

Inflation Monitor

December 2019

(New Base: 2015-16)



State Bank of Pakistan

Statistics & DWH Department

ISSN 1992-8327 (print)

ISSN 1992-8335 (online)

The analysis in this document is based on data

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

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

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Review

1. Inflation in Brief

- a) National CPI inflation (2015-16=100) is recorded at 12.6 percent on year-on-year basis in December 2019 as compared to 12.7 percent in the previous month and 5.4 percent during the corresponding month of last year.
- b) National CPI inflation on month-on-month basis is recorded at -0.3 percent in December 2019 as compared to 1.3 percent in the previous month and was at same level during the corresponding month of last year. Seasonally adjusted month-on-month CPI inflation is recorded at 0.59 percent in December 2019 compared to 1.29 percent in the previous month.
- c) Urban CPI inflation (2015-16=100) is recorded at 12.0 percent on year-on-year basis in December 2019 as compared to 12.1 percent in the previous month and 5.9 percent during the corresponding month of last year.
- d) Urban CPI inflation on month-on-month basis is recorded at -0.4 percent in December 2019 as compared to 1.0 percent in the previous month and was at same level during the corresponding month of last year. Seasonally adjusted month-on-month Urban CPI inflation is recorded at 0.60 percent in December 2019 compared to 0.99 percent in the previous month.
- e) Rural CPI inflation (2015-16=100) is recorded at 13.6 percent on year-on-year basis in December 2019 and was at same level 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 -0.3 percent in December 2019 as compared to 1.9 percent in the previous month and was at same level during the corresponding month of last year. Seasonally adjusted month-on-month Rural CPI inflation is recorded at 0.57 percent in December 2019 compared to 1.74 percent in the previous month.

- g) Urban Core inflation (trimmed) on year-on-year basis is recorded at 9.5 percent in December 2019 as compared to 9.6 percent in the previous month and 6.8 percent during the corresponding month of last year.
- h) On month-on-month basis, the Urban Core inflation (trimmed) is recorded at 0.2 percent in December 2019 as compared to 0.4 percent in the previous month and 0.3 percent during the corresponding month of last year.
- i) Rural Core inflation (trimmed) on year-on-year basis is recorded at 10.8 percent in December 2019 as compared to 10.7 percent in the previous month and 6.6 percent during the corresponding month of last year.
- j) On month-on-month basis, the Rural Core inflation (trimmed) is recorded at 0.3 percent in December 2019 as compared to 0.7 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 7.5 percent in December 2019 and was at same level in the previous month. It was 7.8 percent during the corresponding month of last year.
- l) Urban Core (NFNE) inflation on month-on-month basis recorded at 0.4 percent in December 2019 as compared to 0.3 percent in the previous month and was at same level during the corresponding month of last year.
- m) Rural Core (NFNE) inflation on year-on-year basis is recorded at 8.1 percent in December 2019 as compared to 8.4 percent in the previous month and 7.4 percent during the corresponding month of last year.
- n) Rural Core (NFNE) inflation on month-on-month basis recorded at 0.3 percent in December 2019 as compared to 0.5 percent in the previous month and during the corresponding month of last year.

- o) WPI inflation on year-on-year basis recorded at 12.4 percent in December 2019 as compared to 11.2 percent in the previous month and 16.5 percent during the corresponding month of last year.
- p) WPI inflation on month-on-month basis recorded at -0.3 percent in December 2019 as compared to -0.8 percent in the previous month. It was -1.3 percent in the corresponding month of last year.
- q) SPI inflation on year-on-year basis recorded at 18.2 percent in December 2019 as compared to 19.5 percent in the previous month. It was 5.4 percent in the corresponding month of last year.
- r) SPI inflation on month-on-month basis recorded at -1.3 percent in December 2019 as compared to 2.7 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.

		Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19
Headline	National	5.4	5.6	6.8	8.6	8.3	8.4	8.0	8.4	10.5	11.4	11.0	12.7	12.6
	Urban	5.9	6.2	7.2	8.9	8.4	8.5	8.1	8.7	10.6	11.6	10.9	12.1	12.0
	Rural	4.6	4.6	6.0	8.2	8.1	8.3	7.9	7.9	10.3	11.1	11.3	13.6	13.6
Food	Urban	0.6	2.6	5.9	8.8	8.3	9.0	7.5	7.9	11.9	15.0	13.7	16.6	16.7
	Rural	0.5	1.8	5.2	9.3	9.3	9.7	9.1	9.3	12.6	15.0	14.6	19.3	19.7
Core	Urban	7.8	7.1	7.1	7.2	7.0	7.2	7.3	8.2	8.5	8.4	7.7	7.5	7.5
	Rural	7.4	6.6	6.4	6.5	6.8	6.8	6.7	7.8	8.8	8.9	8.6	8.4	8.1

Source: Pakistan Bureau of Statistics and SBP staff estimates

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Inflation Monitor, December 2019

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

		Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19
Headline	National	-0.3	0.3	0.9	2.0	0.7	0.6	0.5	1.8	1.6	0.8	1.8	1.3	-0.3
	Urban	-0.3	0.4	0.9	1.9	0.8	0.7	0.3	2.0	1.5	0.7	1.6	1.0	-0.4
	Rural	-0.3	0.0	0.9	2.2	0.6	0.5	0.7	1.6	1.9	0.8	2.2	1.9	-0.3
Food	Urban	-1.8	0.3	2.3	2.5	1.3	1.3	-0.3	1.0	3.1	2.0	1.4	2.4	-1.7
	Rural	-1.4	0.0	1.7	3.3	0.6	0.6	0.7	1.7	2.9	1.8	2.6	3.4	-1.1
Core	Urban	0.4	0.7	0.2	0.8	1.1	0.5	0.2	1.8	0.4	0.4	0.5	0.3	0.4
	Rural	0.5	0.2	0.2	0.6	1.2	0.4	0.3	2.0	1.0	0.3	0.7	0.5	0.3

Source: Pakistan Bureau of Statistics and SBP staff estimates

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Heat-map of National CPI inflation (YoY)

	Weights	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19
National	100.00	5.4	5.6	6.8	8.6	8.3	8.4	8.0	8.4	10.5	11.4	11.0	12.7	12.6
Food and non-alcoholic Beverages	34.58	-0.6	1.4	5.4	9.4	9.1	9.9	8.4	8.3	12.6	15.8	15.0	19.4	19.7
Alcoholic Beverages, Tobacco	1.02	15.7	15.6	14.3	12.7	11.7	11.9	17.3	29.3	29.8	30.0	20.3	18.7	18.3
Clothing and footwear	8.60	6.3	6.6	6.4	6.7	6.4	6.9	6.4	7.5	8.9	8.9	9.3	9.4	9.7
Housing, water, Elec., Gas and other fuels	23.63	8.1	7.8	7.9	10.1	8.1	6.5	6.9	6.1	7.1	6.6	7.2	8.8	8.5
Furnishing and household equipment maintenance	4.10	8.1	8.4	8.6	8.8	9.1	9.1	9.3	11.0	11.6	11.7	11.3	10.8	10.4
Health	2.79	7.1	6.8	6.1	6.3	8.1	8.7	9.4	11.6	11.9	11.7	12.2	11.4	11.3
Transport	5.91	18.4	12.6	10.4	9.6	13.7	17.8	17.2	16.8	18.5	17.8	16.5	14.0	14.7
Communication	2.21	2.4	2.0	2.0	2.0	4.1	4.0	4.1	4.3	4.3	4.3	4.0	4.0	4.0
Recreation and culture	1.59	6.9	6.8	6.7	7.3	5.7	5.5	5.5	7.1	7.7	7.8	7.4	6.8	6.7
Education	3.79	9.8	6.9	6.4	6.9	5.4	5.9	5.8	6.8	6.9	6.2	6.0	6.1	6.0
Restaurants and hotels	6.92	5.8	5.2	4.8	5.0	5.0	4.2	4.0	5.8	6.2	6.1	6.0	6.4	6.1
Misc. goods and services	4.87	8.5	8.4	9.0	9.2	8.9	8.6	9.4	10.8	13.2	13.4	12.5	11.8	10.7

Source: Pakistan Bureau of Statistics and SBP staff estimates

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Heat-map of Urban CPI inflation (YoY)

