Animal Materials / Wool, Fresh Fruits	Maize	Sugar Crops, Fuel Wood In Logs, Dry Fruits, Fish Live Fresh Or Chilled	Edible Roots / Potatoes, Stimulant & Spice Crops, Eggs, Unmanufactured Tobacco, Wheat, Cotton Seeds, Poultry, Sorghum / Jowar, Pulses, Raw Milk From Bovine Animals, Other Oil Seeds, Rice
<b>Ores &amp; Minerals, Electricity Gas &amp; Water</b>	Coal Not Agglomerated		Salt & Pure Sodium Chloride	Natural Gas Liquefied, Electrical Energy
<b>Food Products, Beverages and Tobacco, Textiles, Apparel and Leather Products</b>	Vegetables & Fruit Juice, Cotton Yarn, Quilts, Nylon Yarn, Tobacco Products	Bed Sheets, Other Leather N.E.C, Sugar Confectionary, Other Food Products, Leather Without Hair, Other Fabrics, Blankets, Hosiery Products, Blended Yarn	Fruit Juices, Ice Cream, Woolen Carpets, Vegetable Oils Refined, Coffee & Tea, Dried Fruits & Nuts, Processed Liquid Milk, Dairy Products N.E.C, Readymade Garments, Towels, Silk & Rayon Fabrics, Beverages, Mineral Water	Spices, Wheat Flour, Chocolate, Vegetable Ghee, Footwears, Milk & Cream In Solid Form, Sugar Refined, Meat Of Animals, Oil Cakes, Woven Fabrics, Other Cereal Flour, Synthetic Carpets, Cotton Fabrics
<b>Other Transportable Goods except Metal Products, Machinery and Equipments</b>	Kerosine Oil, Diesel Oil, Furnace Oil, Motor Spirit, Soaps & Detergents, Fertilizers, Insecticides, Hard Board	Auto Tyres, Matches, Paints & Varnishes, Pesticides, Mobil Oil, Timber	Other Glass Articles, Plastic Products, Chemicals, Glass Sheets, Ceramics & Sanitary Fixture, Cement	Dyeing Material, Bed Foam, Printing Paper, Medicines, Steel Bar & Sheets, Bricks, Blocks & Tiles
<b>Metal Product Machinery &amp; Equipment</b>	Vacuum Pumps, Engines & Motors, Concrete Mixture	Motorcycles, Radio & Television, Air Conditioners	Lighting Equipments, Chuff Cutter, Electric Wires	Lathe Machines, Cultivators, Bicycles, Motor Vehicles, Fridge, Washm, Sewm, Fans, Iron, Pipe Fittings, Steel Products, Tractors



**Table A19: International Commodity Prices/Indices**

	Mar-20	Apr-20	May-20	Jun-20
<b>Energy</b>				
Crude Oil (US\$ per barrel) *	32.2	21.0	30.4	39.5
Energy Index (2010 = 100)	42.1	29.4	38.8	48.4
<b>Food</b>				
Rice (\$/MT)	494.0	564.0	510.0	520.0
Wheat (\$/MT)	209.1	219.0	205.8	198.4
Sugar (US cent/ pound)^	11.8	10.2	11.0	12.1
Palm Oil (\$/MT)	635.2	608.9	573.9	651.6
Soybean Oil (\$/MT)	747.8	680.0	683.5	751.5
<b>Non-Food Non-Energy</b>				
Cotton Outlook 'A' Index #^	67.7	63.5	65.7	67.8
Metal Price Index (2010 = 100)	70.5	67.3	68.9	74.3
Copper (\$/MT)	5,182.6	5,058.0	5,239.8	5,754.6
Aluminum (\$/MT)	1,610.9	1,459.9	1,466.4	1,568.6
Iron Ore (\$ cents/dry MT)	89.0	84.7	93.7	103.3
Tin (\$/MT)	15,290.9	14,952.8	15,401.9	16,837.8
Nickel (\$/MT)	11,846.2	11,804.0	12,179.6	12,727.2
Zinc (\$/MT)	1,903.6	1,903.4	1,975.3	2,025.7
Lead (\$/MT)	1,734.4	1,657.6	1,626.3	1,744.8
Uranium (\$/MT)@	27.4	33.3	33.9	32.8
DAP (\$/MT)	276.2	282.0	263.0	273.0
Urea (\$/MT)	231.1	235.0	201.9	202.0

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. cents / pound. Both the variables have been converted to the measurement unit US cent/ pound.

