

Inflation Monitor

January 2020

(New Base: 2015-16)



State Bank of Pakistan

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Review

1. Inflation in Brief

- a) National CPI inflation (2015-16=100) is recorded at 14.6 percent on year-on-year basis in January 2020 as compared to 12.6 percent in the previous month and 5.6 percent during the corresponding month of last year.
- b) National CPI inflation on month-on-month basis is recorded at 2.0 percent in January 2020 as compared to -0.3 percent in the previous month and 0.3 percent during the corresponding month of last year. Seasonally adjusted month-on-month CPI inflation is recorded at 1.87 percent in January 2020 compared to 0.68 percent in the previous month.
- c) Urban CPI inflation (2015-16=100) is recorded at 13.4 percent on year-on-year basis in January 2020 as compared to 12.0 percent in the previous month and 6.2 percent during the corresponding month of last year.
- d) Urban CPI inflation on month-on-month basis is recorded at 1.7 percent in January 2020 as compared to -0.4 percent in the previous month and 0.4 percent during the corresponding month of last year. Seasonally adjusted month-on-month Urban CPI inflation is recorded at 1.46 percent in January 2020 compared to 0.73 percent in the previous month.
- e) Rural CPI inflation (2015-16=100) is recorded at 16.3 percent on year-on-year basis in January 2020 as compared to 13.6 percent during the previous month. It was 4.6 percent during the corresponding month of last year.
- f) Rural CPI inflation on month-on-month basis is recorded at 2.4 percent in January 2020 as compared to -0.3 percent in the previous month and was at zero level during the corresponding month of last year. Seasonally adjusted month-on-month Rural CPI inflation is recorded at 2.50 percent in January 2020 compared to 0.60 percent in the previous month.

- g) Urban Core inflation (trimmed) on year-on-year basis is recorded at 10.3 percent in January 2020 as compared to 9.6 percent in the previous month and 6.7 percent during the corresponding month of last year.
- h) On month-on-month basis, the Urban Core inflation (trimmed) is recorded at 1.2 percent in January 2020 as compared to 0.2 percent in the previous month and 0.6 percent during the corresponding month of last year.
- i) Rural Core inflation (trimmed) on year-on-year basis is recorded at 12.7 percent in January 2020 as compared to 10.8 percent in the previous month and 6.1 percent during the corresponding month of last year.
- j) On month-on-month basis, the Rural Core inflation (trimmed) is recorded at 1.9 percent in January 2020 as compared to 0.3 percent in the previous month and 0.4 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 7.9 percent in January 2020 as compared to 7.5 percent in the previous month. It was 7.2 percent during the corresponding month of last year.
- l) Urban Core (NFNE) inflation on month-on-month basis recorded at 1.1 percent in January 2020 as compared to 0.4 percent in the previous month and 0.7 percent during the corresponding month of last year.
- m) Rural Core (NFNE) inflation on year-on-year basis is recorded at 9.0 percent in January 2020 as compared to 8.1 percent in the previous month and 6.6 percent during the corresponding month of last year.
- n) Rural Core (NFNE) inflation on month-on-month basis recorded at 1.0 percent in January 2020 as compared to 0.3 percent in the previous month and 0.2 percent during the corresponding month of last year.

- o) WPI inflation on year-on-year basis recorded at 15.4 percent in January 2020 as compared to 12.4 percent in the previous month and 12.6 percent during the corresponding month of last year.
- p) WPI inflation on month-on-month basis recorded at 1.8 percent in January 2020 as compared to -0.3 percent in the previous month. It was -0.8 percent in the corresponding month of last year.
- q) SPI inflation on year-on-year basis recorded at 19.5 percent in January 2020 as compared to 18.2 percent in the previous month. It was 6.1 percent in the corresponding month of last year.
- r) SPI inflation on month-on-month basis recorded at 1.0 percent in January 2020 as compared to -1.3 percent in the previous month. It was -0.2 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) 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 6 percent and 0.75 percent on YoY and MoM basis, respectively. Greener areas indicates 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.

Heat-map of National, Urban and Rural CPI inflation (YoY)		Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20
Headline	National	5.6	6.8	8.6	8.3	8.4	8.0	8.4	10.5	11.4	11.0	12.7	12.6	14.6
	Urban	6.2	7.2	8.9	8.4	8.5	8.1	8.7	10.6	11.6	10.9	12.1	12.0	13.4
	Rural	4.6	6.0	8.2	8.1	8.3	7.9	7.9	10.3	11.1	11.3	13.6	13.6	16.3
Food	Urban	2.6	5.9	8.8	8.3	9.0	7.5	7.9	11.9	15.0	13.7	16.6	16.7	19.5
	Rural	1.8	5.2	9.3	9.3	9.7	9.1	9.3	12.6	15.0	14.6	19.3	19.7	23.8
Core	Urban	7.1	7.1	7.2	7.0	7.2	7.3	8.2	8.5	8.4	7.7	7.5	7.5	7.9
	Rural	6.6	6.4	6.5	6.8	6.8	6.7	7.8	8.8	8.9	8.6	8.4	8.1	9.0

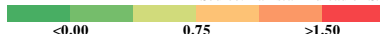
Source: Pakistan Bureau of Statistics and SBP staff estimates

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Heat-map of National, Urban and Rural CPI inflation (MoM)														
		Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20
Headline	National	0.3	0.9	2.0	0.7	0.6	0.5	1.8	1.6	0.8	1.8	1.3	-0.3	2.0
	Urban	0.4	0.9	1.9	0.8	0.7	0.3	2.0	1.5	0.7	1.6	1.0	-0.4	1.7
	Rural	0.0	0.9	2.2	0.6	0.5	0.7	1.6	1.9	0.8	2.2	1.9	-0.3	2.4
Food	Urban	0.3	2.3	2.5	1.3	1.3	-0.3	1.0	3.1	2.0	1.4	2.4	-1.7	2.7
	Rural	0.0	1.7	3.3	0.6	0.6	0.7	1.7	2.9	1.8	2.6	3.4	-1.1	3.4
Core	Urban	0.7	0.2	0.8	1.1	0.5	0.2	1.8	0.4	0.4	0.5	0.3	0.4	1.1
	Rural	0.2	0.2	0.6	1.2	0.4	0.3	2.0	1.0	0.3	0.7	0.5	0.3	1.0
Source: Pakistan Bureau of Statistics and SBP staff estimates														
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Source: Pakistan Bureau of Statistics and SBP staff estimates



Heat-map of National CPI inflation (YoY)														
	Weights	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20
National	100.00	5.6	6.8	8.6	8.3	8.4	8.0	8.4	10.5	11.4	11.0	12.7	12.6	14.6
Food and non-alcoholic Beverages	34.58	1.4	5.4	9.4	9.1	9.9	8.4	8.3	12.6	15.8	15.0	19.4	19.7	23.6
Alcoholic Beverages, Tobacco	1.02	15.6	14.3	12.7	11.7	11.9	17.3	29.3	29.8	30.0	20.3	18.7	18.3	17.9
Clothing and footwear	8.60	6.6	6.4	6.7	6.4	6.9	6.4	7.5	8.9	8.9	9.3	9.4	9.7	9.6
Housing, water, Elec., Gas and other fuels	23.63	7.8	7.9	10.1	8.1	6.5	6.9	6.1	7.1	6.6	7.2	8.8	8.5	9.6
Furnishing and household equipment maintenance	4.10	8.4	8.6	8.8	9.1	9.1	9.3	11.0	11.6	11.7	11.3	10.8	10.4	10.1
Health	2.79	6.8	6.1	6.3	8.1	8.7	9.4	11.6	11.9	11.7	12.2	11.4	11.3	11.8
Transport	5.91	12.6	10.4	9.6	13.7	17.8	17.2	16.8	18.5	17.8	16.5	14.0	14.7	18.6
Communication	2.21	2.0	2.0	2.0	4.1	4.0	4.1	4.3	4.3	4.3	4.0	4.0	4.0	4.0
Recreation and culture	1.59	6.8	6.7	7.3	5.7	5.5	5.5	7.1	7.7	7.8	7.4	6.8	6.8	6.5
Education	3.79	6.9	6.4	6.9	5.4	5.9	5.8	6.8	6.9	6.2	6.0	6.1	6.0	7.3
Restaurants and hotels	6.92	5.2	4.8	5.0	5.0	4.2	4.0	5.8	6.2	6.1	6.0	6.4	6.1	7.4
Misc. goods and services	4.87	8.4	9.0	9.2	8.9	8.6	9.4	10.8	13.2	13.4	12.5	11.8	10.7	11.4

Source: Pakistan Bureau of Statistics and SBP staff estimates



Heat-map of Urban CPI inflation (YoY)														
	Weights	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20
Urban	100.00	6.2	7.2	8.9	8.4	8.5	8.1	8.7	10.6	11.6	10.9	12.1	12.0	13.4
Food and non-alcoholic Beverages	30.42	1.8	5.9	9.4	8.7	9.7	7.7	7.7	12.6	16.3	15.0	18.6	18.8	22.0
Alcoholic Beverages, Tobacco	0.85	17.2	14.6	11.4	10.9	10.8	16.3	28.4	28.5	28.7	18.5	16.7	16.6	16.8
Clothing and footwear	8.01	6.2	5.9	6.5	5.8	7.0	6.8	7.5	9.1	9.0	9.0	9.1	9.6	9.0
Housing, water, Elec., Gas and other fuels	27.03	8.4	8.5	10.7	8.8	7.2	7.6	7.9	8.6	8.4	8.2	9.6	9.4	9.7
Furnishing and household equipment maintenance	4.09	8.6	9.2	9.4	9.8	10.2	10.5	12.3	12.4	12.5	11.6	11.2	11.0	10.4
Health	2.31	6.1	5.8	5.7	7.7	8.5	9.0	12.1	11.7	11.1	11.2	10.5	10.9	11.5
Transport	6.14	13.2	11.0	10.3	14.5	18.2	17.4	17.5	19.0	18.6	17.5	15.0	15.6	19.4
Communication	2.35	2.4	2.4	2.5	5.3	5.2	5.2	5.7	5.5	5.6	5.2	5.1	5.3	5.3
Recreation and culture	1.73	6.7	6.5	7.2	5.1	5.1	5.3	6.8	7.5	7.7	6.7	6.5	6.4	6.1
Education	4.88	7.5	7.0	7.2	5.7	6.4	6.4	7.3	7.4	6.4	6.2	6.3	6.3	7.5
Restaurants and hotels	7.41	5.3	5.0	5.4	5.2	4.5	4.5	5.4	5.0	5.0	4.9	5.2	4.9	6.5
Misc. goods and services	4.77	8.7	9.8	10.0	9.3	8.8	9.7	10.8	12.6	13.1	12.0	11.0	10.1	10.7

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Source: Pakistan Bureau of Statistics and SBP staff estimates

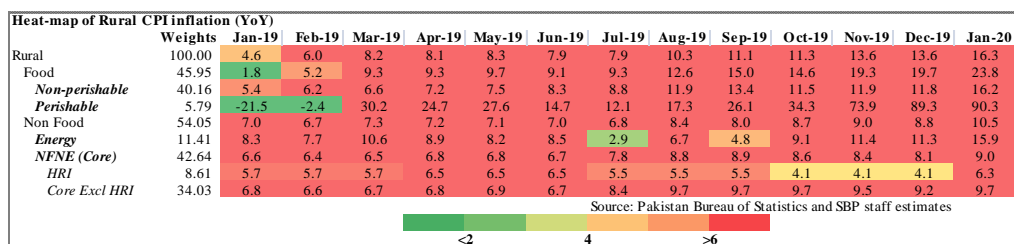
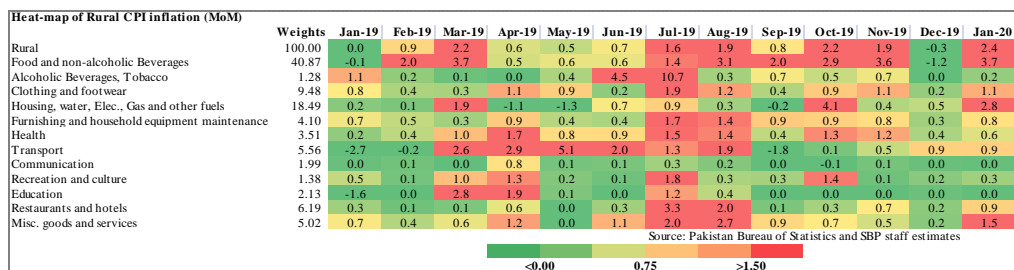
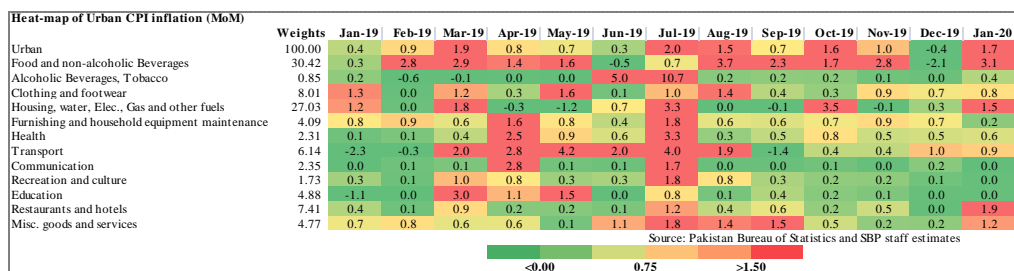
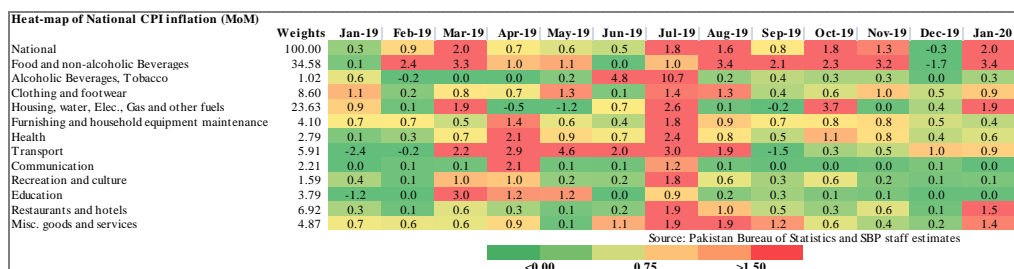


Heat-map of Rural CPI inflation (YoY)														
	Weights	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20
Rural	100.00	4.6	6.0	8.2	8.1	8.3	7.9	7.9	10.3	11.1	11.3	13.6	13.6	16.3
Food and non-alcoholic Beverages	40.87	1.0	4.8	9.5	9.5	10.1	9.3	8.9	12.6	15.3	15.1	20.3	20.8	25.5
Alcoholic Beverages, Tobacco	1.28	13.8	14.0	14.2	12.6	13.3	18.4	30.4	31.3	31.4	22.4	21.0	20.2	19.2
Clothing and footwear	9.48	7.2	7.0	6.9	7.1	6.9	6.0	7.5	8.7	8.9	9.7	9.8	9.9	10.2
Housing, water, Elec., Gas and other fuels	18.49	6.5	6.7	8.6	6.6	5.0	5.3	2.0	3.7	2.8	4.9	6.9	6.6	9.4
Furnishing and household equipment maintenance	4.10	8.0	7.8	7.8	8.0	7.4	7.6	9.1	10.2	10.5	10.9	10.2	9.6	9.7
Health	3.51	7.5	6.4	6.9	8.5	8.9	9.8	11.1	12.2	12.2	13.1	12.3	11.7	12.1
Transport	5.56	11.5	9.5	8.3	12.5	17.2	16.9	15.7	17.6	16.4	14.7	12.2	13.1	17.2
Communication	1.99	1.3	1.4	1.2	2.0	2.1	2.1	2.0	2.1	2.0	2.0	1.9	1.7	1.7
Recreation and culture	1.38	7.0	6.9	7.5	6.7	6.4	5.9	7.7	8.0	8.0	8.9	7.4	7.5	7.3
Education	2.13	4.7	4.5	5.9	4.1	3.9	3.6	4.9	5.3	5.3	5.3	5.3	5.0	6.7
Restaurants and hotels	6.19	5.0	4.6	4.3	4.4	3.6	2.9	6.4	8.1	8.1	8.0	8.5	8.3	8.9
Misc. goods and services	5.02	7.9	7.8	8.0	8.4	8.3	9.0	10.7	14.1	13.9	13.2	12.9	11.6	12.5

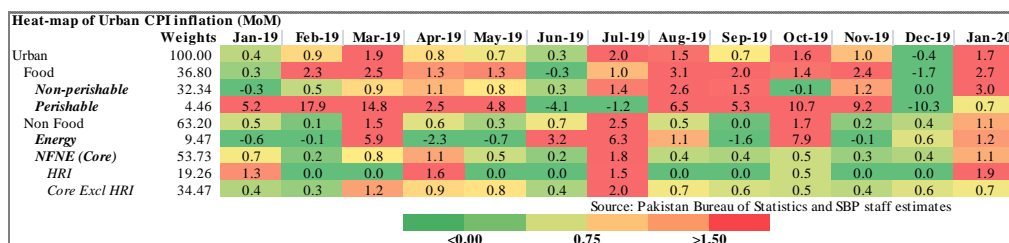
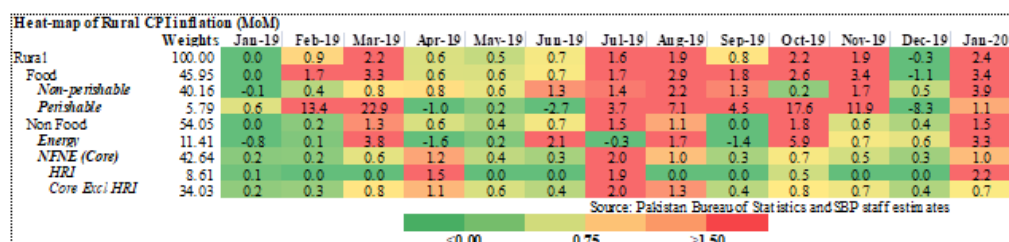
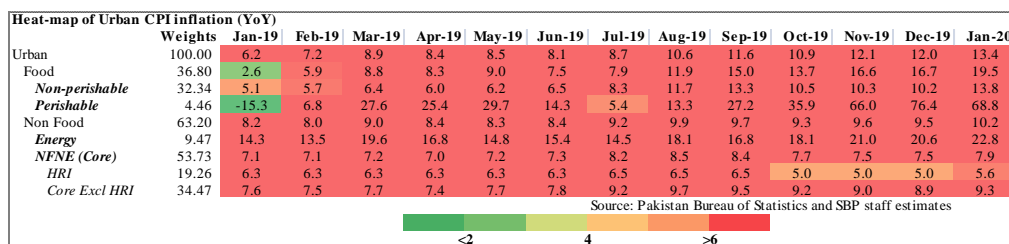
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Source: Pakistan Bureau of Statistics and SBP staff estimates