	Weights	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19
Urban	100.00	5.9	6.2	7.2	8.9	8.4	8.5	8.1	8.7	10.6	11.6	10.9	12.1	12.0
Food and non-alcoholic Beverages	30.42	-0.7	1.8	5.9	9.4	8.7	9.7	7.7	7.7	12.6	16.3	15.0	18.6	18.8
Alcoholic Beverages, Tobacco	0.85	18.0	17.2	14.6	11.4	10.9	10.8	16.3	28.4	28.5	28.7	18.5	16.7	16.6
Clothing and footwear	8.01	5.3	6.2	5.9	6.5	5.8	7.0	6.8	7.5	9.1	9.0	9.0	9.1	9.6
Housing, water, Elec., Gas and other fuels	27.03	8.4	8.4	8.5	10.7	8.8	7.2	7.6	7.9	8.6	8.4	8.2	9.6	9.4
Furnishing and household equipment maintenance	4.09	8.3	8.6	9.2	9.4	9.8	10.2	10.5	12.3	12.4	12.5	11.6	11.2	11.0
Health	2.31	6.2	6.1	5.8	5.7	7.7	8.5	9.0	12.1	11.7	11.1	11.2	10.5	10.9
Transport	6.14	19.1	13.2	11.0	10.3	14.5	18.2	17.4	17.5	19.0	18.6	17.5	15.0	15.6
Communication	2.35	2.4	2.4	2.4	2.5	5.3	5.2	5.2	5.7	5.5	5.6	5.2	5.1	5.3
Recreation and culture	1.73	6.4	6.7	6.5	7.2	5.1	5.1	5.3	6.8	7.5	7.7	6.7	6.5	6.3
Education	4.88	10.8	7.5	7.0	7.2	5.7	6.4	6.4	7.3	7.4	6.4	6.2	6.3	6.3
Restaurants and hotels	7.41	6.3	5.3	5.0	5.4	5.2	4.5	4.5	5.4	5.0	5.0	4.9	5.2	4.9
Misc. goods and services	4.77	8.7	8.7	9.8	10.0	9.3	8.8	9.7	10.8	12.6	13.1	12.0	11.0	10.1

Source: Pakistan Bureau of Statistics and SBP staff estimates

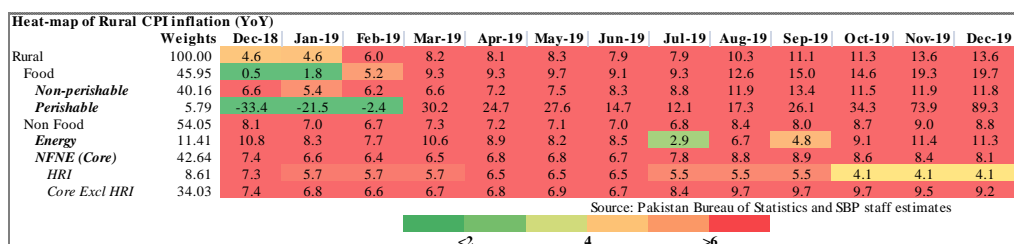
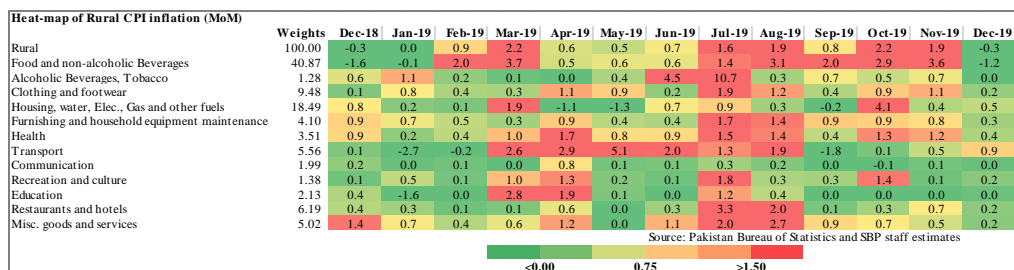
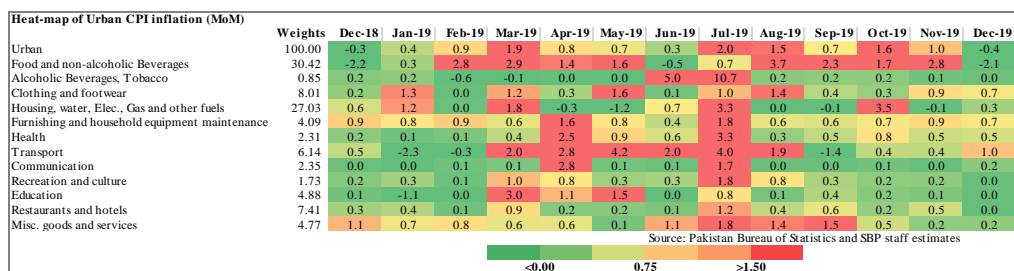
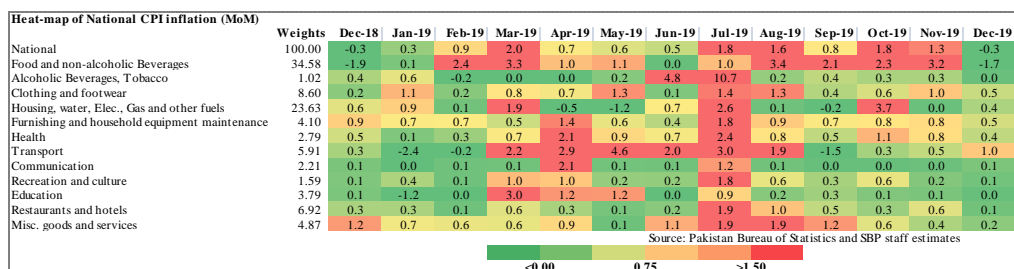
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Heat-map of Rural CPI inflation (YoY)

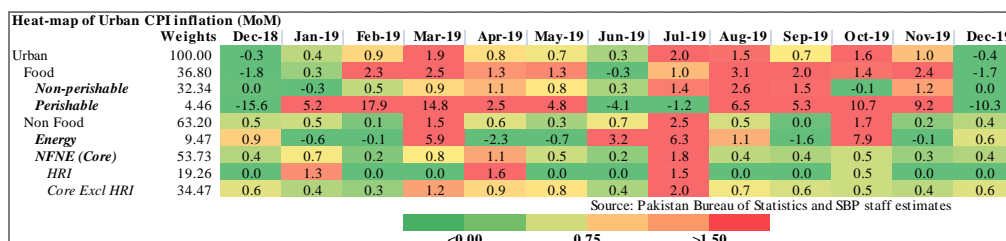
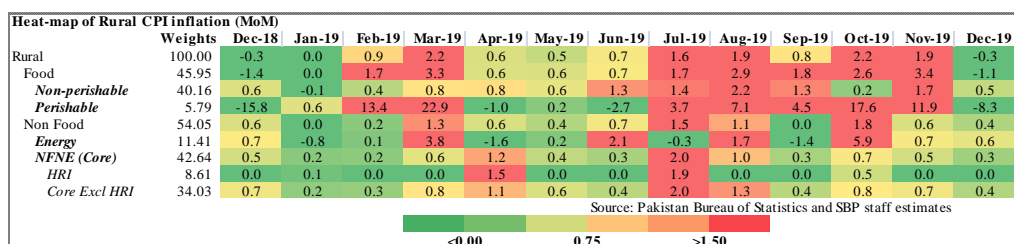
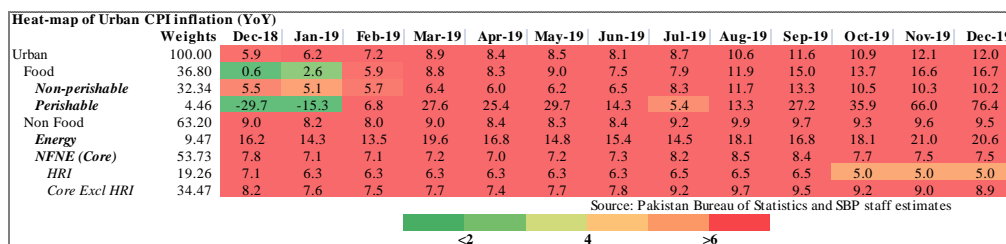
	Weights	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19
Rural	100.00	4.6	4.6	6.0	8.2	8.1	8.3	7.9	7.9	10.3	11.1	11.3	13.6	13.6
Food and non-alcoholic Beverages	40.87	-0.5	1.0	4.8	9.5	9.5	10.1	9.3	8.9	12.6	15.3	15.1	20.3	20.8
Alcoholic Beverages, Tobacco	1.28	13.1	13.8	14.0	14.2	12.6	13.3	18.4	30.4	31.3	31.4	22.4	21.0	20.2
Clothing and footwear	9.48	7.4	7.2	7.0	6.9	7.1	6.9	6.0	7.5	8.7	8.9	9.7	9.8	9.9
Housing, water, Elec., Gas and other fuels	18.49	7.4	6.5	6.7	8.6	6.6	5.0	5.3	2.0	3.7	2.8	4.9	6.9	6.6
Furnishing and household equipment maintenance	4.10	7.8	8.0	7.8	7.8	8.0	7.4	7.6	9.1	10.2	10.5	10.9	10.2	9.6
Health	3.51	8.0	7.5	6.4	6.9	8.5	8.9	9.8	11.1	12.2	12.2	13.1	12.3	11.7
Transport	5.56	17.3	11.5	9.5	8.3	12.5	17.2	16.9	15.7	17.6	16.4	14.7	12.2	13.1
Communication	1.99	2.5	1.5	1.4	1.2	2.0	2.1	2.1	2.0	2.1	2.0	2.0	1.9	1.7
Recreation and culture	1.38	7.7	7.0	6.9	7.5	6.7	6.4	5.9	7.7	8.0	8.0	8.9	7.4	7.5
Education	2.13	6.4	4.7	4.5	5.9	4.1	3.9	3.6	4.9	5.3	5.3	5.3	5.3	5.0
Restaurants and hotels	6.19	5.0	5.0	4.6	4.3	4.4	3.6	2.9	6.4	8.1	8.1	8.0	8.5	8.3
Misc. goods and services	5.02	8.2	7.9	7.8	8.0	8.4	8.3	9.0	10.7	14.1	13.9	13.2	12.9	11.6