\$/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 June 1981 strict middling 1-1/16 inch staple. Prior to 1968, Mexican 1-1/16.2/

DAP: Diammonium Phosphate

<b>Table A20: National CPI Data Series Original and Seasonally Adjusted</b>				
<b>Original Series</b>				
<b>Period</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>
Jul	103.17	107.15	114.29	123.86
Aug	102.80	107.31	113.93	125.89
Sep	103.23	108.05	113.90	126.86
Oct	104.19	109.22	116.32	129.16
Nov	104.69	109.95	116.18	130.90
Dec	104.08	109.92	115.82	130.45
Jan	104.53	110.01	116.12	133.03
Feb	105.04	109.72	117.12	131.64
Mar	106.14	109.96	119.46	131.69
Apr	106.91	111.15	120.33	131.59
May	106.36	111.65	121.05	131.01
Jun	106.54	112.58	121.63	132.08
<b>Seasonally Adjusted Series</b>				
Jul	102.90	106.87	114.01	123.58
Aug	102.49	107.02	113.66	125.63
Sep	102.86	107.72	113.61	126.59
Oct	103.32	108.34	115.39	128.13
Nov	103.79	109.00	115.15	129.71
Dec	104.21	110.01	115.88	130.50
Jan	104.66	110.14	116.26	133.17
Feb	105.80	110.48	117.89	132.45
Mar	106.79	110.60	120.12	132.36
Apr	106.99	111.24	120.44	130.72
May	106.92	112.25	121.72	131.76
Jun	106.98	113.05	122.13	132.64

Table A21: Urban CPI Data Series Original and Seasonally Adjusted				
Original Series				
Period	FY17	FY18	FY19	FY20
Jul	103.20	107.71	114.94	124.95
Aug	102.73	107.93	114.58	126.77
Sep	103.06	108.38	114.49	127.72
Oct	103.87	109.34	117.04	129.75
Nov	104.36	110.03	116.94	131.05
Dec	103.74	110.08	116.57	130.57
Jan	104.59	110.28	117.07	132.77
Feb	105.12	110.12	118.08	131.32
Mar	106.18	110.43	120.29	131.49
Apr	107.20	111.94	121.29	130.60
May	106.86	112.53	122.11	130.99
Jun	107.08	113.34	122.52	131.89
Seasonally Adjusted Series				
Jul	102.76	107.24	114.45	124.44
Aug	102.34	107.54	114.19	126.38
Sep	102.70	108.05	114.19	127.44
Oct	103.13	108.58	116.24	128.87
Nov	103.64	109.26	116.10	130.09
Dec	104.08	110.40	116.87	130.90
Jan	104.80	110.50	117.32	133.04
Feb	105.91	110.91	118.88	132.16
Mar	106.89	111.14	121.02	132.24
Apr	107.19	111.94	121.29	130.61
May	107.23	112.92	122.56	131.50
Jun	107.39	113.67	122.87	132.28

<b>Table A22: Rural CPI Data Series Original and Seasonally Adjusted</b>				
<b>Original Series</b>				
<b>Period</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>
Jul	103.12	106.30	113.30	122.22
Aug	102.90	106.37	112.96	124.56
Sep	103.49	107.54	113.01	125.55
Oct	104.68	109.05	115.23	128.28
Nov	105.18	109.83	115.03	130.67
Dec	104.59	109.68	114.70	130.28
Jan	104.44	109.60	114.68	133.42
Feb	104.91	109.11	115.68	132.13
Mar	106.09	109.25	118.21	132.00
Apr	106.47	109.95	118.89	130.58
May	105.60	110.33	119.45	131.03
Jun	105.73	111.44	120.29	132.36
<b>Seasonally Adjusted Series</b>				
Jul	122.29	122.29	122.29	122.29
Aug	124.50	124.50	124.50	124.50
Sep	125.30	125.30	125.30	125.30
Oct	127.03	127.03	127.03	127.03
Nov	129.15	129.15	129.15	129.15
Dec	129.89	129.89	129.89	129.89
Jan	133.37	133.37	133.37	133.37
Feb	132.88	132.88	132.88	132.88
Mar	132.54	132.54	132.54	132.54
Apr	130.89	130.89	130.89	130.89
May	132.16	132.16	132.16	132.16
Jun	133.18	133.18	133.18	133.18