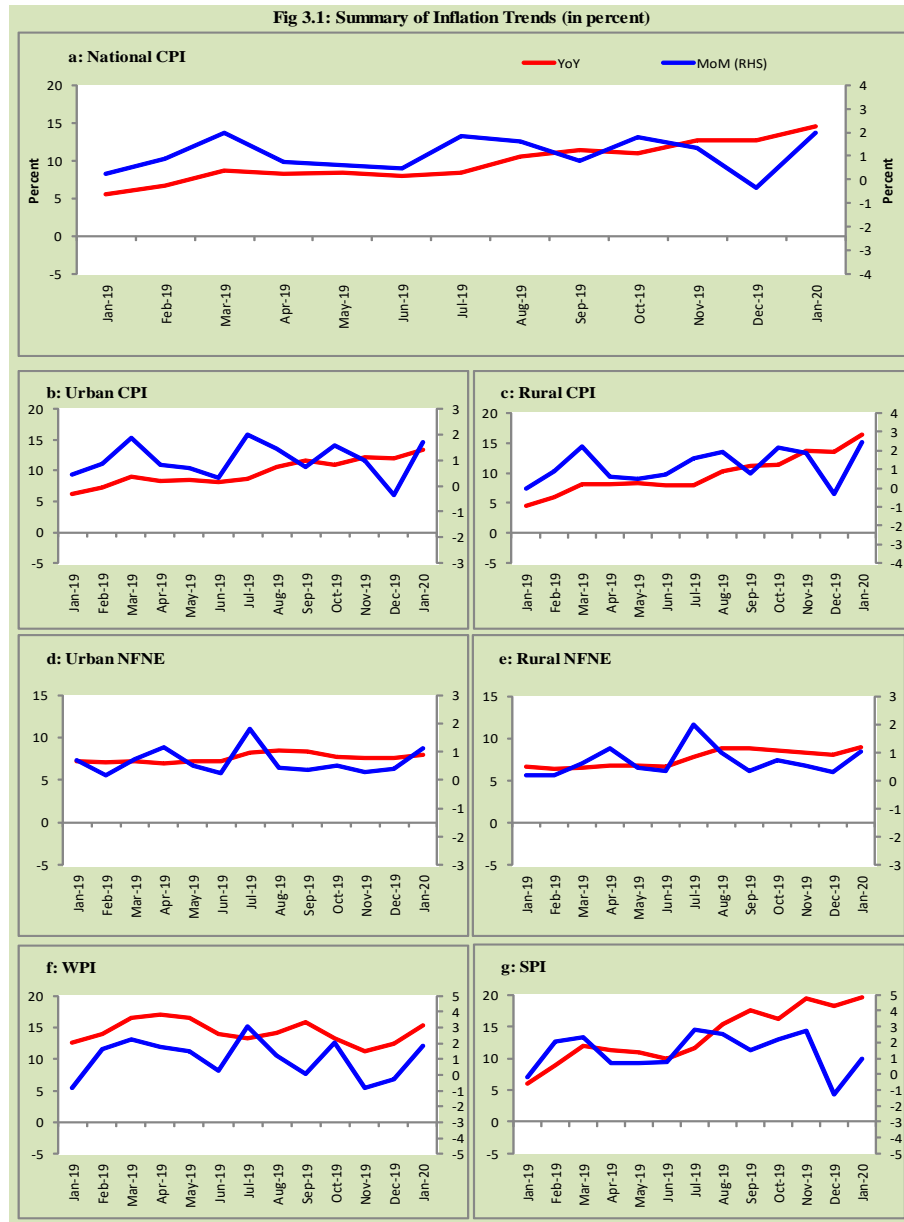




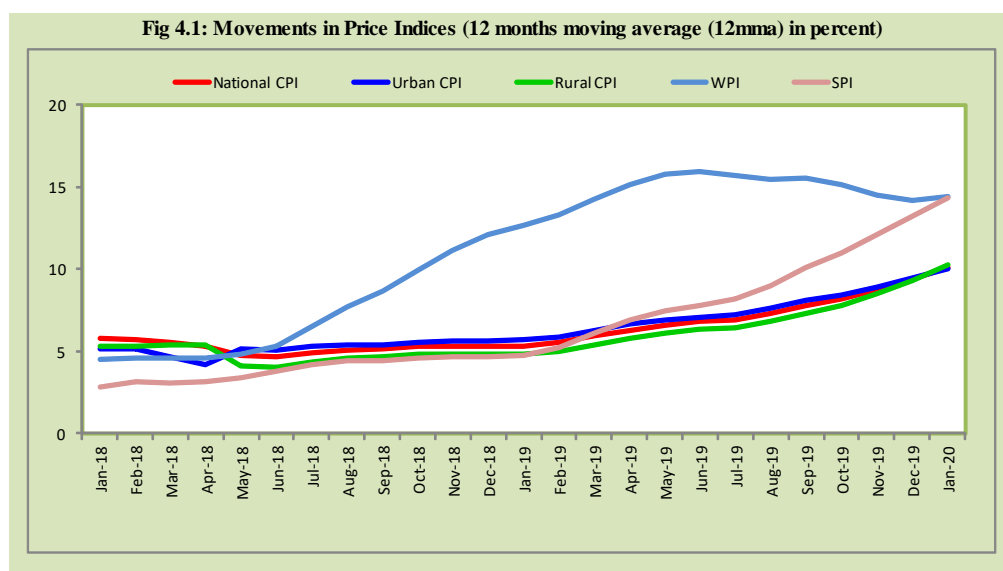
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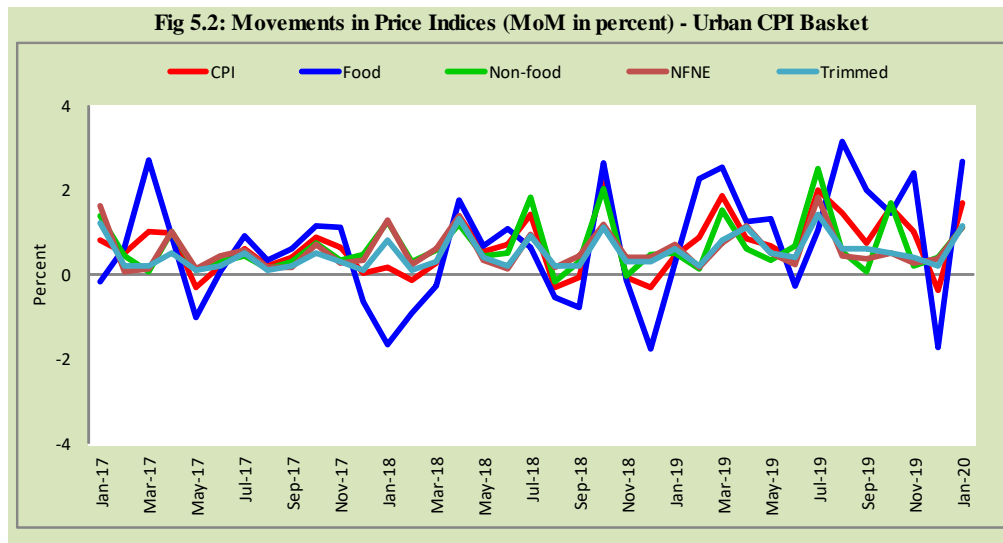
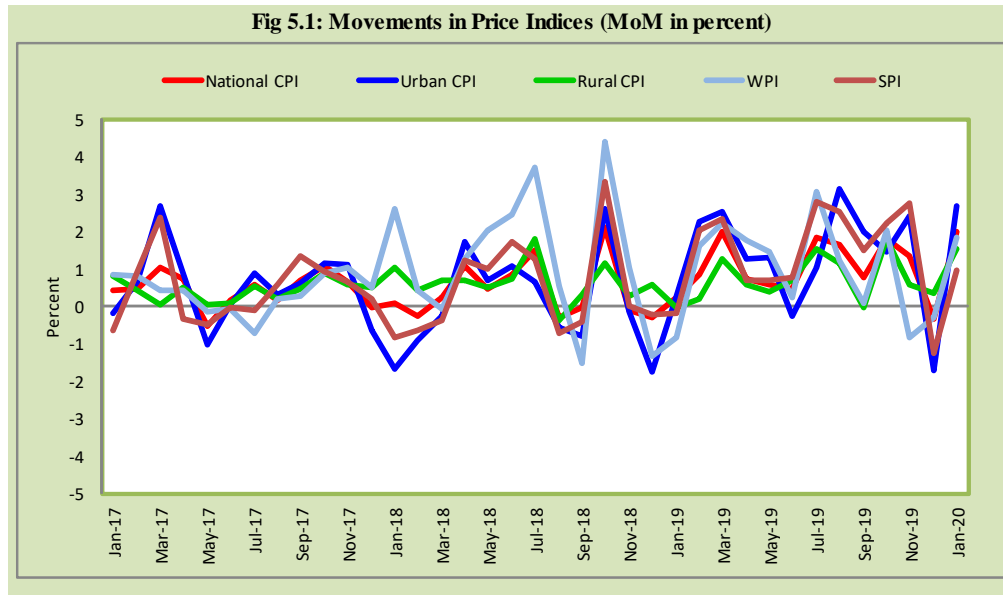
3. Trends in Inflation

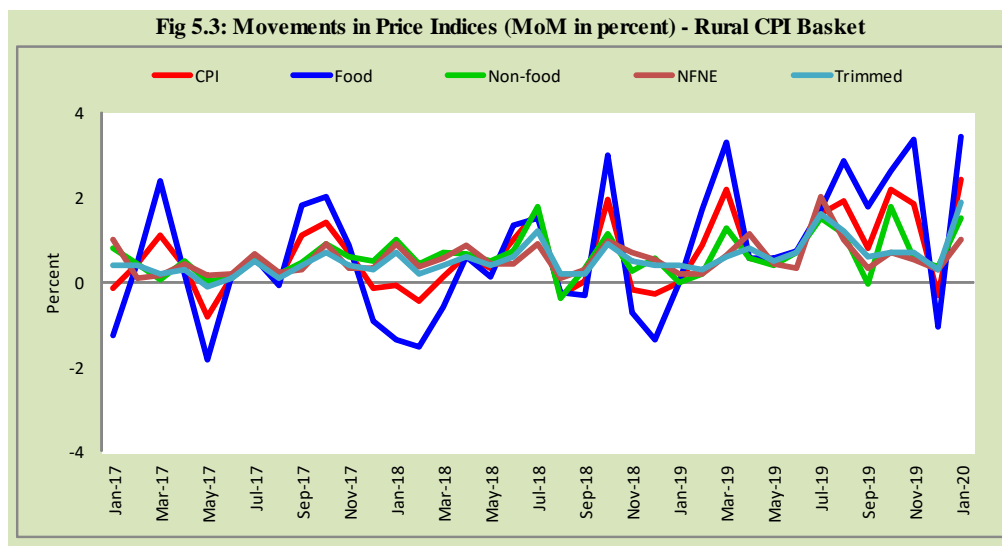


4. Movement in Price Indices (Moving Averages)



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

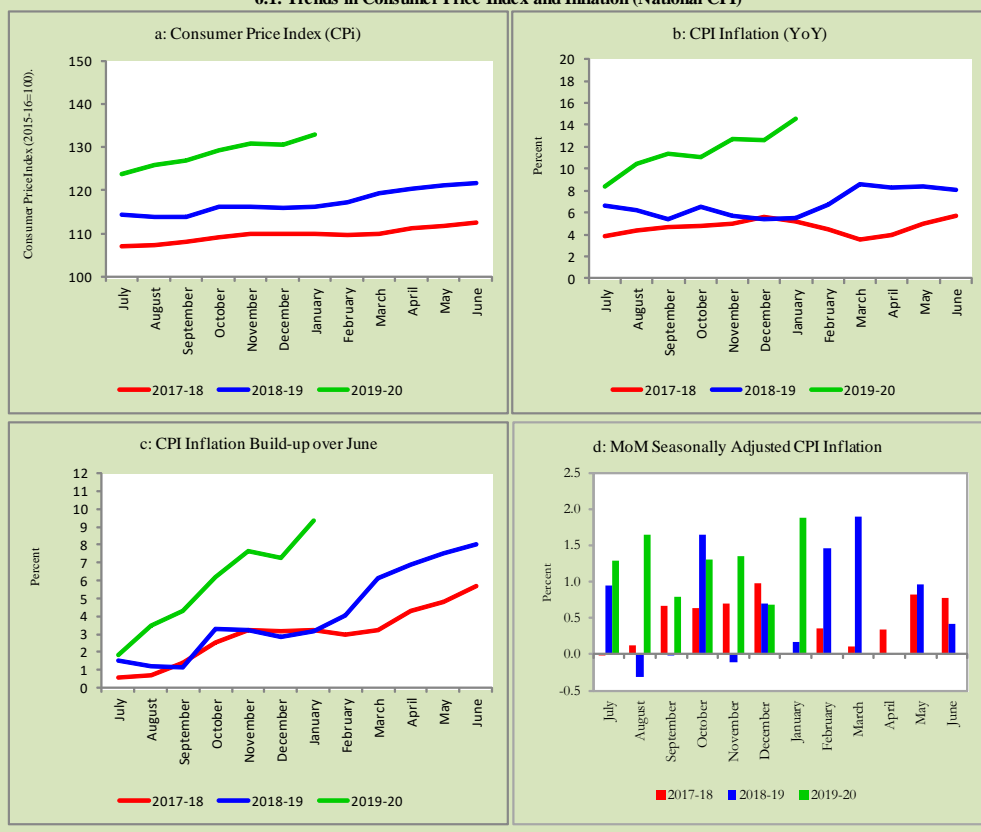




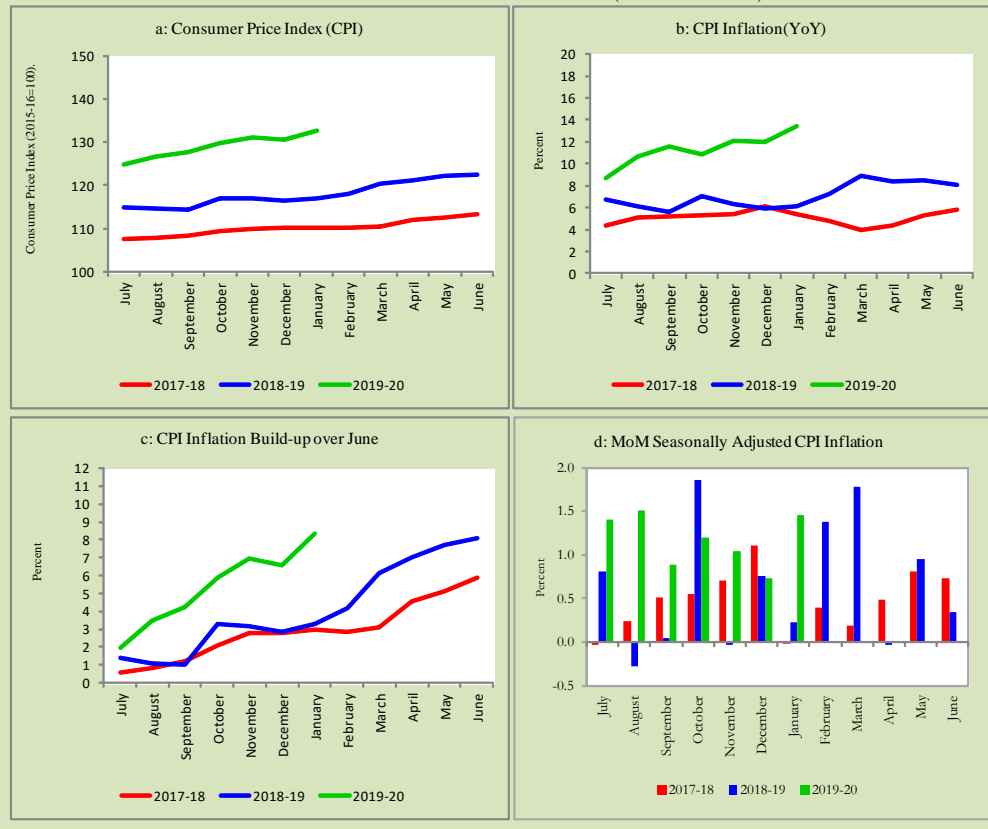
6. Trends in Consumer Price Indices and Inflation

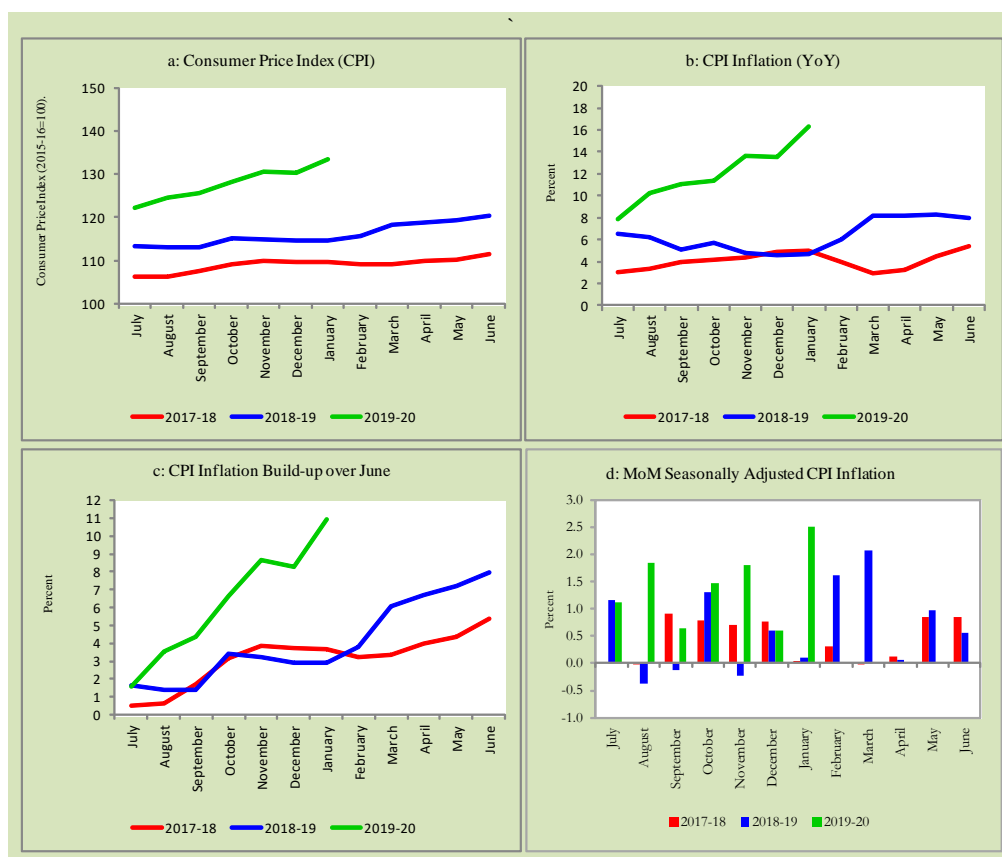
Monthly Consumer Price Indices, YoY growth rates and inflation build up over June along with seasonally adjusted (MoM) growth rates in CPI (National, Urban and Rural) is summarized in the following graphs (Figure 6.1 to 6.3).