Source: Pakistan Bureau of Statistics and SBP staff estimates

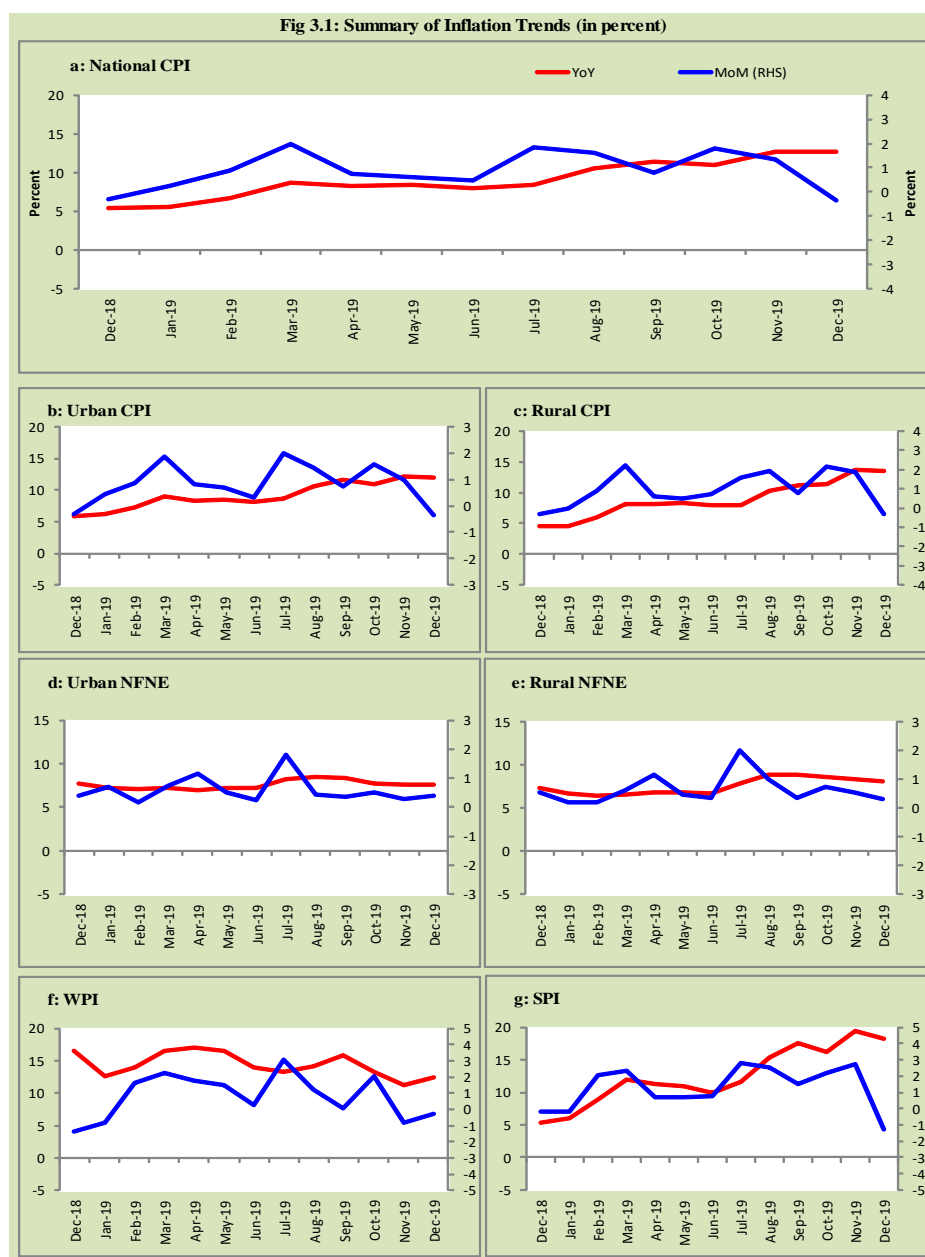
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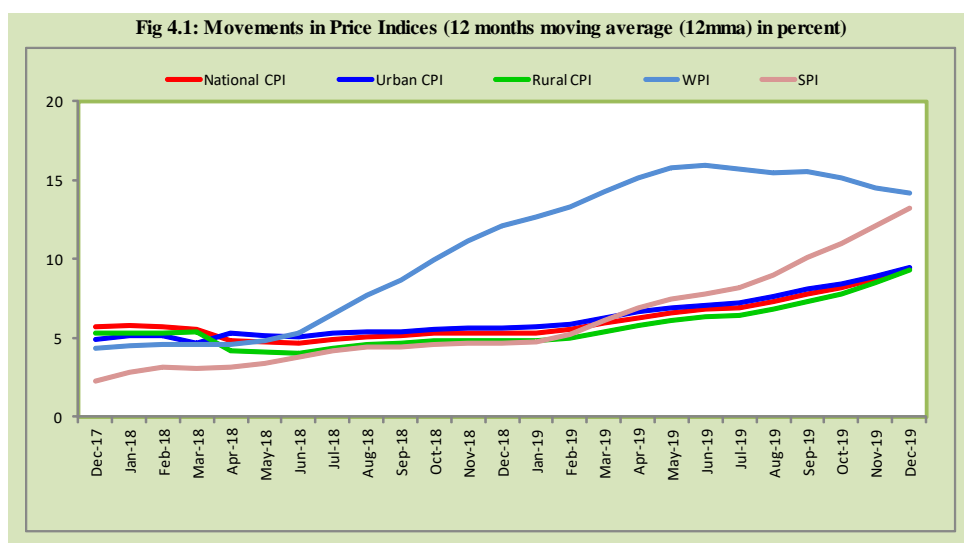
Inflation Monitor, December 2019