Table A23: National CPI Monthly & Average Seasonal Factors					
Period	FY17	FY18	FY19	FY20	Average
Jul	100.26	100.26	100.25	100.23	100.25
Aug	100.30	100.27	100.24	100.21	100.25
Sep	100.36	100.30	100.26	100.21	100.28
Oct	100.84	100.82	100.81	100.80	100.82
Nov	100.86	100.87	100.89	100.91	100.88
Dec	99.88	99.92	99.95	99.97	99.93
Jan	99.88	99.88	99.88	99.89	99.88
Feb	99.28	99.31	99.35	99.39	99.33
Mar	99.39	99.42	99.45	99.50	99.44
Apr	99.92	99.91	99.91	99.90	99.91
May	99.47	99.47	99.45	99.43	99.46
Jun	99.59	99.59	99.59	99.58	99.59

Table A24: Urban CPI Monthly & Average Seasonal Factors					
Period	FY17	FY18	FY19	FY20	Average
Jul	100.43	100.44	100.43	100.41	100.43
Aug	100.39	100.36	100.34	100.31	100.36
Sep	100.35	100.30	100.26	100.22	100.31
Oct	100.72	100.70	100.69	100.69	100.71
Nov	100.69	100.70	100.72	100.74	100.71
Dec	99.67	99.71	99.74	99.75	99.70
Jan	99.80	99.80	99.79	99.79	99.80
Feb	99.26	99.29	99.32	99.36	99.29
Mar	99.34	99.36	99.39	99.44	99.37
Apr	100.01	100.00	100.00	99.99	100.00
May	99.66	99.65	99.64	99.61	99.65
Jun	99.71	99.71	99.71	99.71	99.71

<b>Table A25: Rural CPI Monthly &amp; Average Seasonal Factors</b>					
<b>Period</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>Average</b>
Jul	100.01	100.00	99.97	99.94	99.98
Aug	100.16	100.12	100.09	100.05	100.11
Sep	100.37	100.31	100.25	100.20	100.28
Oct	101.03	101.00	100.99	100.98	101.00
Nov	101.11	101.13	101.15	101.18	101.14
Dec	100.18	100.24	100.28	100.30	100.25
Jan	99.99	100.01	100.02	100.04	100.01
Feb	99.31	99.35	99.39	99.44	99.37
Mar	99.48	99.51	99.55	99.59	99.53
Apr	99.80	99.78	99.78	99.77	99.78
May	99.19	99.18	99.17	99.15	99.17
Jun	99.42	99.41	99.41	99.38	99.41

Table A26: National CPI (Month-on-Month) Original & Seasonally Adjusted				
Original Series				
Period	FY17	FY18	FY19	FY20
Jul	1.44	0.57	1.51	1.83
Aug	-0.36	0.15	-0.31	1.64
Sep	0.42	0.69	-0.03	0.77
Oct	0.93	1.09	2.12	1.81
Nov	0.47	0.66	-0.12	1.35
Dec	-0.58	-0.03	-0.30	-0.34
Jan	0.43	0.08	0.25	1.97
Feb	0.48	-0.26	0.87	-1.04
Mar	1.05	0.22	2.00	0.04
Apr	0.72	1.08	0.73	-0.84
May	-0.52	0.46	0.60	0.32
Jun	0.17	0.83	0.48	0.82
Seasonally Adjusted Series				
Jul	0.78	-0.10	0.85	1.19
Aug	-0.39	0.14	-0.30	1.66
Sep	0.36	0.65	-0.05	0.76
Oct	0.45	0.57	1.56	1.22
Nov	0.46	0.61	-0.20	1.23
Dec	0.40	0.92	0.63	0.60
Jan	0.43	0.12	0.32	2.05
Feb	1.09	0.31	1.40	-0.54
Mar	0.94	0.11	1.89	-0.07
Apr	0.19	0.58	0.27	-1.24
May	-0.06	0.91	1.06	0.79
Jun	0.05	0.71	0.34	0.66