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 marginally increased to 50.5 percent during January 2020 from 48.4 percent in previous month. It was 15.0 percent during corresponding month of last year. The weighted contribution of non-food group decreased to 49.6 percent in January 2020 from 51.7 percent in previous month. Non-food group was 84.9 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.

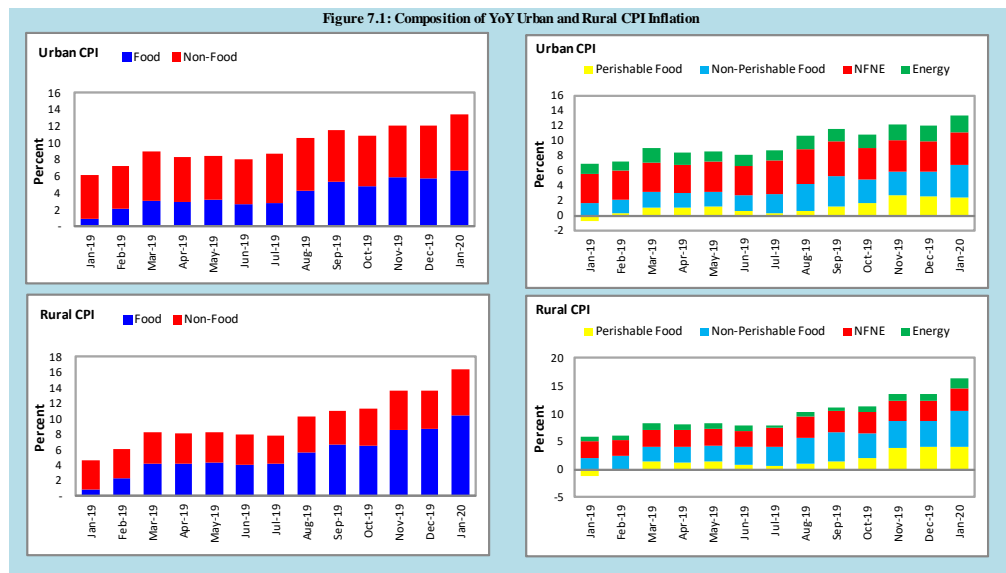
Table 7.1 Weighted Contribution (in percent) to Urban CPI Inflation (YoY)									
Period	Overall CPI	Food Group			Non-Food Group				
		Food	Perishable food	Non-Perishable food	Non-food	Energy	Core Inflation (NFNE)	NFNE excl HRI	HRI
	a=(b+e)	b=(c+d)	c	d	e=(f+g)	f	g=(h+i)	h	i
Jan-19	100	15.0	-11.2	26.2	84.9	21.2	63.6	42.9	20.8
Feb-19	100	29.0	3.9	25.0	71.1	17.2	53.9	36.2	17.7
Mar-19	100	35.0	12.5	22.6	65.0	20.2	44.8	30.5	14.3
Apr-19	100	35.3	12.6	22.7	64.6	18.4	46.3	31.0	15.2
May-19	100	37.6	14.6	23.0	62.4	15.9	46.4	31.6	14.8
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

Also, for rural basket, the weighted contribution of food group in the overall rural CPI inflation increased to 64.2 percent during January 2020 from 63.9 percent in previous month. It was 17.9 percent during corresponding month of last year. On the other hand, the weighted contribution of non-food group decreased to 35.8 percent in January 2020 from 36.1 percent in previous month. Non-food group was 82.1 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.

Table 7.2 Weighted Contribution (in percent) to Rural CPI Inflation (YoY)

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)	i
Jan-19	100	17.9	-27.7	45.6	82.1	20.3	61.8	50.6	11.2
Feb-19	100	38.6	-2.2	40.8	61.4	14.7	46.7	38.1	8.7
Mar-19	100	50.4	18.6	31.8	49.6	14.9	34.7	28.4	6.3
Apr-19	100	50.7	15.7	35.0	49.2	12.6	36.6	29.4	7.3
May-19	100	52.4	16.9	35.5	47.6	11.5	36.2	29.0	7.1
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

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													
	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20
General	44.7	40.2	55.6	31.7	39.3	52.5	61.5	65.2	52.8	61.8	55.3	43.5	56.2
Food & Non-Alcoholic Beverages	50.0	37.8	46.7	24.4	47.8	43.3	50.0	65.6	50.0	67.8	45.6	35.6	66.7
Alcoholic Beverages & Tobacco	66.7	33.3	-33.3	0.0	0.0	100.0	100.0	66.7	100.0	100.0	100.0	66.7	100.0
Clothing & Footwear	75.0	35.0	60.0	27.5	40.0	60.0	70.0	80.0	57.5	72.5	80.0	72.5	75.0
Housing, Water, Elect, Gas & other Fuels	3.4	41.4	51.7	-24.1	3.4	65.5	44.8	37.9	10.3	55.2	24.1	20.7	3.4
Furnishing & Household Equip. Maintenance etc	88.1	78.6	76.2	64.3	54.8	90.5	76.2	88.1	97.6	88.1	95.2	76.2	71.4
Health	0.0	25.0	50.0	100.0	50.0	75.0	0.0	100.0	0.0	100.0	50.0	25.0	75.0
Transport	0.0	25.0	50.0	100.0	50.0	75.0	0.0	100.0	0.0	100.0	50.0	25.0	75.0
Communication	0.0	20.0	20.0	40.0	20.0	20.0	40.0	20.0	20.0	20.0	20.0	20.0	20.0
Recreation & Culture	28.0	24.0	64.0	60.0	44.0	36.0	56.0	60.0	32.0	24.0	32.0	20.0	20.0
Education	-43.8	-18.8	43.8	50.0	56.3	0.0	56.3	56.3	62.5	6.3	25.0	12.5	6.3
Restaurant & Hotels	35.7	35.7	50.0	28.6	35.7	50.0	78.6	85.7	78.6	78.6	71.4	28.6	71.4
Miscellaneous	69.0	72.4	41.4	55.2	48.3	82.8	69.0	79.3	96.6	79.3	65.5	34.5	82.8
NFNE	46.4	42.1	60.0	38.3	40.4	55.7	68.1	68.1	59.1	58.3	63.0	48.1	55.3

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

	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20
General	38.9	45.1	49.2	49.2	41.4	46.7	73.0	60.7	34.4	64.3	50.8	36.9	56.6
Food & Non-Alcoholic Beverages	34.2	54.4	44.3	30.4	30.4	36.7	65.8	55.7	22.8	69.6	46.8	25.3	67.1
Alcoholic Beverages & Tobacco	80.0	40.0	20.0	0.0	20.0	100.0	100.0	100.0	80.0	100.0	80.0	0.0	60.0
Clothing & Footwear	70.4	48.1	55.6	81.5	77.8	63.0	85.2	81.5	66.7	77.8	59.3	48.1	77.8
Housing, Water, Elect, Gas & other Fuels	4.3	21.7	43.5	0.0	-4.3	60.9	39.1	52.2	-4.3	82.6	34.8	39.1	8.7
Furnishing & Household Equip. Maintenance etc	84.6	84.6	61.5	88.5	65.4	42.3	84.6	88.5	73.1	84.6	80.8	57.7	69.2
Health	35.7	35.7	50.0	71.4	64.3	57.1	78.6	57.1	35.7	50.0	78.6	57.1	42.9
Transport	12.5	31.3	87.5	56.3	56.3	56.3	75.0	50.0	12.5	37.5	43.8	25.0	43.8
Communication	20.0	20.0	0.0	40.0	40.0	20.0	40.0	20.0	0.0	-20.0	20.0	20.0	20.0
Recreation & Culture	11.1	11.1	55.6	66.7	27.8	11.1	72.2	11.1	22.2	27.8	11.1	27.8	22.2
Education	-60.0	0.0	80.0	80.0	60.0	0.0	80.0	20.0	0.0	0.0	0.0	20.0	0.0
Restaurant & Hotels	35.7	7.1	28.6	50.0	21.4	35.7	85.7	57.1	21.4	42.9	42.9	35.7	78.6
Miscellaneous	41.2	64.7	47.1	64.7	64.7	76.5	100.0	88.2	70.6	70.6	64.7	58.8	70.6
NFNE	47.8	43.4	50.7	67.6	55.9	47.8	81.6	63.2	49.3	58.1	55.1	44.9	52.2

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.

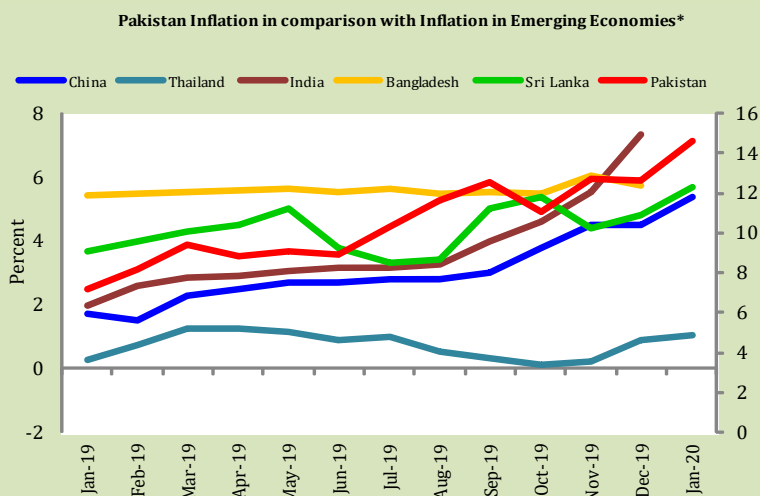
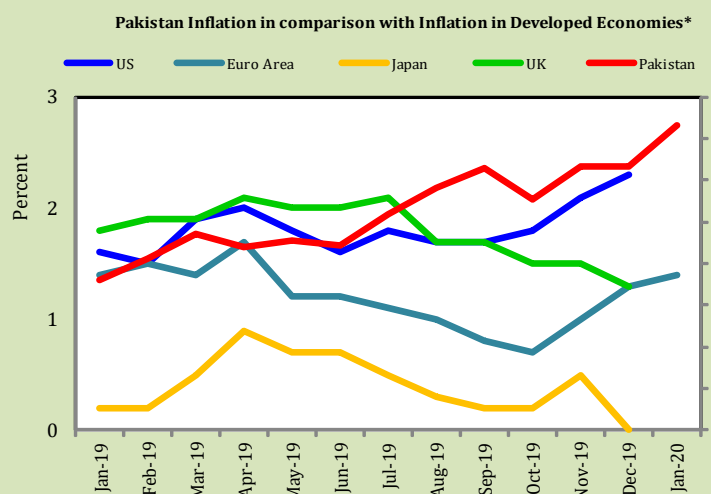
Table 9.1 Inflation in Domestic Urban and Rural CPI Food Commodities (in percent) - January, 2020

S. No	Item	Unit	Urban CPI		Rural CPI	
			YoY	MoM	YoY	MoM
1	Wheat	10 Kg	36.1	12.6	32.2	9.1
2	Wheat Flour Bag	20 Kg	21.4	6.6	22.5	4.9
3	Rice Basmati Broken (Superior/Average Quality)*	1 Kg	10.4	3.1	7.4	1.1
4	Beef With Bone (Average Quality)	1 Kg	15.5	1.2	10.9	2.2
5	Mutton (Average Quality)	1 Kg	10.7	0.2	13.8	1.0
6	Chicken Farm Broiler (Live)	1 Kg	22.5	17.5	18.5	17.3
7	Milk Fresh (Un-Boiled)	1 Litre	8.9	0.2	8.3	0.8
8	Eggs Farm	Dozen	18.1	14.3	12.7	12.9
9	Vegetable Ghee Dalda/Habib Or Other Superior Quality 1 Kg Pouch	Each	20.7	3.0	27.3	8.2
10	Pulse Masoor (Washed)	1 Kg	19.9	7.3	22.6	6.8
11	Pulse Moong (Washed)	1 Kg	79.1	19.7	83.4	18.7
12	Pulse Mash (Washed)	1 Kg	48.6	10.3	41.1	6.3
13	Pulse Gram	1 Kg	27.3	18.2	25.2	14.2
14	Potatoes	1 Kg	91.9	-3.8	113.5	2.0
15	Onions	1 Kg	125.3	-18.4	136.6	-20.5
16	Tomatoes	1 Kg	157.7	-8.4	211.2	-8.2
17	Sugar Refined	1 Kg	26.3	5.1	85.1	0.6
18	Garlic (Lehsun)	1 Kg	84.7	1.6	26.4	4.4
19	Ginger (Adrak)	500 Gm	54.2	-1.0	65.5	-3.8
20	Tea Lipton Yellow Label 190 Gm Packet	Each	9.7	0.2	9.8	0.7
*Superior Quality for Urban CPI Basket and Average Quality for Rural CPI Basket						

10. Inflation in Global Context

In global context, Pakistan witnessed highest inflation not only in comparison with developed economies but also with emerging economies (See figure 10.1).

Fig 10.1: Inflation in Global Context



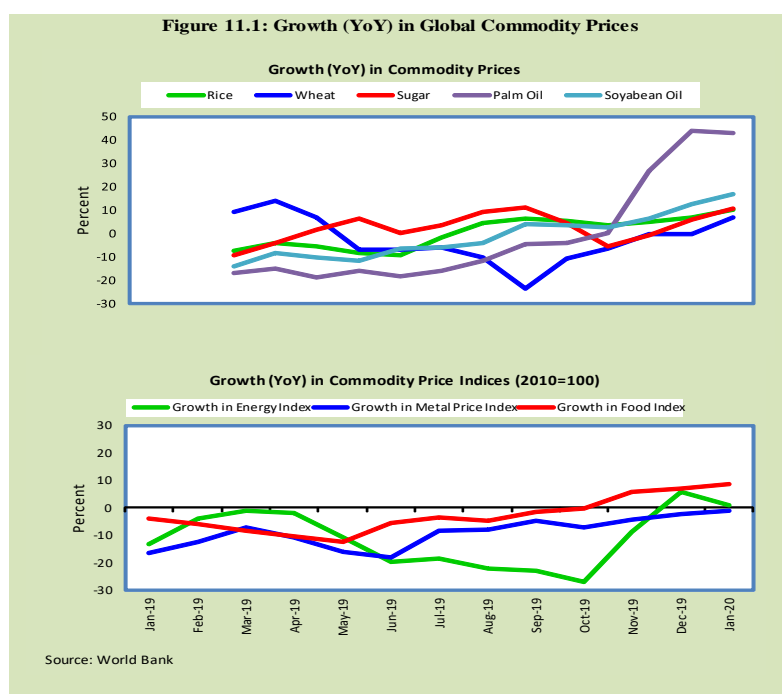
Sources: Bloomberg, Havor, PBS

* Inflation data for the latest month (January, 2020) for few countries have not been updated on Bloomberg terminal/Haver analytics

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	Jan-19		Dec-19		Jan-20	
	YoY	MoM	YoY	MoM	YoY	MoM
Food	-2.4	1.5	7.0	2.5	8.6	2.6
Metals	-10.2	-1.3	-2.4	0.4	-0.9	-0.3
Energy	-7.0	-11.3	5.9	3.1	1.0	-3.2
Agricultural	-2.6	0.5	6.0	2.2	6.5	1.6
Cotton	0.7	-0.9	-11.8	1.3	-4.0	4.3



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 January 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 may not necessarily show the same seasonal pattern.