3. Trends in Inflation



4. Movement in Price Indices (Moving Averages)



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

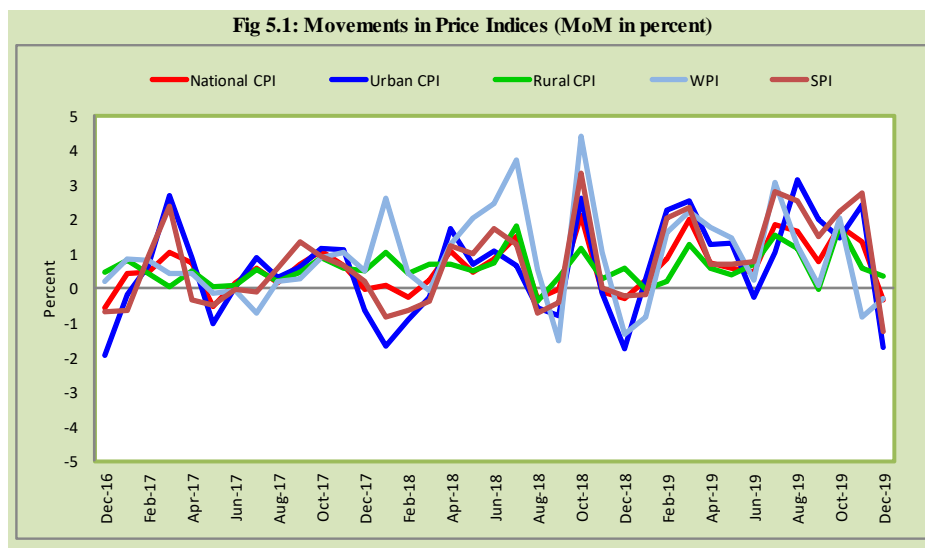


Fig 5.2: Movements in Price Indices (MoM in percent) - Urban CPI Basket

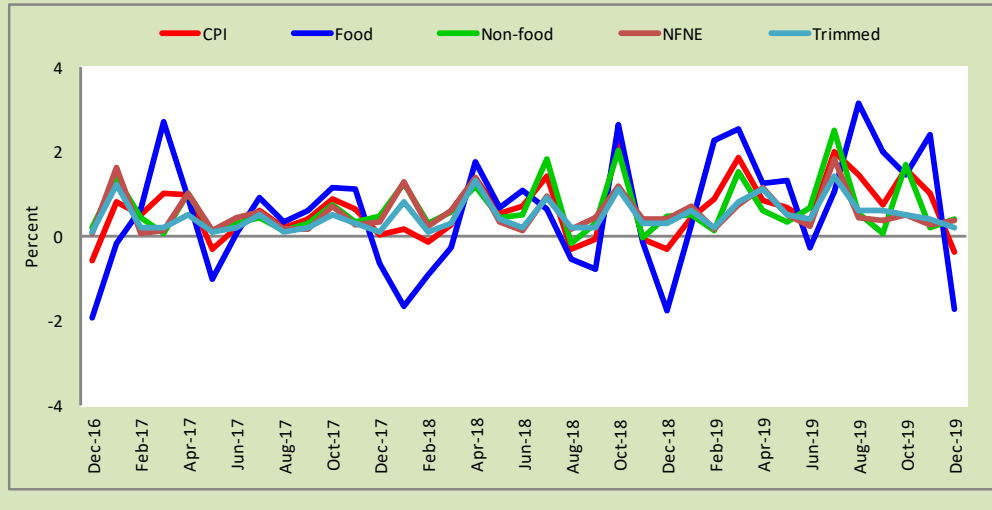
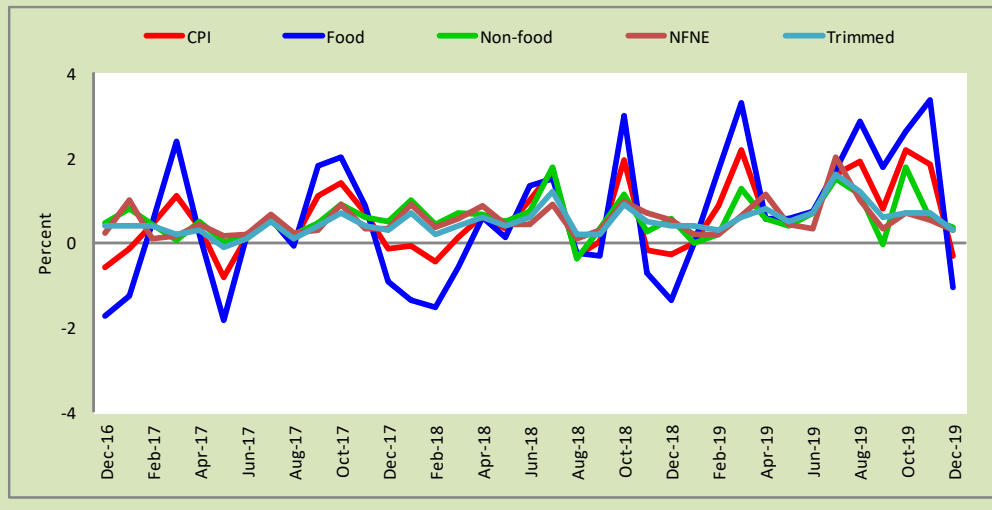
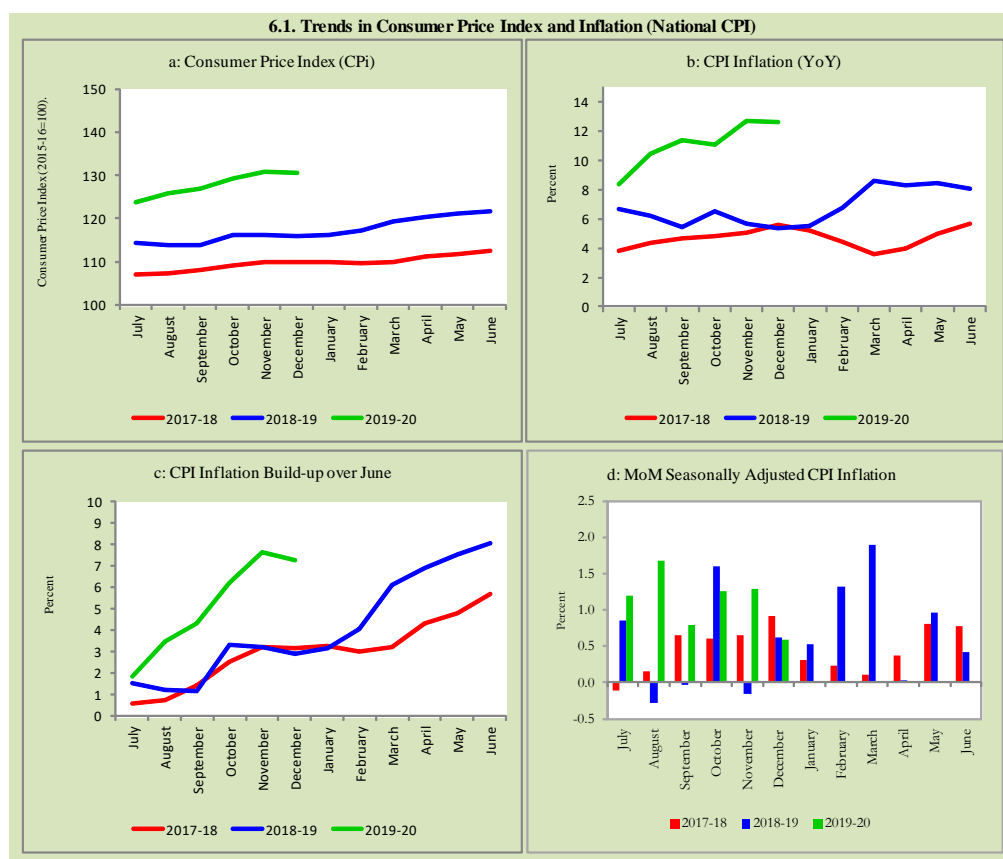