<b>Table A27: Urban CPI (Month-on-Month) Original &amp; Seasonally Adjusted Series</b>				
<b>Original Series</b>				
<b>Period</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>
Jul	1.47	0.59	1.41	1.98
Aug	-0.46	0.20	-0.31	1.46
Sep	0.32	0.42	-0.08	0.75
Oct	0.79	0.89	2.23	1.59
Nov	0.47	0.63	-0.09	1.00
Dec	-0.59	0.05	-0.32	-0.37
Jan	0.82	0.18	0.43	1.68
Feb	0.51	-0.15	0.86	-1.09
Mar	1.01	0.28	1.87	0.13
Apr	0.96	1.37	0.83	-0.68
May	-0.32	0.53	0.68	0.30
Jun	0.21	0.72	0.34	0.69
<b>Seasonally Adjusted Series</b>				
Jul	0.75	-0.14	0.68	1.27
Aug	-0.41	0.28	-0.22	1.56
Sep	0.36	0.48	0.00	0.84
Oct	0.42	0.49	1.79	1.12
Nov	0.49	0.63	-0.12	0.95
Dec	0.43	1.04	0.66	0.62
Jan	0.69	0.10	0.38	1.64
Feb	1.06	0.37	1.34	-0.66
Mar	0.93	0.20	1.80	0.06
Apr	0.28	0.72	0.22	-1.23
May	0.03	0.88	1.04	0.68
Jun	0.15	0.67	0.26	0.59



Table A28: Rural CPI (Month-on-Month) Original & Seasonally Adjusted				
Original Series				
Period	FY17	FY18	FY19	FY20
Jul	1.39	0.54	1.67	1.60
Aug	-0.21	0.07	-0.30	1.91
Sep	0.57	1.10	0.04	0.79
Oct	1.15	1.40	1.96	2.17
Nov	0.48	0.72	-0.17	1.86
Dec	-0.56	-0.14	-0.29	-0.30
Jan	-0.14	-0.07	-0.02	2.41
Feb	0.45	-0.45	0.87	-0.97
Mar	1.12	0.13	2.19	-0.10
Apr	0.36	0.64	0.58	-1.08
May	-0.82	0.35	0.47	0.34
Jun	0.12	1.01	0.70	1.02
Seasonally Adjusted Series				
Jul	0.81	-0.04	1.10	1.06
Aug	-0.37	-0.06	-0.42	1.80
Sep	0.36	0.91	-0.12	0.65
Oct	0.49	0.71	1.22	1.38
Nov	0.40	0.59	-0.33	1.67
Dec	0.35	0.75	0.58	0.58
Jan	0.05	0.16	0.24	2.68
Feb	1.14	0.21	1.51	-0.37
Mar	0.95	-0.03	2.03	-0.26
Apr	0.04	0.37	0.34	-1.25
May	-0.21	0.95	1.09	0.97
Jun	-0.11	0.78	0.46	0.77