Fig. 12.1 (a) Seasonal Factors of National CPI

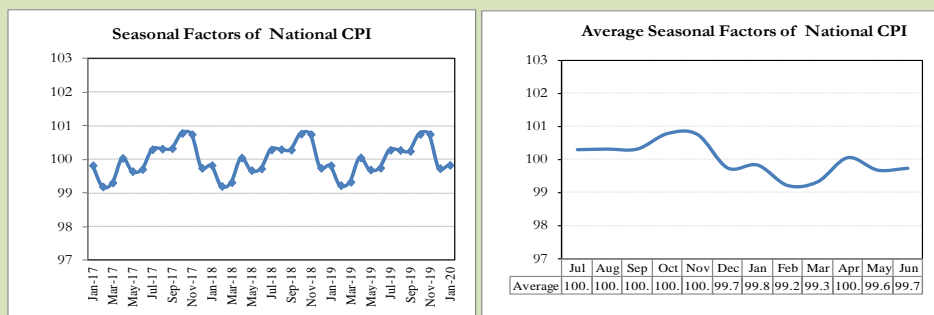


Fig. 12.1 (b) Seasonal Factors of Urban CPI

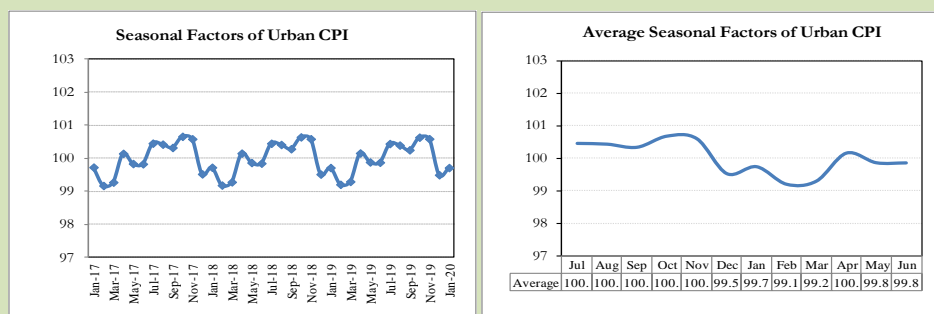
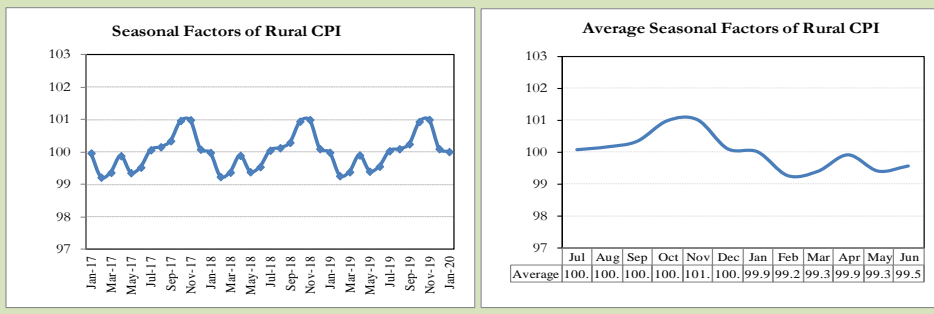


Fig. 12.1 (c) Seasonal Factors of Rural CPI



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

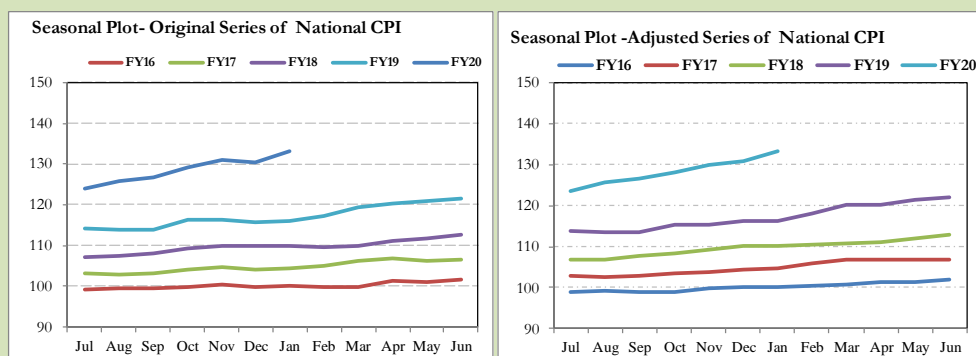


Fig. 12.2 (b) Seasonal Plots of Urban CPI

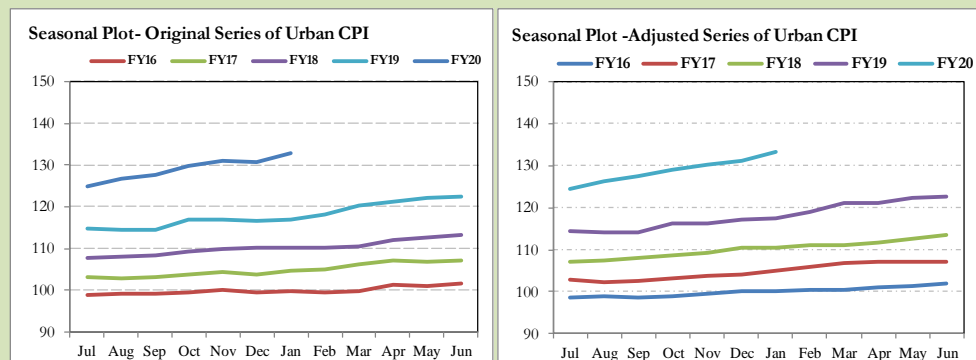
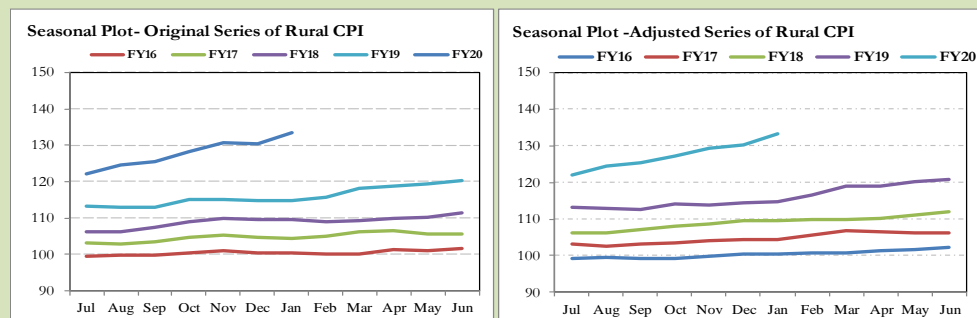


Fig. 12.2 (c) Seasonal Plots of Rural CPI



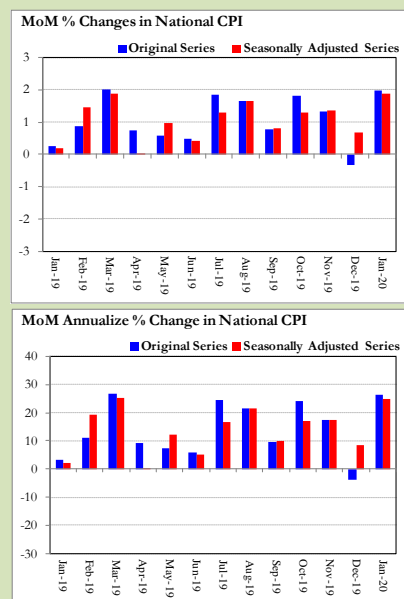
Seasonally adjusted National CPI for January 2020 stood at 133.25 against 133.03 in original series showing an increase of 0.22 on account of adjustment of downward seasonality in January 2020.

Seasonally adjusted Urban CPI for January 2020 stood at 133.15 against 132.77 in original series showing an increase of 0.38 on account of adjustment of downward seasonality in January 2020.

Seasonally adjusted Rural CPI for January 2020 stood at 133.40 against 133.42 in original series showing decrease of 0.02 on account of adjustment of upward seasonality in January 2020.

Month-on-month change of seasonally adjusted National CPI series stood at 1.87% reflecting an increase during January 2020 over previous month and an increase of 1.97% in original series.

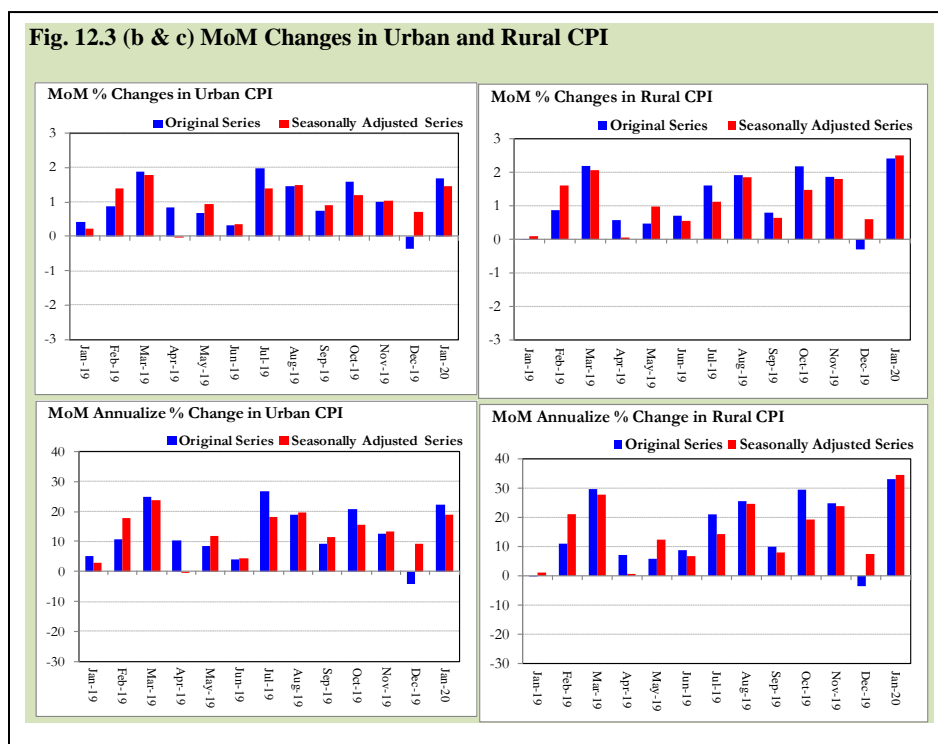
Fig. 12.3 (a) MoM Changes in National CPI



Month-on-month change of seasonally adjusted Urban CPI series stood at 1.46% reflecting an increase during January 2020 over previous month and an increase of 1.68% in original series.

Month-on-month change of seasonally adjusted Rural CPI series stood at 2.50% reflecting an increase during January 2020 over previous month and an increase of 2.41% 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 January 2020 (corresponding to the seasonally adjusted month-on-month rate) is 24.96 percent.

Annexure A

Table A1: National CPI Inflation by Groups (YoY and MoM in percent)							
	Weights	MoM change			YoY change		
		Jan-19	Dec-19	Jan-20	Jan-19	Dec-19	Jan-20
Food & Non-Alcoholic Beverages	34.6	0.1	-1.7	3.4	1.4	19.7	23.6
Alcoholic Beverages & Tobacco	1.0	0.6	0.0	0.3	15.6	18.3	17.9
Clothing & Footwear	8.6	1.1	0.5	0.9	6.6	9.7	9.6
Housing, Water, Elec, Gas & other Fuels	23.6	0.9	0.4	1.9	7.8	8.5	9.6
Furnishing & Household Equip. Maintenance	4.1	0.7	0.5	0.4	8.4	10.4	10.1
Health	2.8	0.1	0.4	0.6	6.8	11.3	11.8
Transport	5.9	-2.4	1.0	0.9	12.6	14.7	18.6
Communication	2.2	0.0	0.1	0.0	2.0	4.0	4.0
Recreation & Culture	1.6	0.4	0.1	0.1	6.8	6.8	6.5
Education	3.8	-1.2	0.0	0.0	6.9	6.0	7.3
Restaurants & Hotels	6.9	0.3	0.1	1.5	5.2	6.1	7.4
Miscellaneous	4.9	0.7	0.2	1.4	8.4	10.7	11.4
Overall National CPI	100.0	0.3	-0.3	2.0	5.6	12.6	14.6

Table A2: Urban CPI Inflation by Groups (YoY and MoM in percent)							
	Weights	MoM change			YoY change		
		Jan-19	Dec-19	Jan-20	Jan-19	Dec-19	Jan-20
I. Food Group	36.8	0.3	-1.7	2.7	2.6	16.7	19.5
Food & Non-Alcoholic Beverages	30.4	0.3	-2.1	3.1	1.8	18.8	22.0
Alcoholic Beverages & Tobacco	0.9	0.2	0.0	0.4	17.2	16.6	16.8
Restaurant & Hotels (Food Component)	5.5	0.1	0.0	0.7	4.5	6.2	6.9
II. Non-Food Group	63.2	0.5	0.4	1.1	8.2	9.5	10.2
Clothing & Footwear	8.0	1.3	0.7	0.8	6.2	9.6	9.0
Housing, Water, Elec, Gas & other Fuels	27.0	1.2	0.3	1.5	8.4	9.4	9.7
Furnishing & Household Equip. Maintenance	4.1	0.8	0.7	0.2	8.6	11.0	10.4
Health	2.3	0.1	0.5	0.6	6.1	10.9	11.5
Transport	6.1	-2.3	1.0	0.9	13.2	15.6	19.4
Communication	2.4	0.0	0.2	0.0	2.4	5.3	5.3
Recreation & Culture	1.7	0.3	0.1	0.0	6.7	6.4	6.1
Education	4.9	-1.1	0.0	0.0	7.5	6.3	7.5
Restaurants & Hotels (Non-food Component)	1.9	1.2	0.0	5.2	7.4	1.3	5.3
Miscellaneous	4.8	0.7	0.2	1.2	8.7	10.1	10.7
Overall Urban CPI	100.0	0.4	-0.4	1.7	6.2	12.0	13.4

Table A3: Rural CPI Inflation by Groups (YoY and MoM in percent)

	Weights	MoM change			YoY change		
		Jan-19	Dec-19	Jan-20	Jan-19	Dec-19	Jan-20
I. Food Group	45.9	0.3	-1.7	2.7	2.6	16.7	19.5
Food & Non-Alcoholic Beverages	40.9	0.3	-2.1	3.1	1.8	18.8	22.0
Alcoholic Beverages & Tobacco	1.3	0.2	0.0	0.4	17.2	16.6	16.8
Restaurant & Hotels (Food Component)	3.8	0.1	0.0	0.7	4.5	6.2	6.9
II. Non-Food Group	54.1	0.5	0.4	1.1	8.2	9.5	10.2
Clothing & Footwear	9.5	1.3	0.7	0.8	6.2	9.6	9.0
Housing, Water, Elec, Gas & other Fuels	18.5	1.2	0.3	1.5	8.4	9.4	9.7
Furnishing & Household Equip. Maintenance etc	4.1	0.8	0.7	0.2	8.6	11.0	10.4
Health	3.5	0.1	0.5	0.6	6.1	10.9	11.5
Transport	5.6	-2.3	1.0	0.9	13.2	15.6	19.4
Communication	2.0	0.0	0.2	0.0	2.4	5.3	5.3
Recreation & Culture	1.4	0.3	0.1	0.0	6.7	6.4	6.1
Education	2.1	-1.1	0.0	0.0	7.5	6.3	7.5
Restaurants & Hotels (Non-food Component)	2.4	1.2	0.0	5.2	7.4	1.3	5.3
Miscellaneous	5.0	0.7	0.2	1.2	8.7	10.1	10.7
Overall Rural CPI		0.4	-0.4	1.7	6.2	12.0	13.4

Table A4: Top Ten Contributors to Urban CPI Inflation (YoY) in January 2020					
Items/ Contributors		Weights	YoY Change		Weighted Contribution (%)
			Jan-19	Jan-20	
A. Ranked by Weighted Contribution					
1	House Rent	19.26	6.34	5.63	8.48
2	Fresh Vegetables	1.53	-17.30	93.60	8.32
3	Motor Fuel	2.91	12.87	25.69	6.12
4	Gas Charges	1.08	38.63	54.84	5.29
5	Wheat Flour	3.01	1.44	24.06	4.74
6	Electricity Charges	4.56	10.49	13.99	4.45
7	Milk Fresh	7.11	5.13	8.45	4.25
8	Tomatoes	0.35	6.55	157.72	3.38
9	Education	4.88	7.50	7.48	3.13
10	Readymade Food	5.52	4.50	6.92	2.87
Total		50.20			51.02
B. Ranked by Percentage Change					
1	Tomatoes	0.35	6.55	157.72	3.38
2	Onions	0.59	-49.71	125.32	2.92
3	Fresh Vegetables	1.53	-17.30	93.60	8.32
4	Potatoes	0.45	-24.16	87.30	2.40
5	Pulse Moong	0.17	10.71	79.12	0.67
6	Gas Charges	1.08	38.63	54.84	5.29
7	Pulse Mash	0.12	-1.29	48.61	0.23
8	Gur	0.04	0.50	43.31	0.10
9	Butter	0.09	4.68	38.41	0.26
10	Wheat	0.61	1.72	36.13	1.47
Total		5.03			25.04
C. Ranked by Weights					
1	House Rent	19.26	6.34	5.63	8.48
2	Milk Fresh	7.11	5.13	8.45	4.25
3	Readymade Food	5.52	4.50	6.92	2.87
4	Education	4.88	7.50	7.48	3.13
5	Electricity Charges	4.56	10.49	13.99	4.45
6	Wheat Flour	3.01	1.44	24.06	4.74
7	Appliances/Articles/Products For P	2.98	8.39	8.76	1.93
8	Motor Fuel	2.91	12.87	25.69	6.12
9	Cotton Cloth	2.22	6.29	12.81	2.04
10	Meat	2.04	8.29	13.43	2.18
Total		54.48			40.18
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 13.4 percent in January 2020.					