Fig 5.3: Movements in Price Indices (MoM in percent) - Rural CPI Basket

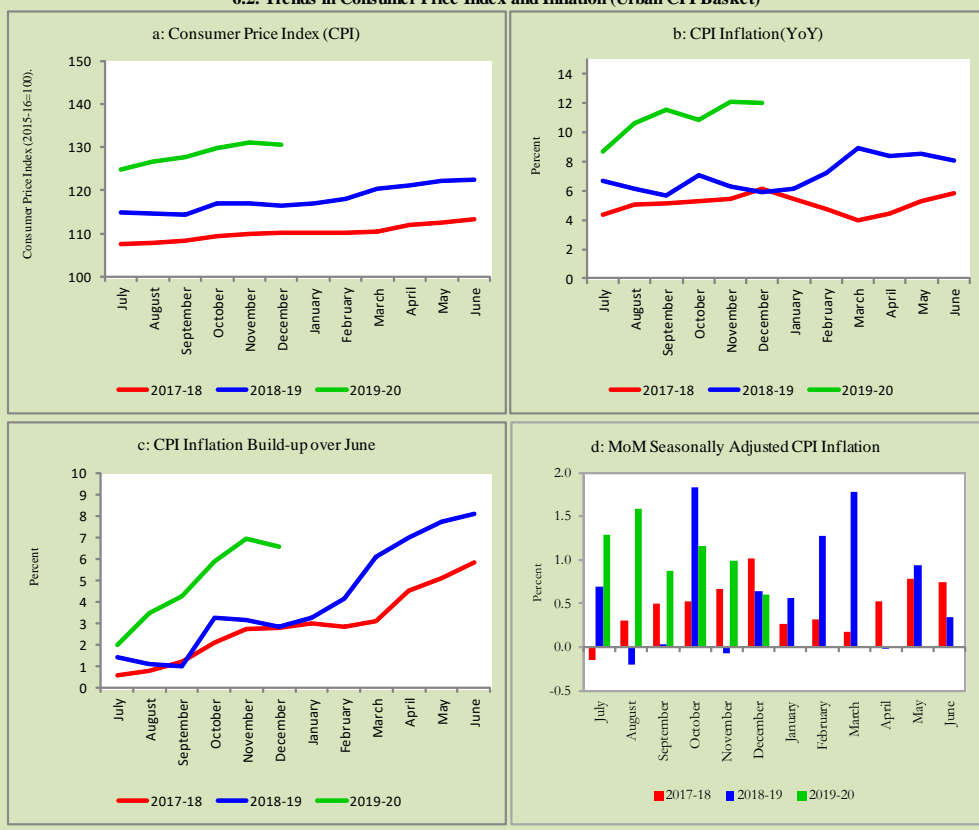


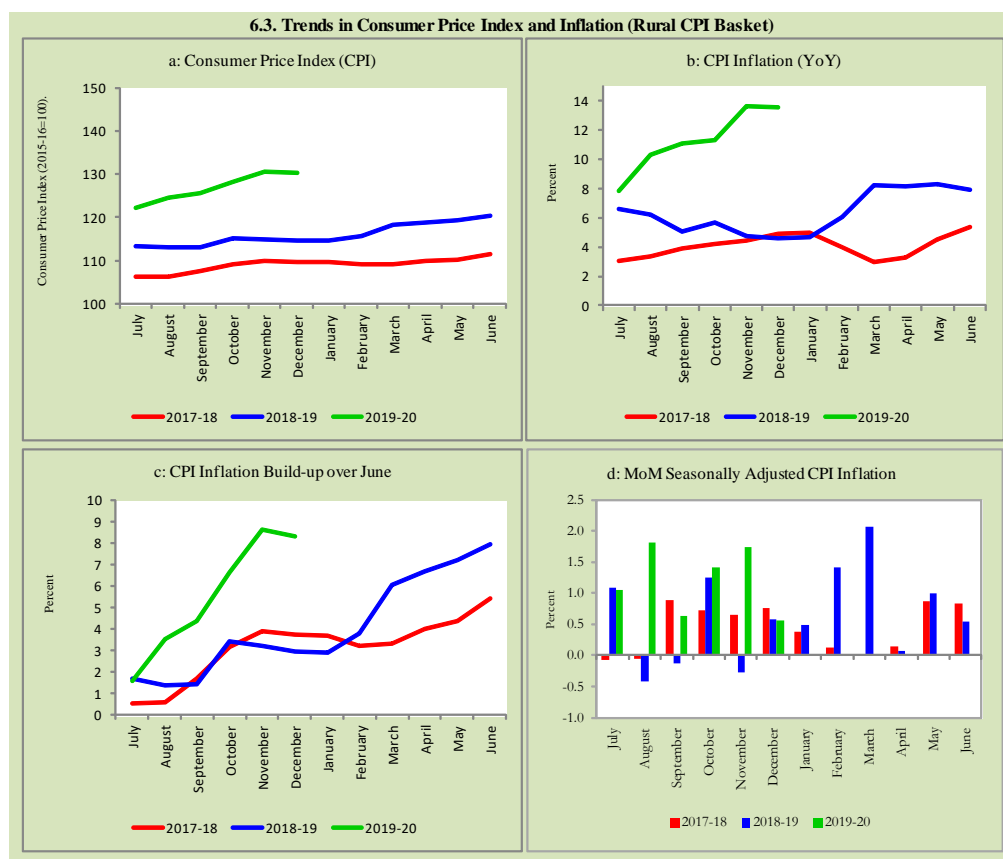
6. Trends in Consumer Price Indices and Inflation

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).



6.2. 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 decreased to 48.4 percent during December 2019 from 48.7 percent in previous month. It was 3.6 percent during corresponding month of last year. The weighted contribution of non-food group marginally increased to 51.6 percent in December 2019 from 51.3 percent in previous month. Non-food group was 96.3 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.

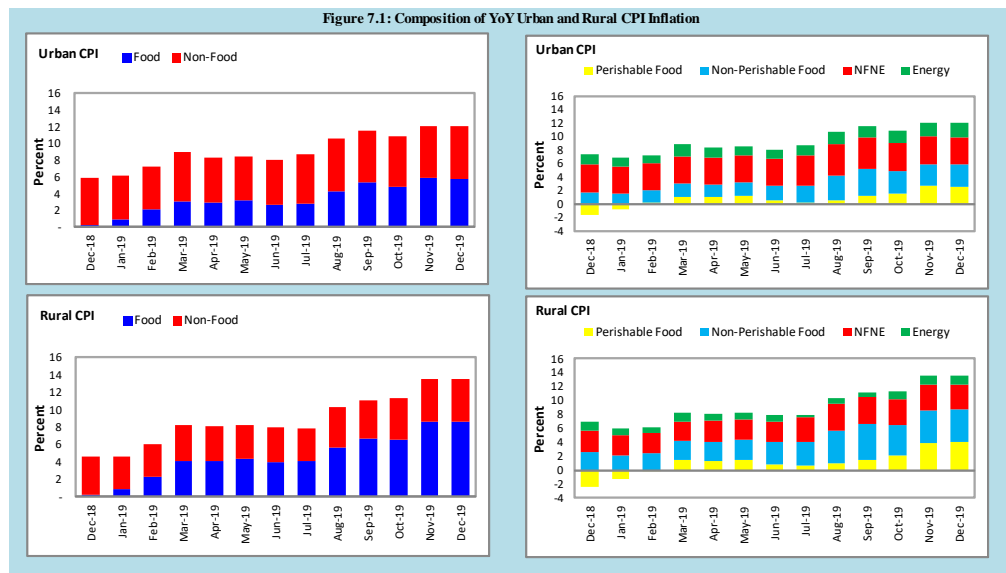
Table 7.1 Weighted Contribution (in percent) to Urban CPI Inflation (YoY)									
Period	Overall CPI	Food Group			Non-Food Group				
		Food	Perishable food	Non-Perishable food	Non-food	Energy	Core Inflation (NFNE)	NFNE excl HRI	HRI
		a=(b+e)	b=(c+d)	c	d	e=(f+g)	f	g=(h+i)	h
Dec-18	100	3.6	-26.0	29.6	96.3	24.9	71.4	47.7	23.7
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

Also, for rural basket, the weighted contribution of food group in the overall rural CPI inflation marginally increased from 63.3 percent in October 2019 to 63.9 percent during December 2019. It was 4.6 percent during corresponding month of last year. On the other hand, the weighted contribution of non-food group decreased to 36.1 percent in December 2019 from 36.7 percent in previous month. Non-food group was 95.4 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
Dec-18	100	4.6	-51.2	55.8	95.4	26.4	69.0	54.8	14.2
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

Figure 7.1: Composition of YoY Urban and Rural CPI Inflation



The group wise weighted contribution of CPI (National, Urban and Rural) is also presented to examine the shift of inflationary movements in each group over the period of time.

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.

	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19
General	48.3	44.7	40.2	55.6	31.7	39.3	52.5	61.5	65.2	52.8	61.8	55.3	43.5
Food & Non-Alcoholic Beverages	28.9	50.0	37.8	46.7	24.4	47.8	43.3	50.0	65.6	50.0	67.8	45.6	35.6
Alcoholic Beverages & Tobacco	33.3	66.7	33.3	-33.3	0.0	0.0	100.0	100.0	66.7	100.0	100.0	100.0	66.7
Clothing & Footwear	62.5	75.0	35.0	60.0	27.5	40.0	60.0	70.0	80.0	57.5	72.5	80.0	72.5
Housing, Water, Elect, Gas & other Fuels	37.9	3.4	41.4	51.7	-24.1	3.4	65.5	44.8	37.9	10.3	55.2	24.1	20.7
Furnishing & Household Equip. Maintenance etc	83.3	88.1	78.6	76.2	64.3	54.8	90.5	76.2	88.1	97.6	88.1	95.2	76.2
Health	50.0	0.0	25.0	50.0	100.0	50.0	75.0	0.0	100.0	0.0	100.0	50.0	25.0
Transport	50.0	0.0	25.0	50.0	100.0	50.0	75.0	0.0	100.0	0.0	100.0	50.0	25.0
Communication	20.0	0.0	20.0	20.0	40.0	20.0	20.0	40.0	20.0	20.0	20.0	20.0	20.0
Recreation & Culture	24.0	28.0	24.0	64.0	60.0	44.0	36.0	56.0	60.0	32.0	24.0	32.0	20.0
Education	18.8	-43.8	-18.8	43.8	50.0	56.3	0.0	56.3	56.3	62.5	6.3	25.0	12.5
Restaurant & Hotels	64.3	35.7	35.7	50.0	28.6	35.7	50.0	78.6	85.7	78.6	78.6	71.4	28.6
Miscellaneous	72.4	69.0	72.4	41.4	55.2	48.3	82.8	69.0	79.3	96.6	79.3	65.5	34.5
NFNE	55.3	46.4	42.1	60.0	38.3	40.4	55.7	68.1	68.1	59.1	58.3	63.0	48.1