**Figure A1: National CPI Non-food Inflation (YoY, 12MMA, MoM in percent)**



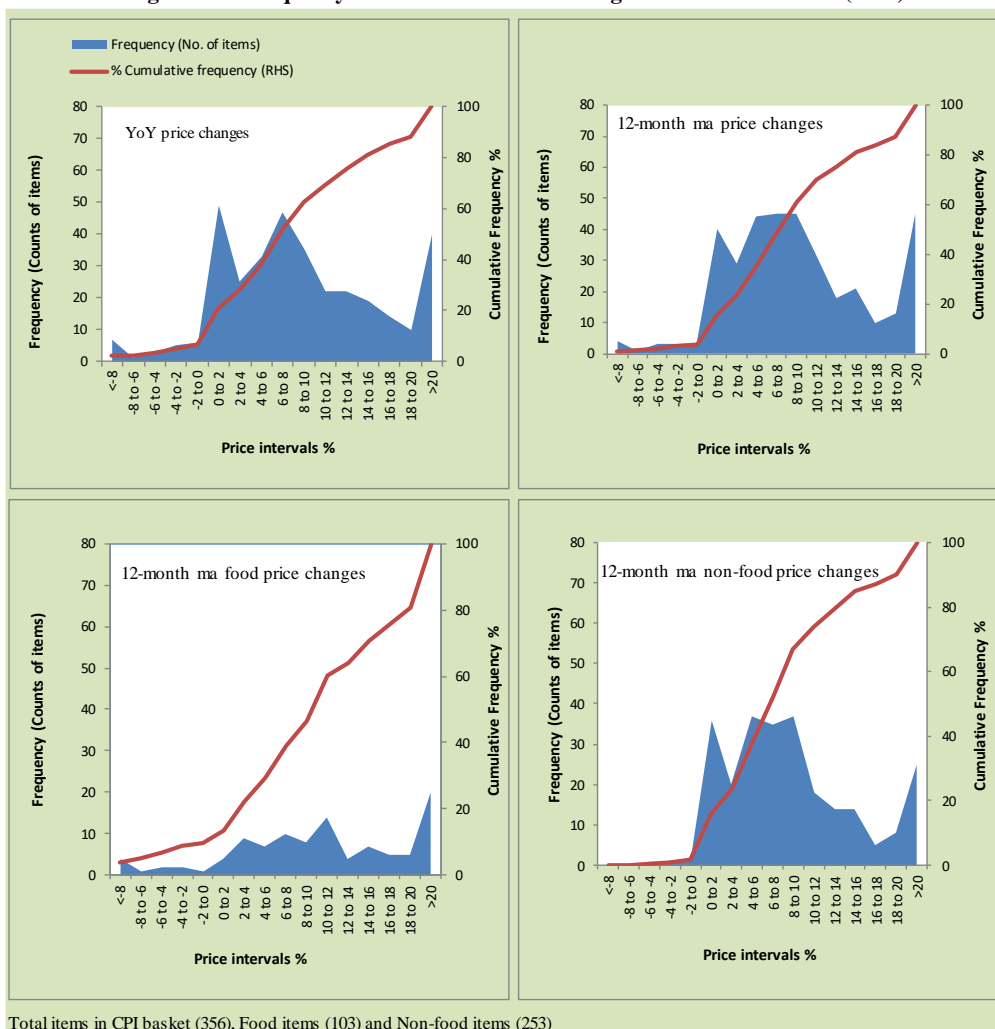
Figure A2: Urban CPI Non-food Inflation (YoY, 12MMA, MoM in percent)