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

House Rent Top Ten Contributors to Urban Contribution (Weighted) in January 2020					
Items/ Contributors		Weights	MoM Change		Weighted Contribution (%)
			Dec-19	Jan-20	
A. Ranked by Weighted Contribution					
1	House Rent	19.26	0.00	1.88	20.92
2	Fresh Vegetables	1.53	-4.62	11.70	12.86
3	Wheat Flour	3.01	-0.25	7.42	12.04
4	Chicken	1.36	-11.21	17.53	10.74
5	Liquefied Hydrocarbons	0.51	-0.05	26.17	8.89
6	Condiments And Spices	1.33	-0.25	7.15	6.29
7	Marriage Hall Charges	1.75	0.01	5.58	5.60
8	Eggs	0.51	4.61	14.28	4.51
9	Wheat	0.61	5.62	12.63	4.42
10	Motor Fuel	2.91	-0.18	1.94	4.06
32.78					90.34
B. Ranked by Percentage Change					
1	Liquefied Hydrocarbons	0.51	-0.05	26.17	8.89
2	Pulse Moong	0.17	1.88	19.74	1.79
3	Pulse Gram	0.17	0.68	18.20	1.53
4	Chicken	1.36	-11.21	17.53	10.74
5	Eggs	0.51	4.61	14.28	4.51
6	Wheat	0.61	5.62	12.63	4.42
7	Fresh Vegetables	1.53	-4.62	11.70	12.86
8	Besan	0.08	0.38	12.09	0.53
9	Pulse Mash	0.12	1.84	10.29	0.47
10	Gur	0.04	-0.63	9.49	0.21
5.09					45.94
C. Ranked by Weights					
1	House Rent	19.26	0.00	1.88	20.92
2	Milk Fresh	7.11	0.06	0.21	0.81
3	Readymade Food	5.52	0.02	0.74	2.33
4	Education	4.88	0.03	0.03	0.09
5	Electricity Charges	4.56	1.54	-2.18	-5.76
6	Wheat Flour	3.01	-0.25	7.42	12.04
7	Appliances/Articles/Products For P	2.98	0.62	0.54	0.92
8	Motor Fuel	2.91	-0.18	1.94	4.06
9	Cotton Cloth	2.22	0.03	0.36	0.46
10	Meat	2.04	0.33	0.76	0.99
54.48					36.87
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 1.7 percent in January 2020.					

Table A6: Top and Bottom Fifteen Contributors to Urban CPI Inflation (YoY) in January 2020					
Top 15 Contributors			YoY Change		Weighted Contribution (%)
Items/ Contributors	Weights	Jan-19	Jan-20		
Ranked by Weighted Contribution					
1	House Rent	19.26	6.34	5.63	8.48
2	Fresh Vegetables	1.53	-17.30	93.60	8.32
3	Motor Fuel	2.91	12.87	25.69	6.12
4	Gas Charges	1.08	38.63	54.84	5.29
5	Wheat Flour	3.01	1.44	24.06	4.74
6	Electricity Charges	4.56	10.49	13.99	4.45
7	Milk Fresh	7.11	5.13	8.45	4.25
8	Tomatoes	0.35	6.55	157.72	3.38
9	Education	4.88	7.50	7.48	3.13
10	Readymade Food	5.52	4.50	6.92	2.87
11	Onions	0.59	-49.71	125.32	2.92
12	Condiments And Spices	1.33	16.29	24.43	2.59
13	Potatoes	0.45	-24.16	87.30	2.40
14	Meat	2.04	8.29	13.43	2.18
15	Cotton Cloth	2.22	6.29	12.81	2.04
Total		56.84			63.16
Bottom 15 Contributors					
1	Dental Services	0.02	8.42	-0.95	0.00
2	Postal Services	0.02	18.64	0.00	0.00
3	Therapeutic Appliances And	0.01	1.85	0.13	0.00
4	Major Tools & Equipments	0.01	5.48	7.75	0.00
5	Accommodation Services	0.13	3.36	0.55	0.01
6	Carpets	0.03	2.55	2.67	0.01
7	Motor Vehicle Tax	0.05	20.61	2.19	0.01
8	Electrical Appliances For Personal	0.05	2.71	2.50	0.01
9	Mustard Oil	0.01	2.64	10.99	0.01
10	Plastic Products	0.05	5.01	3.65	0.01
11	Dessert Preparation	0.04	5.63	6.55	0.02
12	Newspapers	0.07	36.22	3.88	0.03
13	Pan Prepared	0.14	27.02	2.16	0.03
14	Honey	0.10	2.77	5.57	0.04
15	Cleaning And Laundering	0.07	6.67	8.65	0.04
Total		0.79			0.22

Table A7: Top and Bottom Fifteen Contributors to Urban CPI Inflation (MoM) in January 2020

<u>Top 15 Contributors</u>		<u>MoM Change</u>		Weighted Contribution (%)	
Items/ Contributors	Weights	Dec-19	Jan-20		
Ranked by Weighted Contribution					
1	House Rent	19.26	0.00	1.88	20.92
2	Fresh Vegetables	1.53	-4.62	11.70	12.86
3	Wheat Flour	3.01	-0.25	7.42	12.04
4	Chicken	1.36	-11.21	17.53	10.74
5	Liquefied Hydrocarbons	0.51	-0.05	26.17	8.89
6	Condiments And Spices	1.33	-0.25	7.15	6.29
7	Marriage Hall Charges	1.75	0.01	5.58	5.60
8	Eggs	0.51	4.61	14.28	4.51
9	Wheat	0.61	5.62	12.63	4.42
10	Motor Fuel	2.91	-0.18	1.94	4.06
11	Fresh Fruits	1.44	2.30	3.93	2.86
12	Sugar	1.11	-3.54	5.07	2.90
13	Personal Effects N.E.C.	0.94	-0.79	3.52	2.45
14	Readymade Food	5.52	0.02	0.74	2.33
15	Pulse Moong	0.17	1.88	19.74	1.79
Total		41.97			102.67
Bottom 15 Contributors					
1	Onions	0.59	-12.45	-18.37	-8.42
2	Electricity Charges	4.56	1.54	-2.18	-5.76
3	Tomatoes	0.35	-36.49	-8.36	-3.60
4	Potatoes	0.45	-1.96	-3.69	-1.41
5	Transport Services	1.75	3.75	-0.86	-0.88
6	Construction Input Items	0.38	2.06	-0.08	-0.02
7	Carpets	0.03	-0.07	-0.07	0.00
8	Garbage Collection	0.11	5.94	0.00	0.00
9	Postal Services	0.02	0.00	0.00	0.00
10	Motor Vehicle Tax	0.05	0.00	0.00	0.00
11	Newspapers	0.07	0.00	0.00	0.00
12	Communication Services	1.88	0.00	0.00	0.00
13	Gas Charges	1.08	0.00	0.00	0.00
14	Water Supply	0.53	0.00	0.00	0.00
15	Therapeutic Appliances And	0.01	0.00	0.00	0.00
Total		11.84			-20.09

Table A8: Top and Bottom Fifteen Contributors to MoM Urban CPI Food Inflation in January 2020					
Top 15 Contributors		MoM Change			Weighted Contribution (%)
Items/ Contributors	Weights	Dec-19	Jan-20		
Ranked by Weighted Contribution					
1	Fresh Vegetables	1.53	-4.62	11.70	12.86
2	Wheat Flour	3.01	-0.25	7.42	12.04
3	Chicken	1.36	-11.21	17.53	10.74
4	Condiments And Spices	1.33	-0.25	7.15	6.29
5	Marriage Hall Charges	1.75	0.01	5.58	5.60
6	Eggs	0.51	4.61	14.28	4.51
7	Wheat	0.61	5.62	12.63	4.42
8	Fresh Fruits	1.44	2.30	3.93	2.86
9	Sugar	1.11	-3.54	5.07	2.90
10	Readymade Food	5.52	0.02	0.74	2.33
11	Pulse Moong	0.17	1.88	19.74	1.79
12	Pulse Gram	0.17	0.68	18.20	1.53
13	Vegetable Ghee	1.03	0.95	2.18	1.34
14	Meat	2.04	0.33	0.76	0.99
15	Rice	1.18	0.43	1.20	0.84
Total		22.77			71.07
Bottom 15 Contributors					
1	Onions	0.59	-12.45	-18.37	-8.42
2	Tomatoes	0.35	-36.49	-8.36	-3.60
3	Potatoes	0.45	-1.96	-3.69	-1.41
4	Dessert Preparation	0.04	1.42	0.62	0.01
5	Milk Products	0.64	0.02	0.04	0.01
6	Honey	0.10	0.28	0.31	0.02
7	Mustard Oil	0.01	0.32	2.87	0.02
8	Cigarettes	0.72	0.01	0.04	0.02
9	Ice Cream	0.10	0.56	0.60	0.04
10	Nimco	0.12	1.29	0.98	0.07
11	Tea	0.84	0.02	0.17	0.09
12	Bakery And Confectionary	0.48	1.36	0.36	0.10
13	Sweet Meat	0.35	0.35	0.46	0.10
14	Wheat Products	0.09	1.37	2.64	0.14
15	Beverages	0.89	0.08	0.28	0.14
Total		5.79			-12.68

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

<u>Top 15 Contributors</u>		<u>MoM Change</u>			Weighted Contribution (%)
Items/ Contributors	Weights	Dec-19	Jan-20		
Ranked by Weighted Contribution					
1	House Rent	19.26	0.00	1.88	20.92
2	Liquefied Hydrocarbons	0.51	-0.05	26.17	8.89
3	Motor Fuel	2.91	-0.18	1.94	4.06
4	Electrical Appliances For Personal	0.94	-0.79	3.52	2.45
5	Woolen Cloth	0.84	1.15	3.08	1.41
6	Tailoring	1.07	2.36	1.40	0.92
7	Personal Grooming Services	2.98	0.62	0.54	0.92
8	Woolen Readymade Garments	0.43	2.72	2.51	0.61
9	Solid Fuel	0.42	0.63	2.64	0.56
10	Cotton Cloth	2.22	0.03	0.36	0.46
11	Drugs And Medicines	1.07	1.15	0.61	0.41
12	Doctor (Mbbs) Clinic Fee	0.40	0.03	1.32	0.39
13	Motor Vehicles	0.81	0.04	0.65	0.35
14	Washing Soap/Detergents/Match Box	1.41	0.44	0.24	0.19
15	Household Equipments	1.00	0.99	0.32	0.18
Total		36.28			42.73
<u>Bottom 15 Contributors</u>					
1	Electricity Charges	4.56	1.54	-2.18	-5.76
2	Transport Services	1.75	3.75	-0.86	-0.88
3	Construction Input Items	0.38	2.06	-0.08	-0.02
4	Carpets	0.03	-0.07	-0.07	0.00
5	Garbage Collection	0.11	5.94	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	Water Supply	0.53	0.00	0.00	0.00
14	Therapeutic Appliances And	0.01	0.00	0.00	0.00
15	Household Servant	0.77	0.00	0.00	0.00
Total		11.22			-6.66

Table A10: Top Ten Contributors to Rural CPI Inflation (YoY) in January 2020					
Items/ Contributors		Weights	YoY Change		Weighted Contribution (%)
			Jan-19	Jan-20	
A. Ranked by Weighted Contribution					
1	Fresh Vegetables	2.09	-19.08	104.47	10.70
2	Wheat	3.47	3.43	32.18	6.28
3	Milk Fresh	10.38	4.68	8.32	5.21
4	Tomatoes	0.51	-8.93	211.18	4.85
5	Wheat Flour	3.43	1.41	25.21	4.71
6	Motor Fuels	2.49	11.97	26.40	4.46
7	Potatoes	0.74	-29.61	111.24	4.14
8	Vegetable Ghee	2.38	9.46	25.30	3.83
9	Onions	0.90	-54.32	136.63	3.70
10	House Rent	8.61	5.74	6.29	3.52
Total		35.01			51.41
B. Ranked by Percentage Change					
1	Tomatoes	0.51	-8.93	211.18	4.85
2	Onions	0.90	-54.32	136.63	3.70
3	Potatoes	0.74	-29.61	111.24	4.14
4	Fresh Vegetables	2.09	-19.08	104.47	10.70
5	Pulse Moong	0.25	8.29	83.43	0.91
6	Gur	0.15	5.23	46.16	0.36
7	Pulse Mash	0.15	-5.82	41.07	0.21
8	Wheat	3.47	3.43	32.18	6.28
9	Postal Services	0.01	0.08	31.47	0.01
10	Water Supply	0.06	0.00	30.55	0.13
Total		8.34			31.30
C. Ranked by Weights					
1	Milk Fresh	10.38	4.68	8.32	5.21
2	House Rent	8.61	5.74	6.29	3.52
3	Solid Fuel	4.48	2.79	11.89	3.23
4	Readymade Food	3.80	7.29	8.72	2.16
5	Wheat	3.47	3.43	32.18	6.28
6	Electricity Charges	3.44	10.49	13.99	2.82
7	Wheat Flour	3.43	1.41	25.21	4.71
8	Cotton Cloth	2.84	10.87	13.03	2.50
9	Motor Fuels	2.49	11.97	26.40	4.46
10	Vegetable Ghee	2.38	9.46	25.30	3.83
Total		45.32			38.72
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 16.3 percent in January 2020.					

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

Items/ Contributors		Weights	MoM Change		Weighted Contribution (%)
			Dec-19	Jan-20	
A. Ranked by Weighted Contribution					
1	Fresh Vegetables	2.09	-2.99	15.39	16.68
2	Wheat	3.47	3.46	9.07	12.81
3	Solid Fuel	4.48	0.79	5.19	8.94
4	Chicken	1.46	-10.85	17.30	8.44
5	Wheat Flour	3.43	-0.36	6.16	8.10
6	House Rent	8.61	0.00	2.19	7.60
7	Liquefied Hydrocarbons	1.00	-0.42	17.55	7.58
8	Vegetable Ghee	2.38	2.49	6.55	6.96
9	Milk Fresh	10.38	0.00	0.83	3.34
10	Sugar	2.03	-2.76	4.36	3.25
		39.33			83.70
B. Ranked by Percentage Change					
1	Pulse Moong	0.25	3.19	18.70	1.88
2	Liquefied Hydrocarbons	1.00	-0.42	17.55	7.58
3	Chicken	1.46	-10.85	17.30	8.44
4	Fresh Vegetables	2.09	-2.99	15.39	16.68
5	Pulse Gram	0.28	2.70	14.21	1.43
6	Eggs	0.57	2.99	12.89	3.05
7	Gur	0.15	-1.68	12.84	0.77
8	Besan	0.07	2.00	9.97	0.27
9	Wheat	3.47	3.46	9.07	12.81
10	Pulse Masoor	0.21	3.88	6.77	0.42
		9.56			53.33
C. Ranked by Weights					
1	Milk Fresh	10.38	0.00	0.83	3.34
2	House Rent	8.61	0.00	2.19	7.60
3	Solid Fuel	4.48	0.79	5.19	8.94
4	Readymade Food	3.80	0.33	1.10	1.74
5	Wheat	3.47	3.46	9.07	12.81
6	Electricity Charges	3.44	1.54	-2.18	-3.05
7	Wheat Flour	3.43	-0.36	6.16	8.10
8	Cotton Cloth	2.84	0.36	0.00	0.00
9	Motor Fuels	2.49	-0.22	2.06	2.57
10	Vegetable Ghee	2.38	2.49	6.55	6.96
		45.32			49.02
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 2.4 percent in January 2020.					

Table A12: Top and Bottom Fifteen Contributors to Rural CPI Inflation (YoY) in January 2020					
Top 15 Contributors			YoY Change		Weighted Contribution (%)
Items/ Contributors	Weights	Jan-19	Jan-20		
Ranked by Weighted Contribution					
1	Fresh Vegetables	2.09	-19.08	104.47	10.70
2	Wheat	3.47	3.43	32.18	6.28
3	Milk Fresh	10.38	4.68	8.32	5.21
4	Tomatoes	0.51	-8.93	211.18	4.85
5	Wheat Flour	3.43	1.41	25.21	4.71
6	Motor Fuels	2.49	11.97	26.40	4.46
7	Potatoes	0.74	-29.61	111.24	4.14
8	Vegetable Ghee	2.38	9.46	25.30	3.83
9	Onions	0.90	-54.32	136.63	3.70
10	House Rent	8.61	5.74	6.29	3.52
11	Solid Fuel	4.48	2.79	11.89	3.23
12	Electricity Charges	3.44	10.49	13.99	2.82
13	Sugar	2.03	9.24	26.39	2.72
14	Cotton Cloth	2.84	10.87	13.03	2.50
15	Condiments And Spices	1.49	16.10	26.95	2.45
Total		49.28			65.12
Bottom 15 Contributors					
1	Motor Vehicle Tax	0.02	27.98	0.00	0.00
2	Newspapers	0.02	49.59	0.00	0.00
3	Accommodation Services	0.14	0.00	0.00	0.00
4	Garbage Collection	0.01	0.00	1.15	0.00
5	Honey	0.03	6.70	2.52	0.00
6	Dental Services	0.02	0.06	4.75	0.00
7	Dessert Preparation	0.01	2.51	6.68	0.01
8	Major Tools And Equipments	0.03	5.42	3.01	0.01
9	Cleaning And Laundering	0.02	4.53	9.25	0.01
10	Mustard Oil	0.01	7.41	13.45	0.01
11	Postal Services	0.01	0.08	31.47	0.01
12	Pan Prepared	0.04	19.86	6.59	0.02
13	Ice Cream	0.06	6.80	7.12	0.02
14	Nimco	0.08	2.29	8.71	0.04
15	Plastic Products	0.08	5.23	9.37	0.05
Total		0.57			0.19

Table A13: Top and Bottom Fifteen Contributors to Rural CPI Inflation (MoM) in January 2020