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

	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19
General	43.4	38.9	45.1	49.2	49.2	41.4	46.7	73.0	60.7	34.4	64.3	50.8	36.9
Food & Non-Alcoholic Beverages	20.3	34.2	54.4	44.3	30.4	30.4	36.7	65.8	55.7	22.8	69.6	46.8	25.3
Alcoholic Beverages & Tobacco	80.0	80.0	40.0	20.0	0.0	20.0	100.0	100.0	100.0	80.0	100.0	80.0	0.0
Clothing & Footwear	40.7	70.4	48.1	55.6	81.5	77.8	63.0	85.2	81.5	66.7	77.8	59.3	48.1
Housing, Water, Elect, Gas & other Fuels	56.5	4.3	21.7	43.5	0.0	-4.3	60.9	39.1	52.2	-4.3	82.6	34.8	39.1
Furnishing & Household Equip. Maintenance etc	80.8	84.6	84.6	61.5	88.5	65.4	42.3	84.6	88.5	73.1	84.6	80.8	57.7
Health	71.4	35.7	35.7	50.0	71.4	64.3	57.1	78.6	57.1	35.7	50.0	78.6	57.1
Transport	50.0	12.5	31.3	87.5	56.3	56.3	56.3	75.0	50.0	12.5	37.5	43.8	25.0
Communication	20.0	20.0	20.0	0.0	40.0	40.0	20.0	40.0	20.0	0.0	-20.0	20.0	20.0
Recreation & Culture	22.2	11.1	11.1	55.6	66.7	27.8	11.1	72.2	11.1	22.2	27.8	11.1	27.8
Education	40.0	-60.0	0.0	80.0	80.0	60.0	0.0	80.0	20.0	0.0	0.0	0.0	20.0
Restaurant & Hotels	50.0	35.7	7.1	28.6	50.0	21.4	35.7	85.7	57.1	21.4	42.9	42.9	35.7
Miscellaneous	64.7	41.2	64.7	47.1	64.7	64.7	76.5	100.0	88.2	70.6	70.6	64.7	58.8
NFNE	52.9	47.8	43.4	50.7	67.6	55.9	47.8	81.6	63.2	49.3	58.1	55.1	44.9

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.

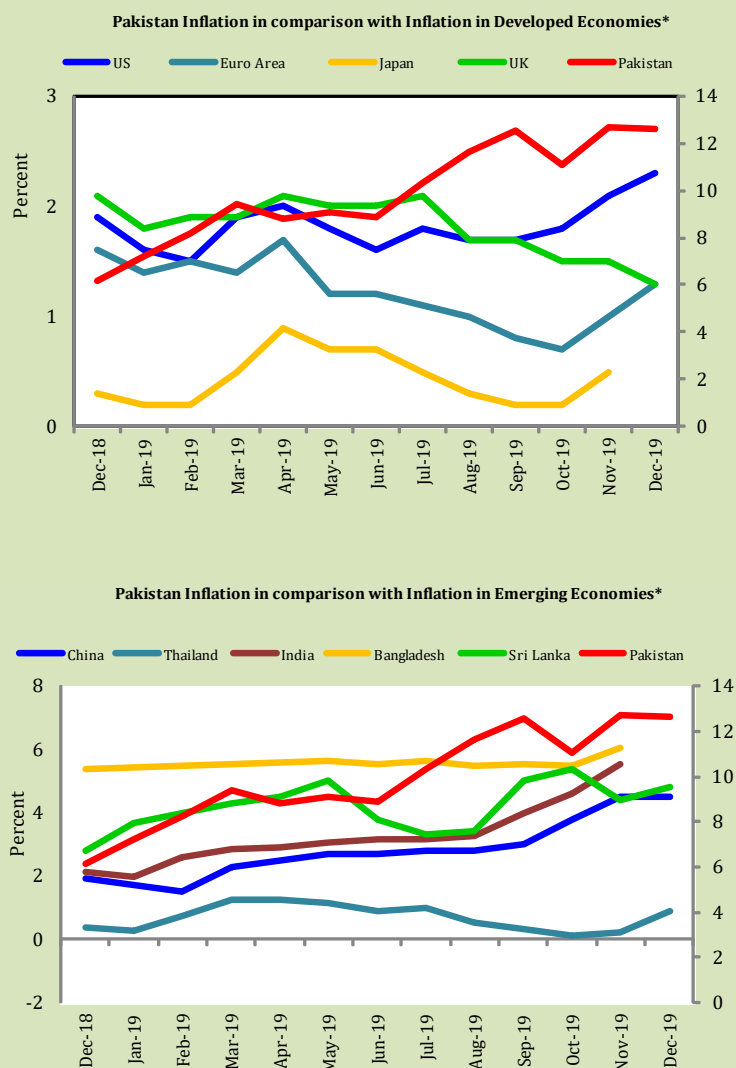
Table 9.1 Inflation in Domestic Urban and Rural CPI Food Commodities (in percent) - December, 2019

S. No	Item	Unit	Urban CPI		Rural CPI	
			YoY	MoM	YoY	MoM
1	Wheat	10 Kg	21.7	5.6	22.2	3.5
2	Wheat Flour Bag	20 Kg	14.2	-1.1	16.9	-0.6
3	Rice Basmati Broken (Superior/Average Quality)*	1 Kg	7.4	0.3	7.0	-0.2
4	Beef With Bone (Average Quality)	1 Kg	15.3	0.3	10.9	0.2
5	Mutton (Average Quality)	1 Kg	11.0	0.3	14.5	0.4
6	Chicken Farm Broiler (Live)	1 Kg	-17.2	-11.2	-19.0	-10.8
7	Milk Fresh (Un-Boiled)	1 Litre	9.2	0.0	7.4	0.0
8	Eggs Farm	Dozen	2.0	4.6	-1.3	3.0
9	Vegetable Ghee Dalda/Habib Or Other Superior Quality 1 Kg Pouch	Each	18.3	0.4	19.0	2.7
10	Pulse Masoor (Washed)	1 Kg	13.8	0.4	16.6	3.9
11	Pulse Moong (Washed)	1 Kg	53.2	1.9	55.8	3.2
12	Pulse Mash (Washed)	1 Kg	38.4	1.8	36.0	3.8
13	Pulse Gram	1 Kg	11.0	0.7	12.8	2.7
14	Potatoes	1 Kg	82.0	-2.0	69.1	1.3
15	Onions	1 Kg	169.5	-12.4	174.8	-13.6
16	Tomatoes	1 Kg	321.0	-36.5	342.6	-29.2
17	Sugar Refined	1 Kg	27.8	-3.5	135.8	-0.7
18	Garlic (Lehsun)	1 Kg	129.4	0.7	28.8	-2.8
19	Ginger (Adrak)	500 Gm	55.5	-8.6	67.1	-3.9
20	Tea Lipton Yellow Label 190 Gm Packet	Each	10.2	0.0	10.4	0.1
*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

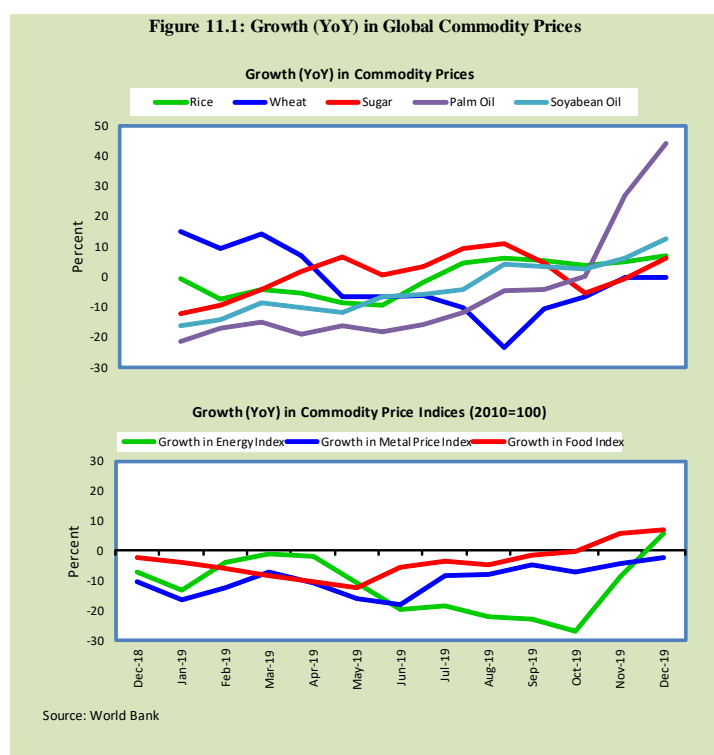
* Inflation data for the latest month (December, 2019) for few countries have not been updated on Bloomberg terminal/Haver analytics

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	Dec-18		Nov-19		Dec-19	
	YoY	MoM	YoY	MoM	YoY	MoM
Food	-4.9	-1.8	6.0	4.1	7.0	2.5
Metals	-9.5	-2.6	-4.1	0.3	-2.4	0.4
Energy	6.9	-15.4	-8.9	5.2	5.9	3.1
Agricultural	-3.9	-1.4	4.2	4.1	6.0	2.3
Cotton	7.9	0.0	-13.7	1.3	-11.8	1.3



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 December 2019 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