**Figure A3: Rural CPI Non-food Inflation (YoY, 12MMA, MoM in percent)**

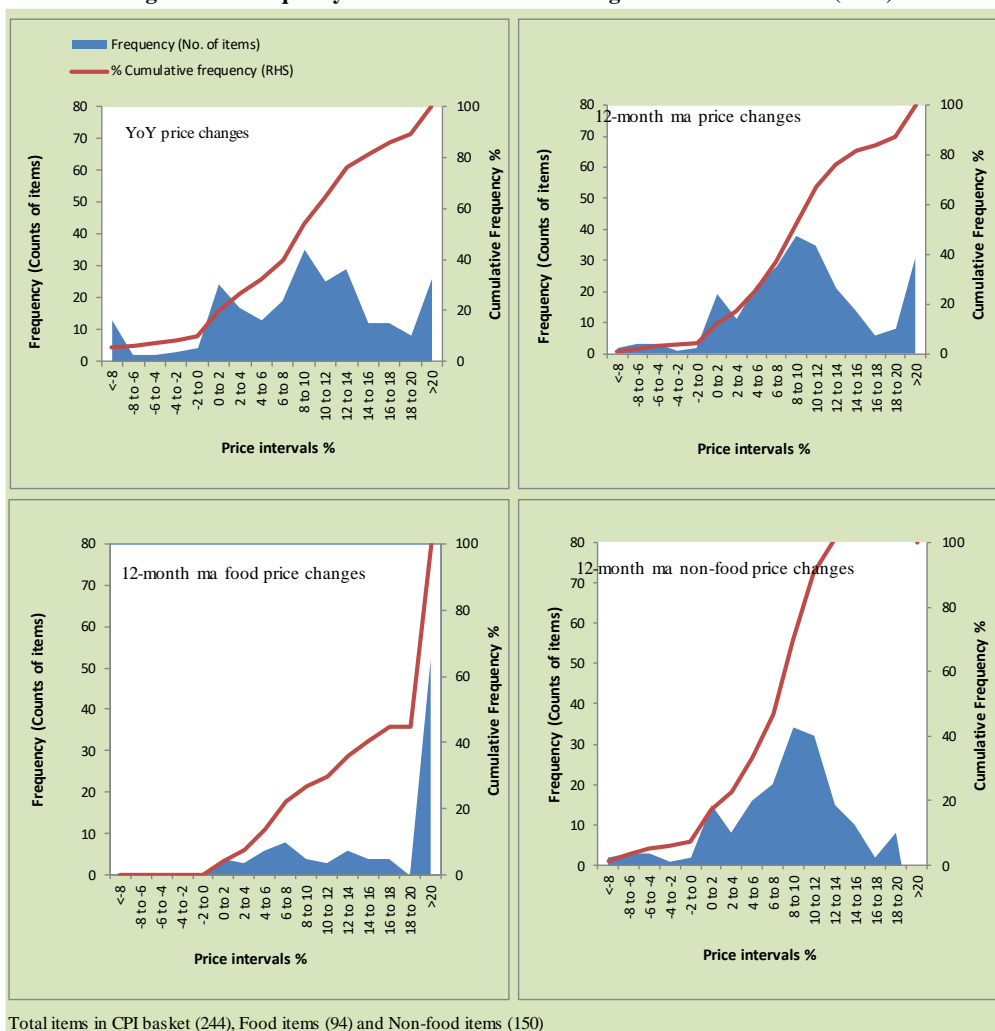


Figure A4: Frequency Distribution of Price Changes of Urban CPI Items (YoY)

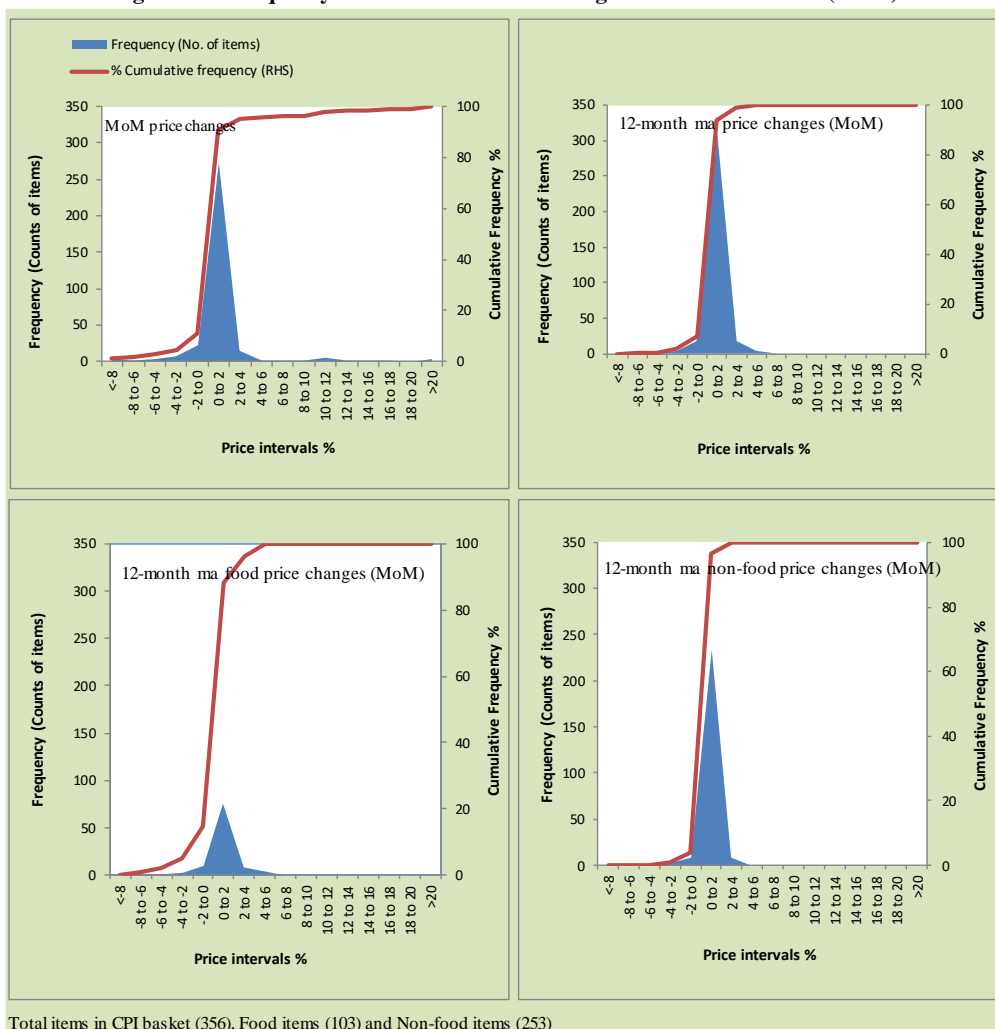


Total items in CPI basket (356), Food items (103) and Non-food items (253)