<u>Top 15 Contributors</u>		Weights	<u>MoM Change</u>		Weighted Contribution (%)
Items/ Contributors			Dec-19	Jan-20	
Ranked by Weighted Contribution					
1	Fresh Vegetables	2.09	-2.99	15.39	16.68
2	Wheat	3.47	3.46	9.07	12.81
3	Solid Fuel	4.48	0.79	5.19	8.94
4	Chicken	1.46	-10.85	17.30	8.44
5	Wheat Flour	3.43	-0.36	6.16	8.10
6	House Rent	8.61	0.00	2.19	7.60
7	Liquefied Hydrocarbons	1.00	-0.42	17.55	7.58
8	Vegetable Ghee	2.38	2.49	6.55	6.96
9	Milk Fresh	10.38	0.00	0.83	3.34
10	Sugar	2.03	-2.76	4.36	3.25
11	Condiments And Spices	1.49	7.06	4.85	3.18
12	Eggs	0.57	2.99	12.89	3.05
13	Motor Fuels	2.49	-0.22	2.06	2.57
14	Personal Effects N.E.C.	1.21	-1.00	4.36	2.57
15	Pulse Moong	0.25	3.19	18.70	1.88
Total		45.34			96.95
Bottom 15 Contributors					
1	Onions	0.90	-13.63	-20.52	-9.87
2	Tomatoes	0.51	-29.17	-8.22	-3.82
3	Electricity Charges	3.44	1.54	-2.18	-3.05
4	Transport Services	1.80	3.47	-0.56	-0.41
5	Fresh Fruits	1.45	3.25	-0.24	-0.13
6	Fish	0.26	1.18	-0.94	-0.10
7	Construction Input Items	0.63	0.01	-0.32	-0.08
8	Motor Vehicles Accessories	0.16	0.48	-0.17	-0.01
9	Accommodation Services	0.14	0.00	0.00	0.00
10	Cotton Cloth	2.84	0.36	0.00	0.00
11	Hospitals Services	1.01	0.31	0.00	0.00
12	Water Supply	0.06	2.66	0.00	0.00
13	Education	2.13	0.05	0.00	0.00
14	Nimco	0.08	0.94	0.00	0.00
15	Postal Services	0.01	0.00	0.00	0.00
Total		15.41			-17.46

Table A14: Top and Bottom Fifteen Contributors to MoM Rural CPI Food Inflation in January 2020					
Top 15 Contributors		MoM Change		Weighted Contribution (%)	
Items/ Contributors	Weights	Dec-19	Jan-20		
Ranked by Weighted Contribution					
1	Fresh Vegetables	2.09	-2.99	15.39	16.68
2	Wheat	3.47	3.46	9.07	12.81
3	Chicken	1.46	-10.85	17.30	8.44
4	Wheat Flour	3.43	-0.36	6.16	8.10
5	Vegetable Ghee	2.38	2.49	6.55	6.96
6	Milk Fresh	10.38	0.00	0.83	3.34
7	Sugar	2.03	-2.76	4.36	3.25
8	Condiments And Spices	1.49	7.06	4.85	3.18
9	Eggs	0.57	2.99	12.89	3.05
10	Pulse Moong	0.25	3.19	18.70	1.88
11	Readymade Food	3.80	0.33	1.10	1.74
12	Cooking Oil	0.60	3.20	6.48	1.73
13	Pulse Gram	0.28	2.70	14.21	1.43
14	Meat	1.71	0.28	1.82	1.39
15	Rice	1.55	0.22	1.77	1.37
Total		35.50			75.36
Bottom 15 Contributors					
1	Onions	0.90	-13.63	-20.52	-9.87
2	Tomatoes	0.51	-29.17	-8.22	-3.82
3	Fresh Fruits	1.45	3.25	-0.24	-0.13
4	Fish	0.26	1.18	-0.94	-0.10
5	Nimco	0.08	0.94	0.00	0.00
6	Pan Prepared	0.04	0.00	0.00	0.00
7	Dessert Preparation	0.01	0.41	0.22	0.00
8	Honey	0.03	0.43	0.34	0.00
9	Ice Cream	0.06	1.37	0.78	0.02
10	Mustard Oil	0.01	0.03	5.13	0.03
11	Sweet Meat	0.40	0.52	0.26	0.04
12	Milk Products	0.96	0.00	0.14	0.05
13	Beverages	0.55	0.13	0.25	0.05
14	Milk Powder	0.11	0.13	1.40	0.06
15	Wheat Products	0.11	1.43	1.67	0.07
Total		5.48			-13.60

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

<u>Top 15 Contributors</u>		<u>MoM Change</u>			
Items/ Contributors		Weights	Dec-19	Jan-20	Weighted Contribution (%)
Ranked by Weighted Contribution					
1	Solid Fuel	4.48	0.79	5.19	8.94
2	House Rent	8.61	0.00	2.19	7.60
3	Liquefied Hydrocarbons	1.00	-0.42	17.55	7.58
4	Motor Fuels	2.49	-0.22	2.06	2.57
5	Personal Effects N.E.C.	1.21	-1.00	4.36	2.57
6	Footwear	1.92	0.14	1.91	1.42
7	Readymade Garments	1.13	0.00	1.87	0.87
8	Woolen Readymade Garments	0.54	1.13	3.76	0.80
9	Washing Soaps, Detergents And	1.70	0.28	0.94	0.61
10	Tailoring	1.30	0.00	1.07	0.58
11	Appliances/Articles/Products For	2.27	0.70	0.67	0.57
12	Drugs And Medicines	1.58	0.31	0.76	0.53
13	Furniture And Furnishing	0.58	0.74	1.78	0.41
14	Hosiery	0.43	0.41	1.89	0.37
15	Doctor (Mbbs) Clinic Fee	0.51	0.00	1.22	0.30
Total		29.75			35.71
<u>Bottom 15 Contributors</u>					
1	Electricity Charges	3.44	1.54	-2.18	-3.05
2	Transport Services	1.80	3.47	-0.56	-0.41
3	Construction Input Items	0.63	0.01	-0.32	-0.08
4	Motor Vehicles Accessories	0.16	0.48	-0.17	-0.01
5	Accommodation Services	0.14	0.00	0.00	0.00
6	Cotton Cloth	2.84	0.36	0.00	0.00
7	Hospitals Services	1.01	0.31	0.00	0.00
8	Water Supply	0.06	2.66	0.00	0.00
9	Education	2.13	0.05	0.00	0.00
10	Postal Services	0.01	0.00	0.00	0.00
11	Communication Services	1.65	0.00	0.00	0.00
12	Newspapers	0.02	0.00	0.00	0.00
13	Motor Vehicle Tax	0.02	0.00	0.00	0.00
14	Garbage Collection	0.01	0.00	0.00	0.00
15	Dental Services	0.02	0.00	0.00	0.00
Total		13.93			-3.54

Table A16: Distribution of Price Changes (YoY) - Selected Urban CPI Items: January 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	Gram Whole Yellow (Average Quality), Lemon	Fruit Juice Small Packet 250 Ml, Milk Tetra Pack 1 Litre (Milk Pak/Haleeb/Olper)	Tea Lipton Yellow Label 190 Gm Packet, Rice Irri-6/9 (Sindh/Punjab), Lactogen 400 Gm Packet	Tomatoes, Onions, Cardamom Small (Average Quality), Chilies (Green), Potatoes, Garlic (Lehsun), Cauliflower (Phool Gobhi), Pulse Moong (Washed), Turnip (Shalgham)
Alcoholic Beverages & Tobacco		Pan Prepared (Sweet With Beetle Nuts)		Cigarettes Capstan 20'S Packet, Cigarettes Gold Leaf 20'S Packet
Clothing & Footwear	Gents Shoes Paul Bata, Gents Sponge Chappal Bata, Ladies Sandal Bata, Ladies Sponge Chappal Bata, Gents Shoes Servis, Children Shoes Power Lite Bata	Socks Nylon Local (Average Quality), Pant Cloth Wash & Wear (Average Quality), Women Shalwar Kameez (Average Quality)	Tailoring Charges Awami Suit (Male), Washing Charges Shalwar Kameez, Shirt Boy Length 24"/26", Lawn Printed Gul Ahmed/Al Karam, Tailoring Charges Shirt (Men)	Gents Sandal Bata, Shoe Repair Full Sole, Heavy Weight Suiting Lawrance Pur (Average Quality), Georgette (Average Quality), Long Cloth 57" Gul Ahmed/Al Karam, Cheetah 50 Size 3-5 Servis, Dopatta Cotton (Average Quality), Pullover Gents Oxford/Bonanza, Linen
Housing, Water, Elect, Gas & other Fuels	Cement (Local) 50 Kg Bag, Gas Charges Upto 3.3719 Mmbtu	Cement Blocks (6"X8"X12")	Sand (Black Pit), Unskilled Labor Wage Rate, Charges For Refuse/Waste Collection, Mason Wage Rate, Plumber Wage Rate, Bajri, House Rent Combined, Firewood Whole	Gas Charges 6.7438 - 10.1157 Mmbtu, Gas Charges 10.1157 - 13.4876 Mmbtu, Gas Charges Combined, Gas Charges Above 13.4876 Mmbtu, Synthetic Enamel Ici Balti 3.64 Litre, Electricity Charges 51-100 Units, Electricity Charges 101-300 Units
Furnishing & Household Equip. Maintenance etc		Water Set (Omroc) 6 Glasses + Jug, Sofa Set Five Seater, Bed Sheet Double With Two Pillow Covers (Superior Quality)	Express Washing Powder 1 Kg Polybag, Split Air Conditioner Orient/Lg/Dawlance 1.5 Ton, Chair Sheesham Wood With Arm	Tube Light Philips 40 Watt, Robin Blue Liquid 75 Ml Bottle, Phenyl Tyfon/Finis 2.75 Litre Bottle, Geyser Super Asia Large Size 30 Gallons (Gas), Finis 400 Ml Bottle, Central Table Set With Glass Top
Health	Dental Extraction Fee, Physiotherapist Fee Per Visit, Hydryllin Syrup 120 Ml Bottle	Dental Surgeon Fee Per Visit, Entox Tablets, Glaxose-D 400 Gm Packet, Cost Of Surgery (C-Section)	Panadol Tablets Plain, Ecg Charges, Blood Test (Cp) Charges, Urine Test (Dr) Charges	Septran Tablets, Inderal Tablets 10 Mg, Daonil Tablets 5 Mg, Dettol Medium Bottle, Calpol Syrup 100 Ml Bottle, Cac 1000 Tablets Sandoz Bottle, Phenergan Syrup 120 Ml Bottle
Transport	Bus Fare Outside City (Non Ac)	Tire Motorcycle Cd 70 (Back Wheel), Car Tax 800 Cc To 1500 Cc, Air Fare Economy Class Per Kilometer (National Average)	Motorcycle Honda Cd 70, Bus Fare Outside City (Ac), Motorcycle Service Charges, Auto Rickshaw Fare, Car Suzuki 800 Cc Without AC	Suzuki Fare Maximum Within City, Car Honda Civic Turbo 1.5 Vtec, Bus Fare Maximum Within City, Petrol Super, Train Fare Business Class Per Person, Mini Bus Fare Maximum Within City, Car Toyota 1300 Cc Xli
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	Cable Charges, Newspaper Daily Jang, Mag The Weekly (Magazine)	Exercise Book (With Lines) 80 To 100 Pages, English Book Class Xi Complete Set, Recreational Park Charges (Minimum Playland Ticket)	Lead Pencil Goldfish, English Book Ba/B.Sc, Mathematics Book Class Xi (Text Book Board), Led Sony/Samsung 32" Colored, Pen Ink Dollar 57 Ml Bottle	English Book Class Ix And X, Akhbar-E-Jehan Weekly, Ballpoint Pen Local, Newspaper Daily Dawn, Urdu Book Class Xi/Inter, English Book Class Vi, Photostat Paper 70 Gm, Mathematics Book Class Ix And X (Text Book Board)
Education	Coaching Fee For Class Xi/Xii Commerce Group	Government College Fee First Year, Private Medical College/University Tuition Fee For Mbbs (1St Year)	Private School Fee English Medium Average Standard (Class V), Government University Fee M.S.C / M.A.	Government Medical College/University Tuition Fee For Mbbs (1St Year), Private School Fee English Medium Average Standard (Class I)
Restaurant & Hotels		Cooked Chicken At Average Hotel	Bread Tandoori Standard Size, Chicken Biryani Full/Double	Cooked Daal At Average Hotel, Cooked Beef At Average Hotel, Tea Prepared Ordinary
Miscellaneous		Trunk Medium Size (Average Quality), Artificial Jewelry (Locket Set) (Average Quality)	Tissue Paper Perfumed Box 100 Napkins, Shaving Charges, Hair Oil (Kala Kola Hair Tonic)	Gold Tezabi 24 Carett, Silver Tezabi 24 Carett, Pampers (Medium Size), Tooth Paste Colgate 75 Gm, Tooth Brush (Shield), Lipstick Swiss Miss/Medora (Medium)

Table A17: Distribution of Price Changes (YoY) - Selected Rural CPI Items: January 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	Gram Whole Yellow (Average Quality), Grapes (Angoor) (Average Quality)	Honey Marhaba Bottle 500 Gm, Nimko (Loose, Average Quality), Lemon	Tea Lipton Yellow Label 190 Gm Packet, Bananas (Kela) Local, Jam-E-Shireen Standard Size (800 Ml)	Peas (Matar), Tomatoes, Onions, Potatoes, Cauliflower (Phool Gobhi), Chilies (Green), Garlic (Lehsun), Pulse Moong (Washed), Carrot (Gajar), Turnip (Shalgham), Ginger (Adrak)
Alcoholic Beverages & Tobacco			Tobacco Hukka Twisted, Pan Prepared (Sweet With Beetle Nuts)	Cigarettes Capstan 20'S Packet, Cigarettes Gold Leaf 20'S Packet, Chewing Tobacco (Niswar)
Clothing & Footwear		Tailoring Charges Simple Suit (Female)	Linen, Ladies (Average Quality), Washing Charges Shalwar Kameez, Socks Nylon Local (Average Quality), Footware Gents Local (Average Quality)	Brassier (Average Quality), Full Pant Boy Length 24"/26", Shirt Boy Length 24"/26", Dopatta Cotton (Average Quality), Shoe Repair Full Sole, Lawn Printed (Average Quality), Long Cloth, School Uniform Girls (Kameez & Shalwar) 24"/26", Shoe Polish Charges
Housing, Water, Elect, Gas & other Fuels	Cement (Local) 50 Kg Bag	Charges For Refuse/Waste Collection	Painter Wage Rate, Carpenter Wage Rate, Electrician Charges, Bajri, House Rent Combined, Plumber Wage Rate	Water Charges Per House, Sand (Black Pit), Electricity Charges 51-100 Units, Unskilled Labor Wage Rate, Electricity Charges 101-300 Units, Electricity Charges Combined, Bricks New 1St Class, Electricity Charges Above 1000 Units
Furnishing & Household Equip, Maintenance etc		Readymade Quilt (3 Kg), Water Pump Golden Monoblock/Donkey 0.5 H.P	Water Set (Omroc) 6 Glass, Dinner Set Plastic 72 Pieces Super Quality, Sewing Machine (Sn) Without Cover	Tube Light Philips 40 Watt, Robin Blue Liquid 75 Ml Bottle, Aluminium Cooking Pan (Degchi), Washing Soap 250 Gm Cake (Specify Name), Express Washing Powder 1 Kg Polybag, Match Box
Health	Hydriyllin Syrup 120 Ml Bottle	Dental Surgeon Fee Per Visit, Cost Of Surgery (C-Section), Physiotherapist Fee Per Visit		Daonil Tablets 5 Mg, Cac 1000 Tablets Sandoz Bottle, Inderal Tablets 10 Mg, Amoxil Capsule 250 Mg, Doctor (Mbbs) Clinic Fee, Dettol Medium Bottle, Blood Test (Cp) Charges
Transport	Car Tax 800 Cc To 1500 Cc	Motorcycle Service Charges, Air Fare Economy Class Per Kilometer	Chingchi Rickshaw Charges, Minimum, Bicycle, Tire Cycle	Petrol Super, Hi-Speed Diesel, Train Fare Economy Per Person, Car Suzuki 800 Cc Without Ac, Tire Car Mehran Tubeless (General), Cng, Mobil Oil (Havoline 20W-50), Tire Motorcycle Cd 70 (Back Wheel)
Communication	Telephone Call Charges, Mobile Call Charges	Mobile Set With Rear Camera And Without Touch Screen		Postal Registration Charges, Internet Charges (Dsl) 1 Mb (Unlimited)
Recreation & Culture	Newspaper Daily Jang	English Books Class Xi Complete Set, Personal Computer With Led Monitor (17") Dell/Hp/Acer Core I5, Cable Charges	Ballpoint Pen Local, Lead Pencil Goldfish, Urdu Books Class Ix And X (Text Book Board), Urdu Books Class V (Text Book Board)	Pets Feed, English Books Class Vi, English Books Class Ix And X
Education	Vocational Training Basic Computer Short Course Fee (3 Months)	Coaching Fee For Class Ix/X Science Group	Private School Fee English Medium Average Standard (Class Vi)	
Restaurant & Hotels		Cooked Beef At Average Hotel, Pizza Chicken Medium Size (Average Quality)	Bread Tandoori Standard Size, Cooked Chicken At Average Hotel	Cooked Daal At Average Hotel, Tea Prepared Ordinary, Chicken Biryani Full/Double, Chicken Roast (Full) (Average Quality)
Miscellaneous		Hair Removing Cream (Eu-Cream) 30Ml Tube, Shampoo Sun Silk/Pantene 90 Ml Bottle	Tooth Brush (Shield), Tooth Paste Colgate 75 Gm, Hair Color (Kala Kola)	Gold Tezabi 24 Carett, Blade Treet Ordinary (10 No. Packet), Shaving Charges, Disposable Razor Gillette Blue Ii, Hair Cut Charges For Men