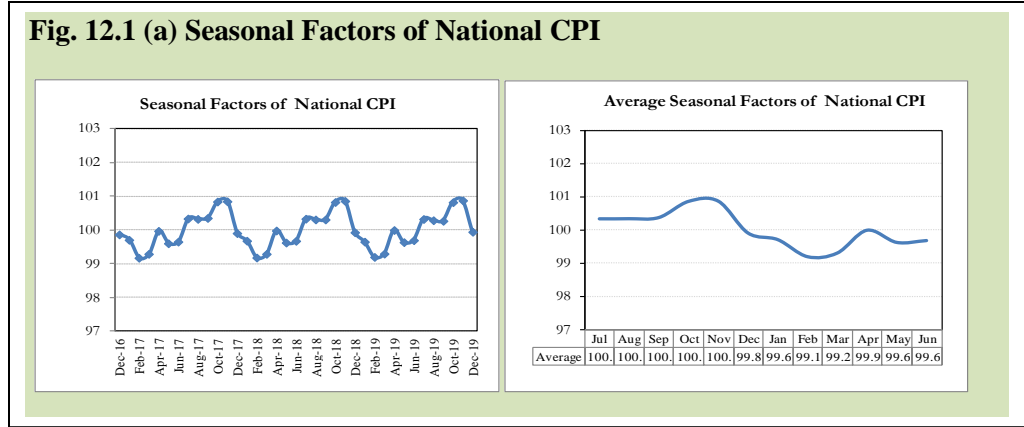


Fig. 12.1 (b) Seasonal Factors of Urban CPI

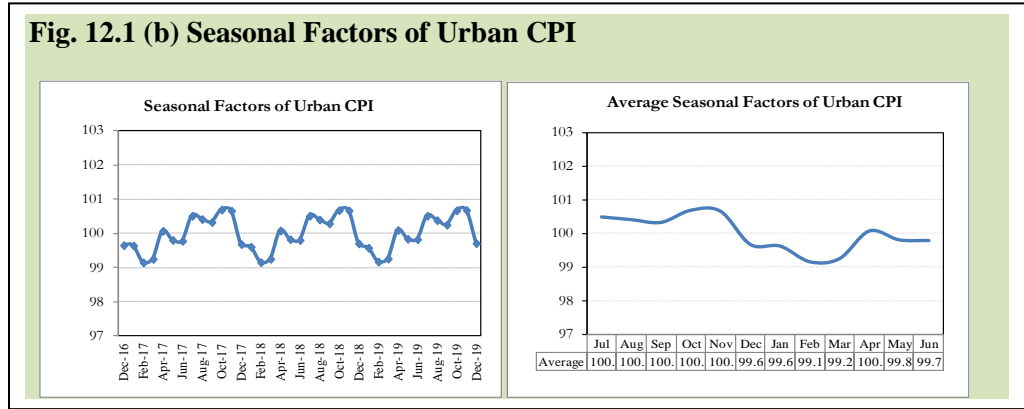
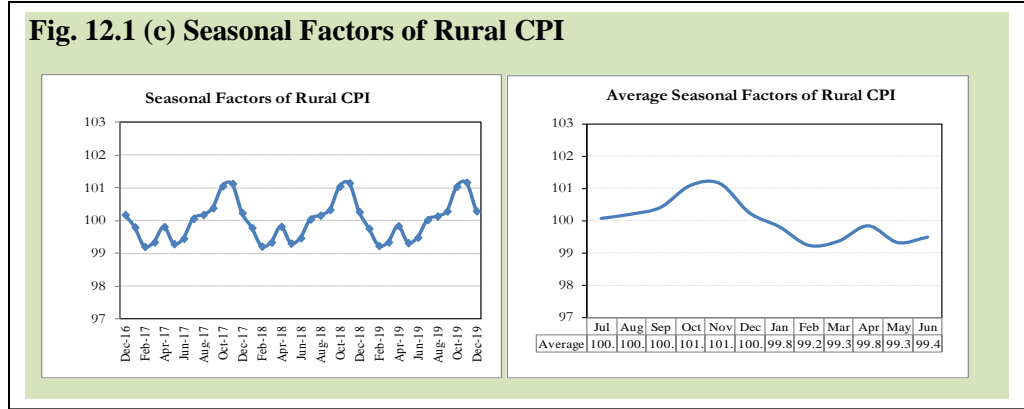


Fig. 12.1 (c) Seasonal Factors of Rural CPI



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

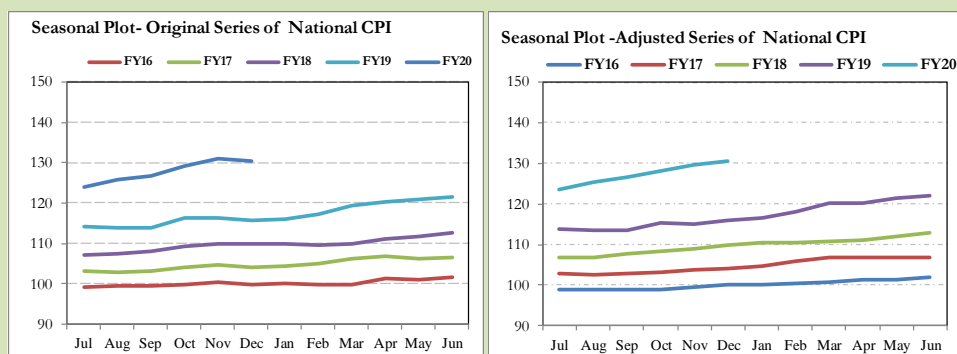


Fig. 12.2 (b) Seasonal Plots of Urban CPI

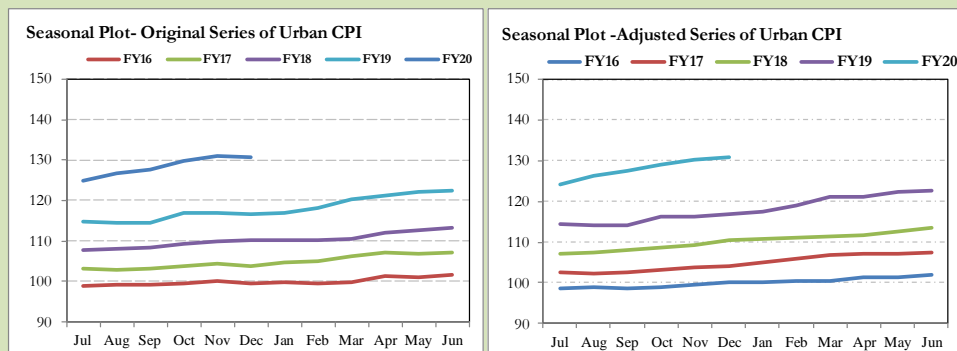
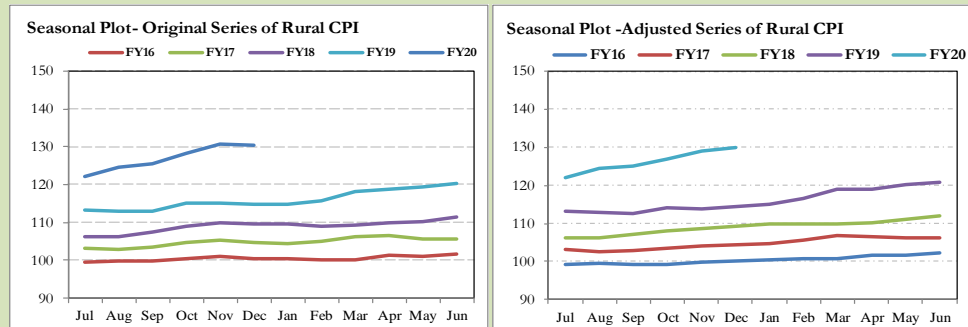


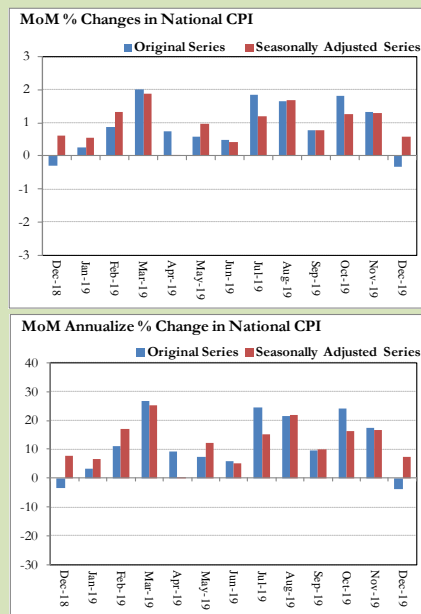
Fig. 12.2 (c) Seasonal Plots of Rural CPI

Seasonally adjusted National CPI for December 2019 stood at 130.53 against 130.45 in original series showing an increase of 0.07 on account of adjustment of downward seasonality in December 2019.