**Figure A5: Frequency Distribution of Price Changes of Rural CPI Items (YoY)**

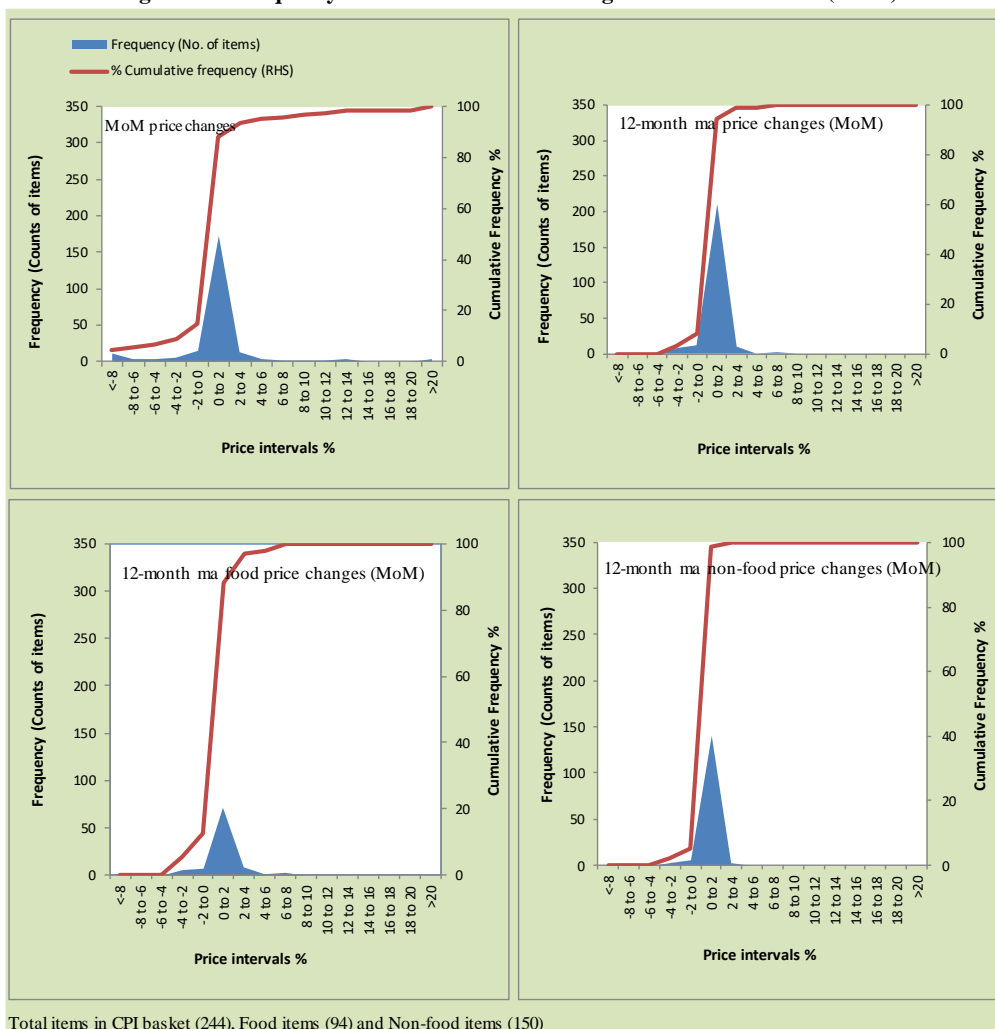


**Figure A6: Frequency Distribution of Price Changes of Urban CPI Items (MoM)**



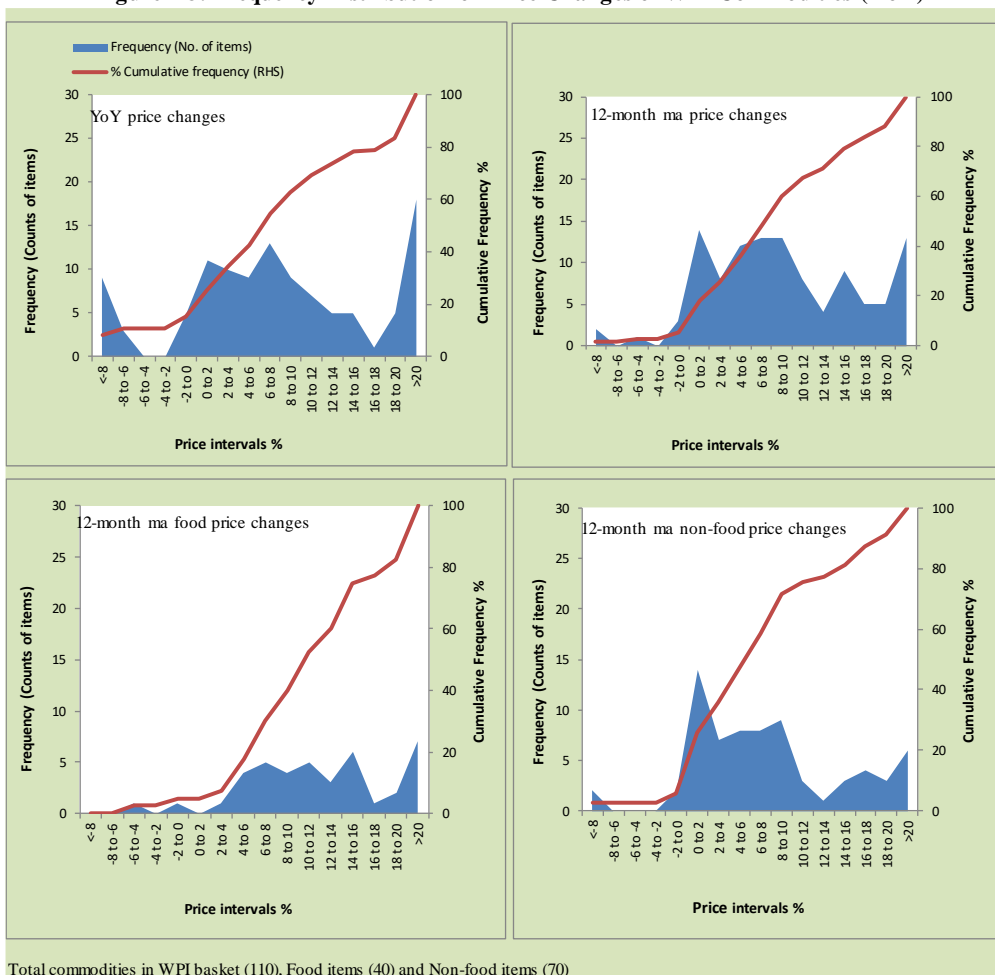
Total items in CPI basket (356), Food items (103) and Non-food items (253)

Figure A7: Frequency Distribution of Price Changes of Rural CPI Items (MoM)





**Figure A8: Frequency Distribution of Price Changes of WPI Commodities (YoY)**



## **Annexure B**

### **Technical Notes, Definitions and Methodologies**

#### **a) 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  $i^{\text{th}}$  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  $i^{\text{th}}$  item

$\pi_{it}$  : Inflation of  $i^{\text{th}}$  item

$\pi_t$  : Overall inflation

10. Annualized rate of inflation (based on a month-on-month rate  $\pi$ ) is computed as follows

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

**b) Methodology for Estimating Inflation Diffusion Index for Pakistan**

We constructed an index to measure the spread of inflation in the 487 items of the CPI basket. It is based on month-on-month (MoM) change in the prices of these items and can be obtained by estimating what is known as an ‘inflation diffusion index’ (IDI) as below:

$$IDI = \frac{\text{No. of items with positive MoM change in price} - \text{No. of items with negative MoM change in price}}{\text{No. of items for which prices are reported}} \times 100$$

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 items for which prices have altered or remained constant<sup>1</sup>.

Based upon item level prices 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 analysis<sup>2</sup> suggests that IDI is a leading indicator for Pakistan’s YoY inflation.

<sup>1</sup> We do not observe the prices of certain items (like the seasonal items) during certain periods of time. To calculate the inflation diffusion index we consider the items for which prices have been reported (irrespective of changed or not) during the month under review.

<sup>2</sup> Formal test shows one way ‘Granger’ causality from IDI to YoY inflation.