Table A18: Distribution of Price Changes (YoY) - WPI Items: January 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)
Agriculture Forestry & Fishery Products	Hides, Skins & Fur Skins, Raw, Raw Animal Materials / Wool	Fuel Wood In Logs, Fibre Crops	Fresh Fruits, Dry Fruits, Raw Milk From Bovine Animals	Edible Roots / Potatoes, Vegetables, Stimulant & Spice Crops, Cotton Seeds, Wheat, Sorghum / Jowar, Pulses, Poultry, Other Oil Seeds, Sugar Crops, Fish Live Fresh Or Chilled, Maize, Eggs, Millet / Bajra
Ores & Minerals, Electricity Gas & Water	Coal Not Agglomerated			Natural Gas Liquified, Electrical Energy, Salt & Pure Sodium Chloride
Food Products, Beverages and Tobacco, Textiles, Apparel and Leather Products	Vegetables & Fruit Juice, Nylon Yarn, Footwears, Tobacco Products	Other Fabrics, Sugar Confectionary, Other Food Products, Quilts, Blankets, Leather Without Hair	Ice Cream, Readymade Garments, Processed Liquid Milk, Cotton Yarn, Blended Yarn, Mineral Water, Coffee & Tea, Other Leather N.E.C, Fruit Juices, Hosiery Products, Beverages, Towels, Bed Sheets, Silk & Reyon Fabrics	Sugar Refined, Wheat Flour, Other Cereal Flour, Vegetable Ghee, Chocolate, Oil Cakes, Milk & Cream In Solid Form, Synthetic Carpets, Dairy Products N.E.C, Dried Fruits & Nuts, Vegetable Oils Refined, Woolen Carpets, Spices, Cotton Fabrics, Woven Fabrics, Meat Of Animals
Other Transportable Goods except Metal Products, Machinery and Equipments	Insecticides, Soaps & Detergents, Hard Board	Glass Sheets, Matches, Plastic Products, Timber, Cement	Auto Tyres, Ceramics & Sanitary Fixture, Bricks, Blocks & Tiles, Fertilizers, Mobil Oil, Chemicals, Pesticides, Paints & Varnishes	Dyeing Material, Motor Spirit, Bed Foam, Printing Paper, Medicines, Kerosine Oil, Steel Bar & Sheets, Diesel Oil, Furnace Oil, Other Glass Articles
Metal Product Machinery & Equipment	Vacuum Pumps, Engines & Motors, Concrete Mixture, Tractors	Radio & Television, Motorcycles, Chuff Cutter	Air Conditioners, Electric Wires, Lighting Equipments	Motor Vehicles, Pipe Fittings, Cultivators, Bicycles, Fridge, Washm, Sewm, Fans, Iron, Lathe Machines, Steel Products

Table A19: International Commodity Prices/Indices

	Oct-19	Nov-19	Dec-19	Jan-20
Energy				
Crude Oil (US\$ per barrel) *	70.9	74.6	76.9	74.5
Energy Index (2010 = 100)				
Food	424.0	421.0	432.0	451.0
Rice (\$/MT)	199.5	203.2	210.9	224.5
Wheat (\$/MT)	12.57	12.80	13.41	14.15
Sugar (US cent/ pound)^	591.4	683.4	769.9	834.9
Palm Oil (\$/MT)	770.8	774.9	820.6	873.7
Soybean Oil (\$/MT)				
Non-Food Non-Energy	73.88	74.86	75.83	79.07
Cotton Outlook 'A' Index #^	80.1	80.4	80.7	80.5
Metal Price Index (2010 = 100)	5,757.3	5,860.0	6,077.1	6,031.2
Copper (\$/MT)	1,726.0	1,774.8	1,771.4	1,773.1
Aluminum (\$/MT)	88.5	85.0	92.7	95.8
Iron Ore (\$ cents/dry MT)	16,603.4	16,335.5	17,141.1	17,029.2
Tin (\$/MT)	17,046.2	15,171.8	13,829.4	13,506.9
Nickel (\$/MT)	2,451.7	2,425.5	2,272.5	2,354.3
Zinc (\$/MT)	2,184.1	2,021.2	1,900.5	1,923.9
Lead (\$/MT)	24.3	26.1	24.9	24.6
Uranium (\$/MT)@	277.4	248.0	238.2	264.9
DAP (\$/MT)	237.0	224.5	217.5	215.4
Urea (\$/MT)	70.9	74.6	76.9	74.5

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

DAP: Diammonium Phosphate

Table A20: National CPI Data Series Original and Seasonally Adjusted				
Original Series				
Period	FY17	FY18	FY19	FY20
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	
Mar	106.14	109.96	119.46	
Apr	106.91	111.15	120.33	
May	106.36	111.65	121.05	
Jun	106.54	112.58	121.63	
Seasonally Adjusted Series				
Jul	102.87	106.83	113.95	123.51
Aug	102.45	106.97	113.59	125.54
Sep	102.84	107.69	113.57	126.54
Oct	103.35	108.37	115.44	128.19
Nov	103.90	109.13	115.32	129.92
Dec	104.36	110.20	116.12	130.80
Jan	104.71	110.20	116.32	133.25
Feb	105.89	110.59	118.03	
Mar	106.88	110.71	120.26	
Apr	106.86	111.09	120.26	
May	106.73	112.01	121.42	
Jun	106.85	112.89	121.93	

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	
Mar	106.18	110.43	120.29	
Apr	107.20	111.94	121.29	
May	106.86	112.53	122.11	
Jun	107.08	113.34	122.52	
Seasonally Adjusted Series				
Jul	102.75	107.22	114.42	124.40
Aug	102.28	107.47	114.11	126.27
Sep	102.68	108.03	114.16	127.40
Oct	103.16	108.62	116.29	128.93
Nov	103.74	109.39	116.26	130.28
Dec	104.25	110.61	117.13	131.23
Jan	104.87	110.58	117.40	133.15
Feb	106.00	111.02	119.02	
Mar	106.95	111.23	121.14	
Apr	107.04	111.77	121.10	
May	107.03	112.68	122.25	
Jun	107.26	113.51	122.67	

Table A22: Rural CPI Data Series Original and Seasonally Adjusted				
Original Series				
Period	FY17	FY18	FY19	FY20
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	
Mar	106.09	109.25	118.21	
Apr	106.47	109.95	118.89	
May	105.60	110.33	119.45	
Jun	105.73	111.44	120.29	
Seasonally Adjusted Series				
Jul	103.05	106.23	113.24	122.17
Aug	102.70	106.20	112.81	124.44
Sep	103.08	107.17	112.68	125.24
Oct	103.64	108.00	114.15	127.09
Nov	104.15	108.75	113.89	129.37
Dec	104.53	109.59	114.58	130.15
Jan	104.47	109.62	114.69	133.40
Feb	105.73	109.94	116.53	
Mar	106.76	109.94	118.94	
Apr	106.59	110.06	119.00	
May	106.28	111.01	120.16	
Jun	106.23	111.95	120.82	

Table A23: National CPI Monthly & Average Seasonal Factors					
Period	FY17	FY18	FY19	FY20	Average
Jul	100.29	100.30	100.29	100.28	100.29
Aug	100.34	100.32	100.30	100.28	100.31
Sep	100.38	100.33	100.29	100.25	100.31
Oct	100.82	100.78	100.76	100.76	100.78
Nov	100.75	100.75	100.75	100.75	100.75
Dec	99.73	99.75	99.75	99.74	99.74
Jan	99.83	99.83	99.82	99.83	99.83
Feb	99.19	99.21	99.23		99.21
Mar	99.31	99.32	99.33		99.32
Apr	100.04	100.05	100.06		100.05
May	99.65	99.68	99.70		99.68
Jun	99.71	99.73	99.75		99.73

Table A24: Urban CPI Monthly & Average Seasonal Factors					
Period	FY17	FY18	FY19	FY20	Average
Jul	100.44	100.46	100.45	100.44	100.45
Aug	100.44	100.43	100.41	100.40	100.42
Sep	100.37	100.32	100.29	100.25	100.33
Oct	100.69	100.66	100.64	100.64	100.67
Nov	100.59	100.59	100.59	100.59	100.59
Dec	99.52	99.53	99.52	99.50	99.51
Jan	99.73	99.73	99.72	99.72	99.73
Feb	99.17	99.19	99.21		99.18
Mar	99.28	99.28	99.30		99.28
Apr	100.15	100.15	100.16		100.15
May	99.84	99.87	99.89		99.85
Jun	99.83	99.85	99.88		99.84

Table A25: Rural CPI Monthly & Average Seasonal Factors					
Period	FY17	FY18	FY19	FY20	Average
Jul	100.07	100.07	100.05	100.04	100.06
Aug	100.19	100.16	100.13	100.10	100.15
Sep	100.40	100.35	100.30	100.25	100.32
Oct	101.00	100.97	100.95	100.94	100.97
Nov	100.99	100.99	101.00	101.00	101.00
Dec	100.06	100.09	100.10	100.10	100.09
Jan	99.97	99.98	99.99	100.01	99.99
Feb	99.22	99.24	99.27		99.24
Mar	99.37	99.38	99.39		99.38
Apr	99.89	99.90	99.91		99.90
May	99.36	99.39	99.41		99.39
Jun	99.53	99.55	99.56		99.55

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	
Mar	1.05	0.22	2.00	
Apr	0.72	1.08	0.73	
May	-0.52	0.46	0.60	
Jun	0.17	0.83	0.48	
Seasonally Adjusted Series				
Jul	0.84	-0.02	0.94	1.29
Aug	-0.41	0.13	-0.32	1.64
Sep	0.38	0.67	-0.02	0.79
Oct	0.50	0.64	1.64	1.31
Nov	0.54	0.70	-0.10	1.35
Dec	0.44	0.97	0.70	0.68
Jan	0.34	0.00	0.18	1.87
Feb	1.12	0.36	1.47	
Mar	0.93	0.11	1.89	
Apr	-0.01	0.34	0.00	
May	-0.12	0.83	0.96	
Jun	0.11	0.78	0.43	

Table A27: Urban CPI (Month-on-Month) Original & Seasonally Adjusted Series				
Original Series				
Period	FY17	FY18	FY19	FY20
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	
Mar	1.01	0.28	1.87	
Apr	0.96	1.37	0.83	
May	-0.32	0.53	0.68	
Jun	0.21	0.72	0.34	
Seasonally Adjusted Series				
Jul	0.84	-0.04	0.80	1.41
Aug	-0.45	0.23	-0.28	1.50
Sep	0.39	0.52	0.05	0.89
Oct	0.46	0.55	1.86	1.20
Nov	0.57	0.71	-0.03	1.05
Dec	0.48	1.11	0.75	0.73
Jan	0.60	-0.02	0.23	1.46
Feb	1.07	0.40	1.38	
Mar	0.90	0.18	1.78	
Apr	0.08	0.49	-0.03	
May	-0.01	0.81	0.95	
Jun	0.21	0.74	0.35	

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	
Mar	1.12	0.13	2.19	
Apr	0.36	0.64	0.58	
May	-0.82	0.35	0.47	
Jun	0.12	1.01	0.70	
Seasonally Adjusted Series				
Jul	0.85	0.00	1.15	1.12
Aug	-0.34	-0.03	-0.38	1.85
Sep	0.36	0.91	-0.12	0.64
Oct	0.55	0.78	1.30	1.48
Nov	0.49	0.69	-0.22	1.80
Dec	0.37	0.77	0.61	0.60
Jan	-0.06	0.03	0.09	2.50
Feb	1.21	0.30	1.61	
Mar	0.98	-0.01	2.06	
Apr	-0.16	0.12	0.05	
May	-0.29	0.86	0.98	
Jun	-0.05	0.85	0.55	

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

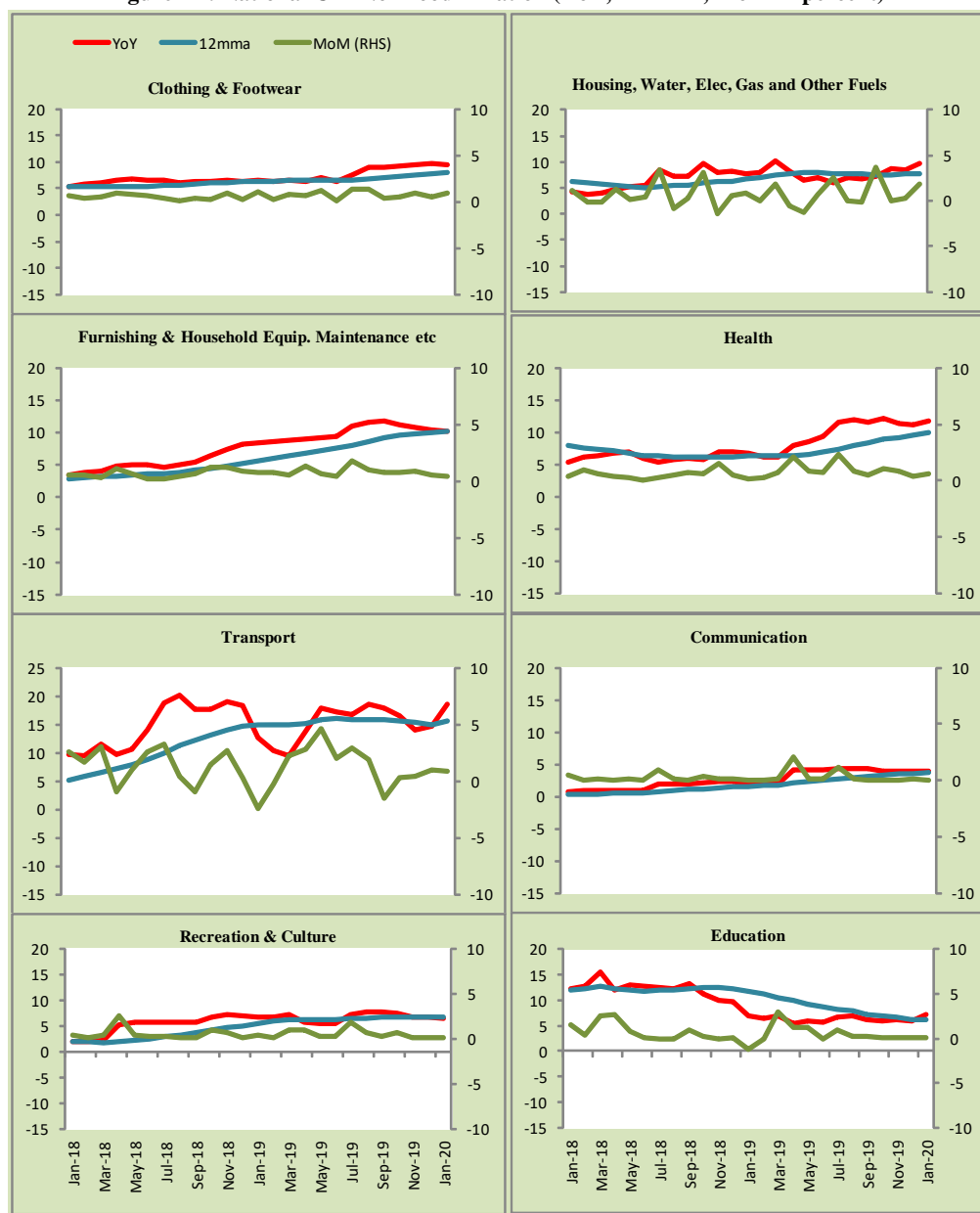


Figure A2: Urban CPI Non-food Inflation (YoY, 12MMA, MoM in percent)



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

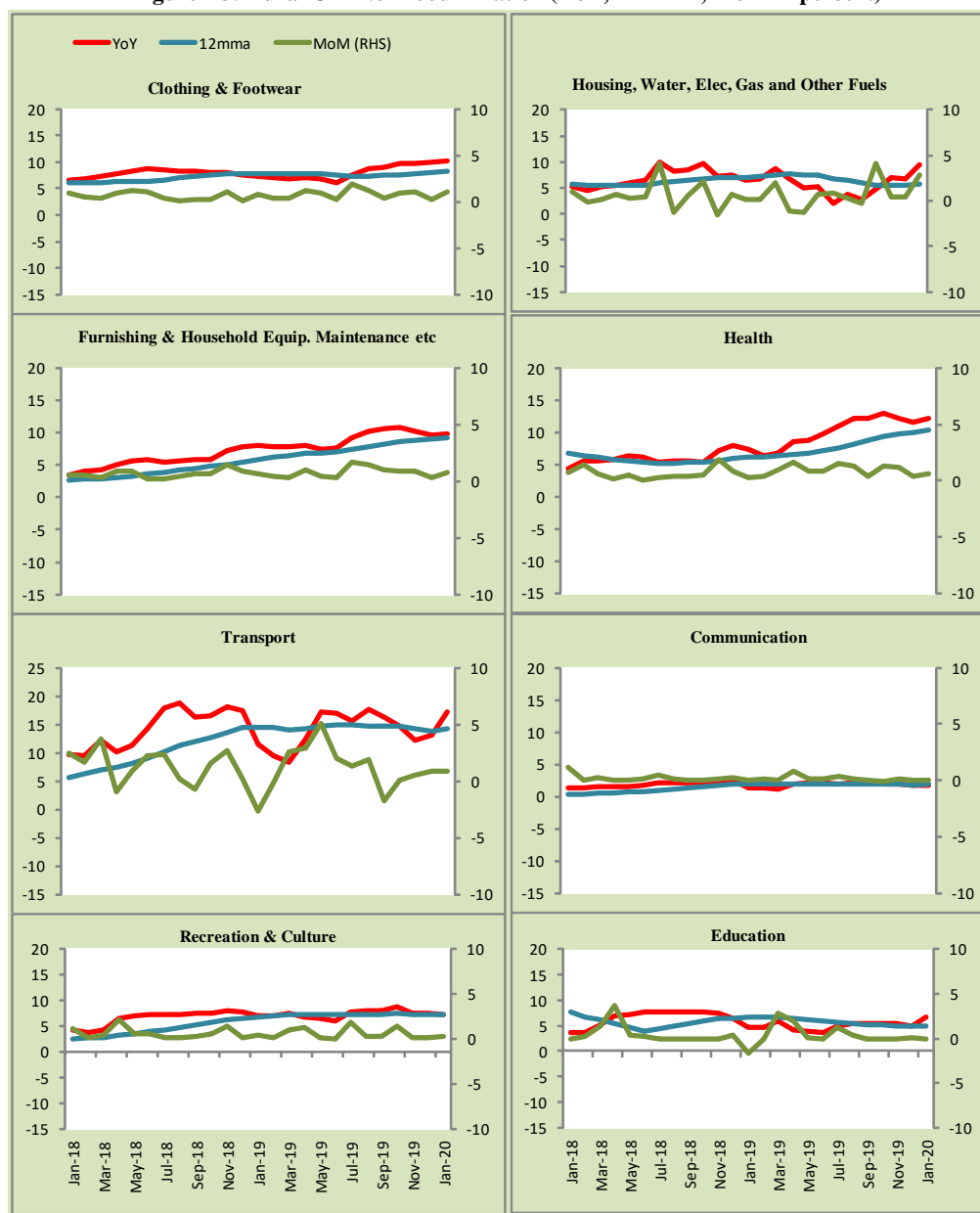
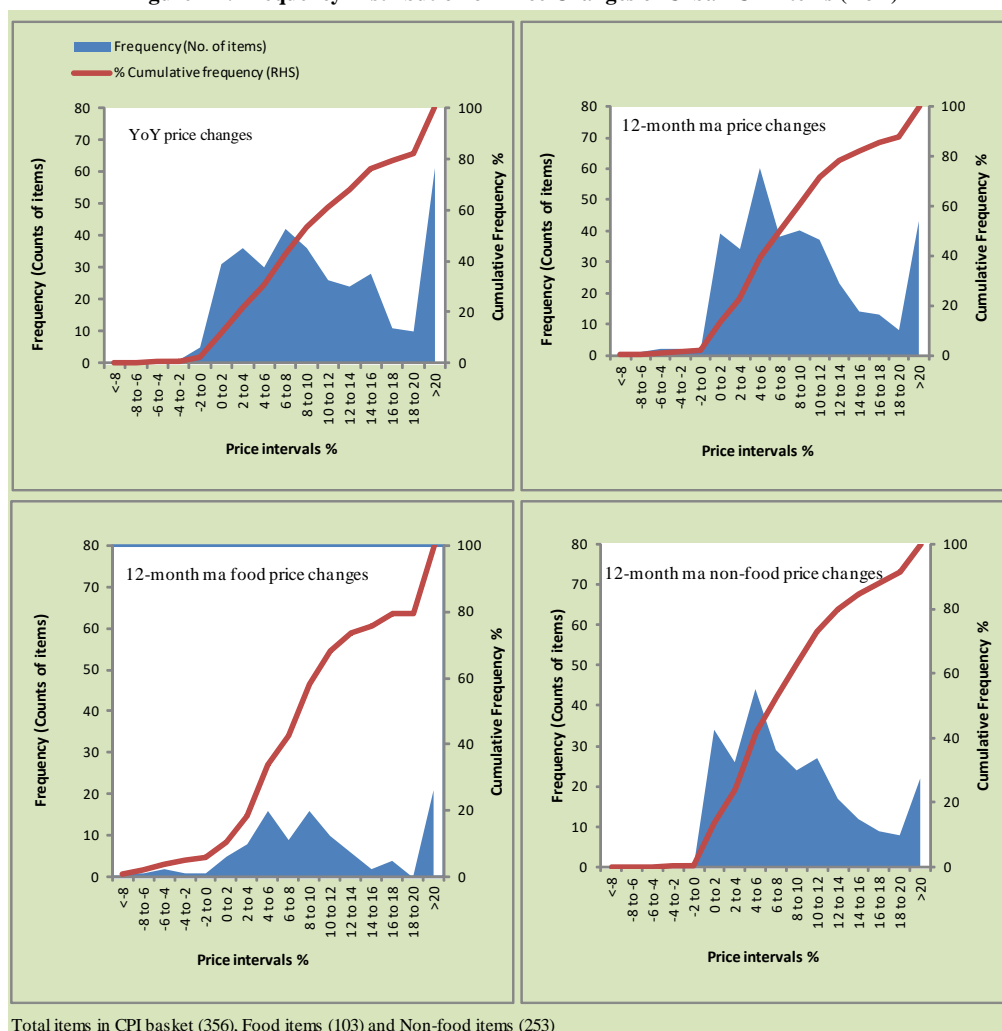
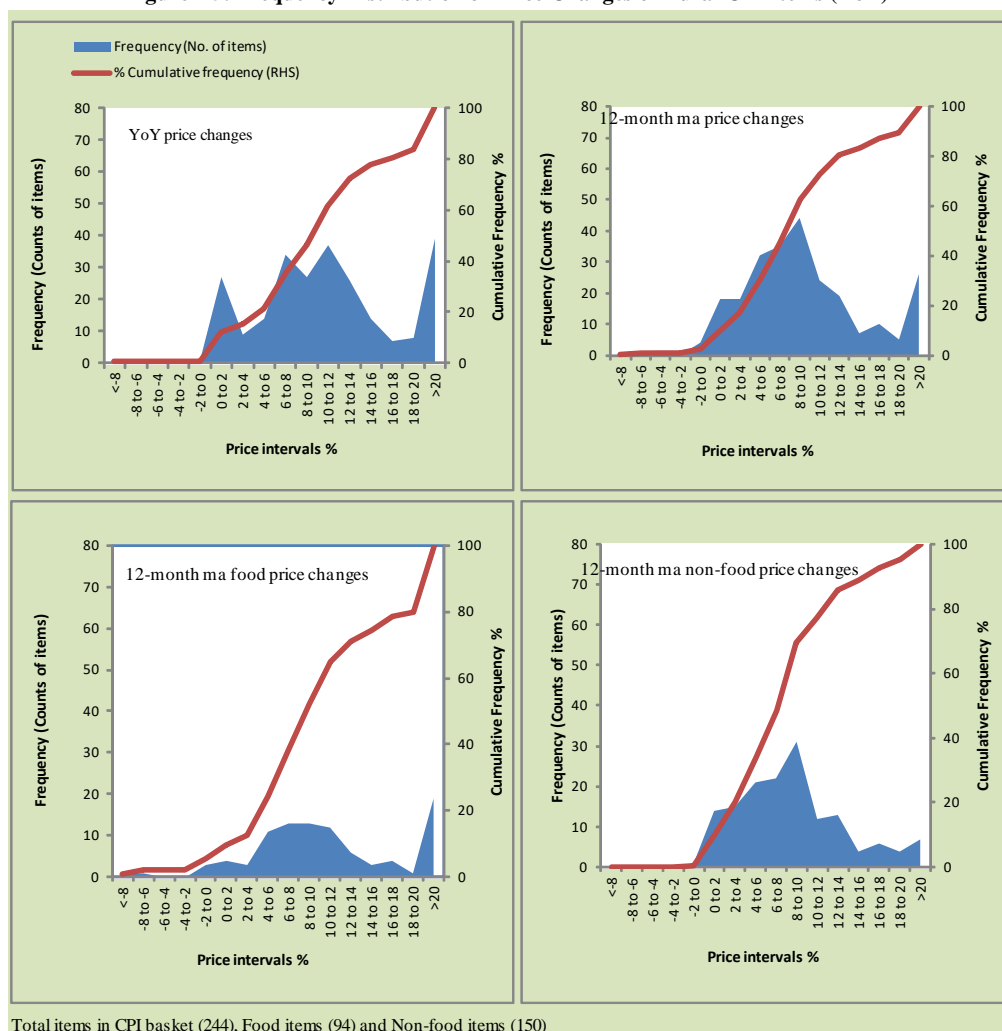


Figure A4: Frequency Distribution of Price Changes of Urban CPI Items (YoY)



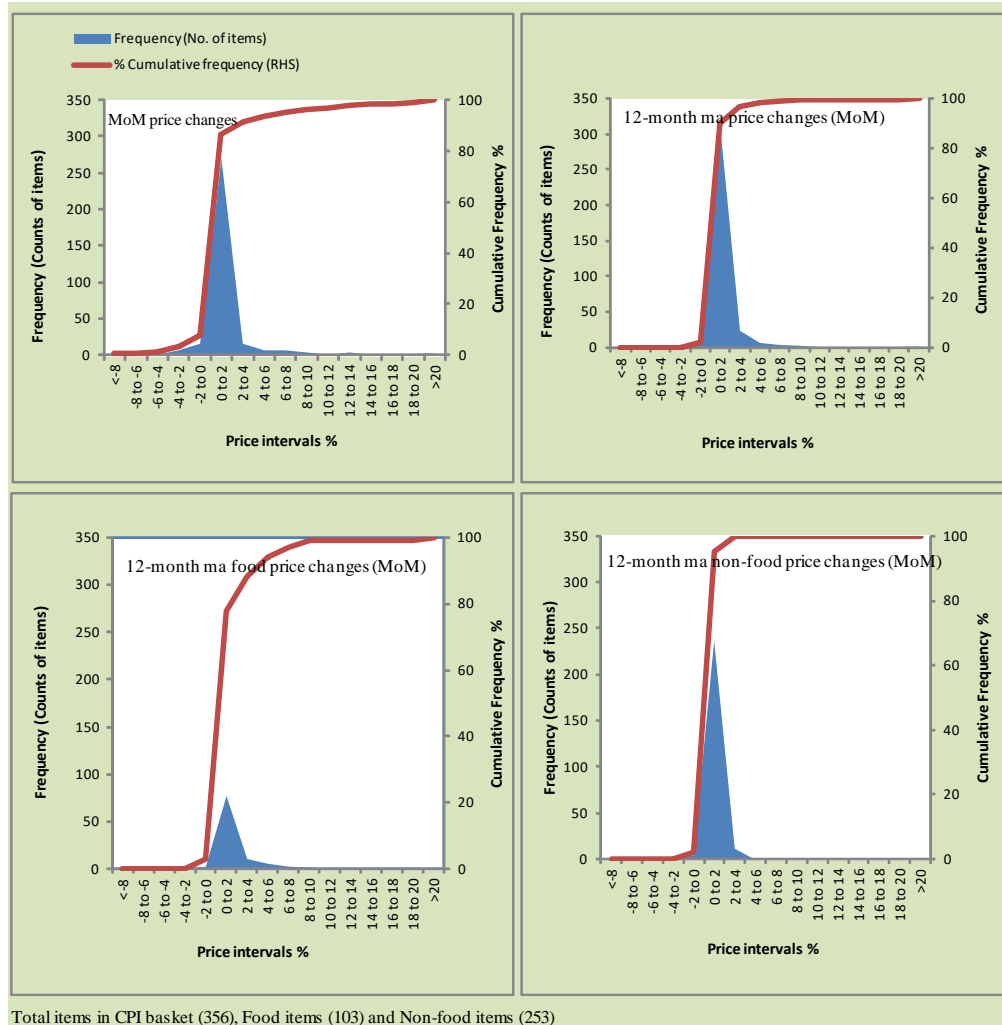
Total items in CPI basket (356), Food items (103) and Non-food items (253)

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



Total items in CPI basket (244), Food items (94) and Non-food items (150)

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)

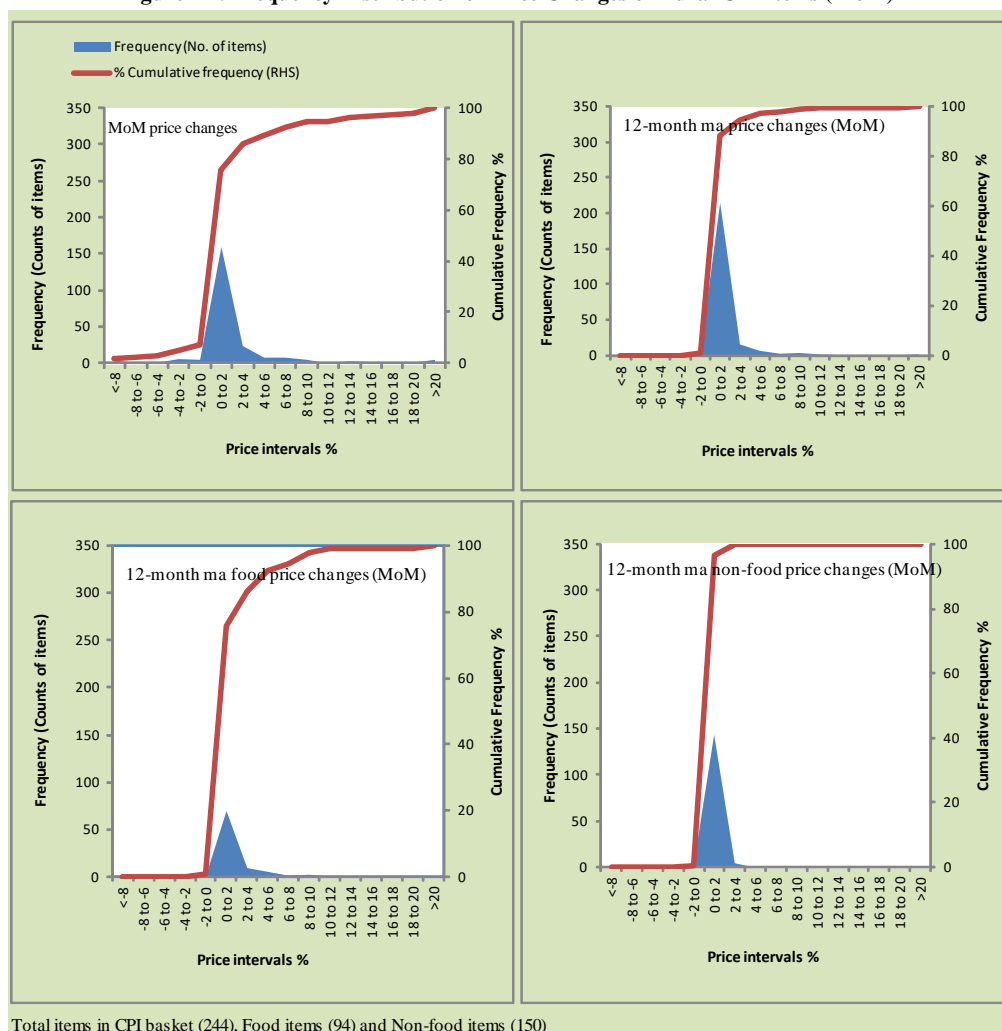
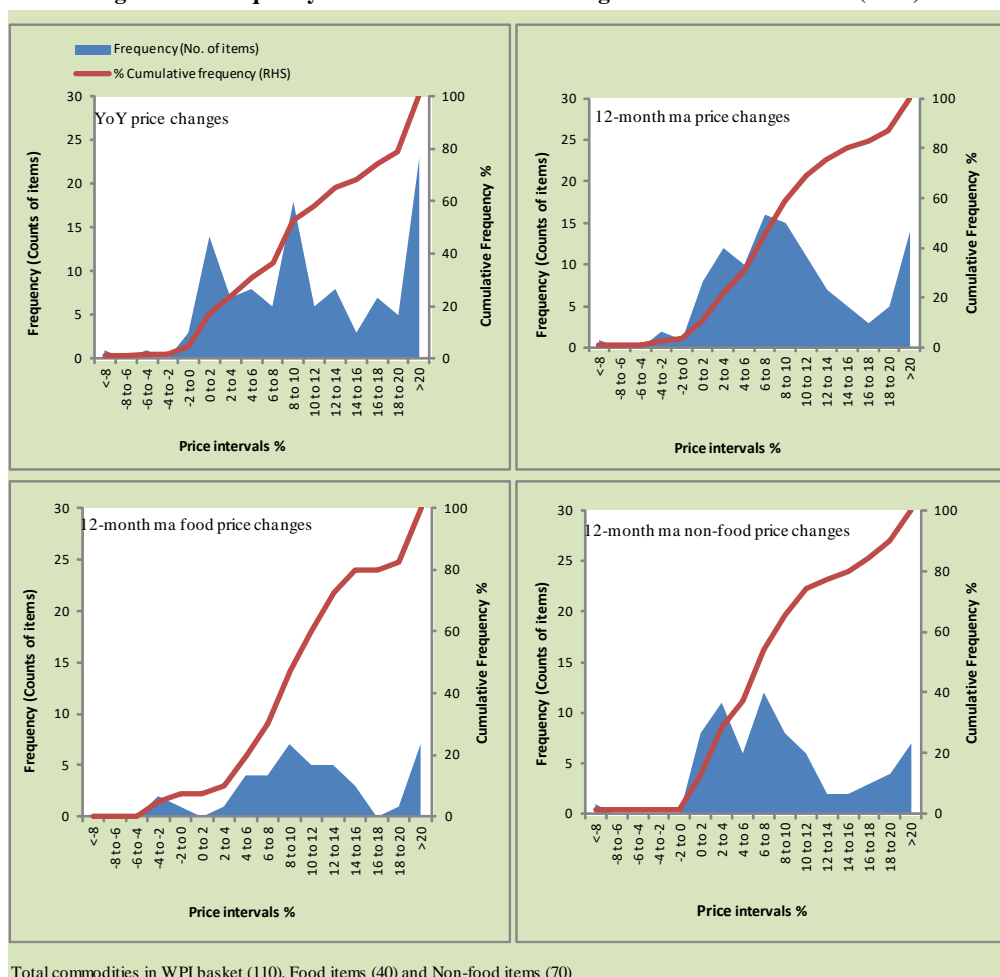


Figure A8: Frequency Distribution of Price Changes of WPI Commodities (YoY)



Total commodities in WPI basket (110), Food items (40) and Non-food items (70)

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^{th} item to the overall inflation

$$\alpha_{it-12} = \frac{I_{it-12}}{I_{t-12}}; \text{ i.e. ratio of item's index to overall index in the}$$

reference month

w_i : Weights of i^{th} item

π_{it} : Inflation of i^{th} item

π_t : Overall inflation

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

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

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:

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

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 constant¹.

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 analysis² suggests that IDI is a leading indicator for Pakistan’s YoY inflation.

¹ 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.

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