Seasonally adjusted Urban CPI for December 2019 stood at 130.95 against 130.57 in original series showing an increase of 0.38 on account of adjustment of downward seasonality in December 2019.

Seasonally adjusted Rural CPI for December 2019 stood at 129.89 against 130.28 in original series showing decrease of 0.39 on account of adjustment of upward seasonality in December 2019.

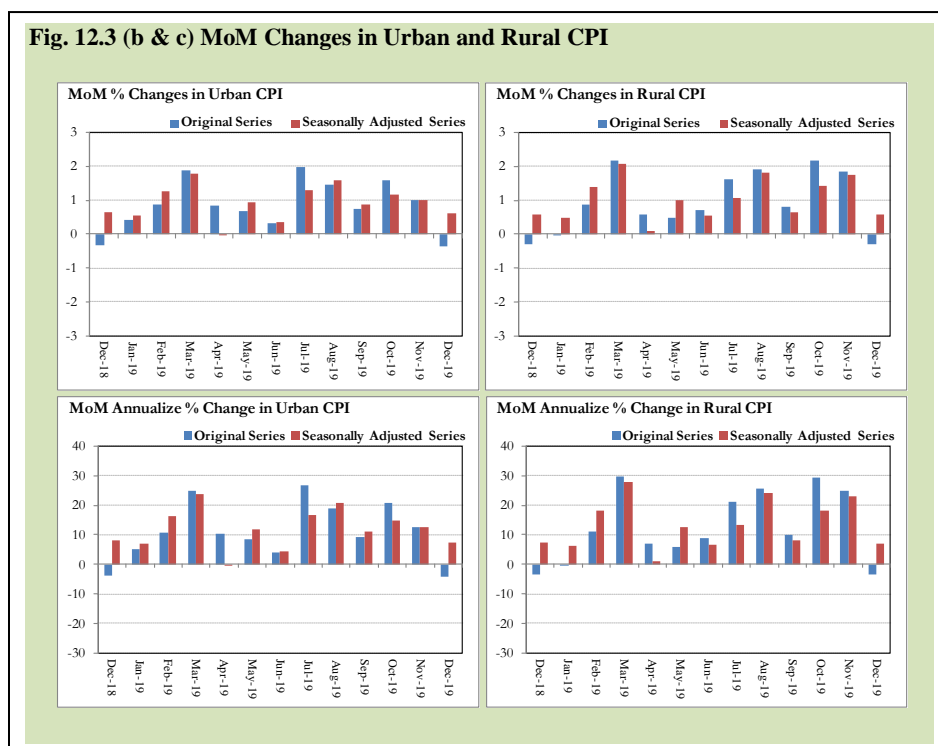
Month-on-month change of seasonally adjusted National CPI series stood at 0.59% reflecting an increase during December 2019 over previous month and a decrease of 0.34% in original series.

Fig. 12.3 (a) MoM Changes in National CPI

Month-on-month change of seasonally adjusted Urban CPI series stood at 0.60% reflecting an increase during December 2019 over previous month and a decrease of 0.37% in original series.

Month-on-month change of seasonally adjusted Rural CPI series stood at 0.57% reflecting an increase during December 2019 over previous month and a decrease of 0.30% 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 December 2019 (corresponding to the seasonally adjusted month-on-month rate) is 7.30 percent.

Annexure A

Table A1: National CPI Inflation by Groups (YoY and MoM in percent)							
	Weights	MoM change			YoY change		
		Dec-18	Nov-19	Dec-19	Dec-18	Nov-19	Dec-19
Food & Non-Alcoholic Beverages	34.6	-1.9	3.2	-1.7	-0.6	19.4	19.7
Alcoholic Beverages & Tobacco	1.0	0.4	0.3	0.0	15.7	18.7	18.3
Clothing & Footwear	8.6	0.2	1.0	0.5	6.3	9.4	9.7
Housing, Water, Elec, Gas & other Fuels	23.6	0.6	0.0	0.4	8.1	8.8	8.5
Furnishing & Household Equip. Maintenance	4.1	0.9	0.8	0.5	8.1	10.8	10.4
Health	2.8	0.5	0.8	0.4	7.1	11.4	11.3
Transport	5.9	0.3	0.5	1.0	18.4	14.0	14.7
Communication	2.2	0.1	0.0	0.1	2.4	4.0	4.0
Recreation & Culture	1.6	0.1	0.2	0.1	6.9	6.8	6.7
Education	3.8	0.1	0.1	0.0	9.8	6.1	6.0
Restaurants & Hotels	6.9	0.3	0.6	0.1	5.8	6.4	6.1
Miscellaneous	4.9	1.2	0.4	0.2	8.5	11.8	10.7
Overall National CPI	100.0	-0.3	1.3	-0.3	5.4	12.7	12.6

Table A2: Urban CPI Inflation by Groups (YoY and MoM in percent)							
	Weights	MoM change			YoY change		
		Dec-18	Nov-19	Dec-19	Dec-18	Nov-19	Dec-19
I. Food Group	36.8	-1.8	2.4	-1.7	0.6	16.6	16.7
Food & Non-Alcoholic Beverages	30.4	-2.2	2.8	-2.1	-0.7	18.6	18.8
Alcoholic Beverages & Tobacco	0.9	0.2	0.1	0.0	18.0	16.7	16.6
Restaurant & Hotels (Food Component)	5.5	0.4	0.6	0.0	4.8	6.6	6.2
II. Non-Food Group	63.2	0.5	0.2	0.4	9.0	9.6	9.5
Clothing & Footwear	8.0	0.2	0.9	0.7	5.3	9.1	9.6
Housing, Water, Elec, Gas & other Fuels	27.0	0.6	-0.1	0.3	8.4	9.6	9.4
Furnishing & Household Equip. Maintenance	4.1	0.9	0.9	0.7	8.3	11.2	11.0
Health	2.3	0.2	0.5	0.5	6.2	10.5	10.9
Transport	6.1	0.5	0.4	1.0	19.1	15.0	15.6
Communication	2.4	0.0	0.0	0.2	2.4	5.1	5.3
Recreation & Culture	1.7	0.2	0.2	0.0	6.4	6.5	6.3
Education	4.9	0.1	0.1	0.0	10.8	6.3	6.3
Restaurants & Hotels (Non-food Component)	1.9	0.2	0.2	0.0	10.7	1.5	1.3
Miscellaneous	4.8	1.1	0.2	0.2	8.7	11.0	10.1
Overall Urban CPI	100.0	-0.3	1.0	-0.4	5.9	12.1	12.0

Table A3: Rural CPI Inflation by Groups (YoY and MoM in percent)							
	Weights	MoM change			YoY change		
		Dec-18	Nov-19	Dec-19	Dec-18	Nov-19	Dec-19
I. Food Group	45.9	-1.4	3.4	-1.1	0.5	19.3	19.7
Food & Non-Alcoholic Beverages	40.9	-1.6	3.6	-1.2	-0.5	20.3	20.8
Alcoholic Beverages & Tobacco	1.3	0.6	0.7	0.0	13.1	21.0	20.2
Restaurant & Hotels (Food Component)	3.8	0.6	1.2	0.3	7.2	8.4	8.1
II. Non-Food Group	54.1	0.6	0.6	0.4	8.1	9.0	8.8
Clothing & Footwear	9.5	0.1	1.1	0.2	7.4	9.8	9.9
Housing, Water, Elec, Gas & other Fuels	18.5	0.8	0.4	0.5	7.4	6.9	6.6
Furnishing & Household Equip. Maintenance etc	4.1	0.9	0.8	0.3	7.8	10.2	9.6
Health	3.5	0.9	1.2	0.4	8.0	12.3	11.7
Transport	5.6	0.1	0.5	0.9	17.3	12.2	13.1
Communication	2.0	0.2	0.1	0.0	2.5	1.9	1.7
Recreation & Culture	1.4	0.1	0.1	0.2	7.7	7.4	7.5
Education	2.1	0.4	0.0	0.0	6.4	5.3	5.0
Restaurants & Hotels (Non-food Component)	2.4	0.0	0.0	0.0	1.6	8.6	8.6
Miscellaneous	5.0	1.4	0.5	0.2	8.2	12.9	11.6
Overall Rural CPI		-0.3	1.9	-0.3	4.6	13.6	13.6

Table A4: Top Ten Contributors to Urban CPI Inflation (YoY) in December 2019

Table 10: Top Ten Contributors to Urban CPI Inflation (YoY) in December 2019					
Items/ Contributors		Weights	YoY Change		Weighted Contribution (%)
			Dec-18	Dec-19	
A. Ranked by Weighted Contribution					
1	House Rent	19.26	7.06	5.02	8.36
2	Fresh Vegetables	1.53	-35.96	83.59	7.87
3	Electricity Charges	4.56	8.11	17.57	6.21
4	Gas Charges	1.08	38.63	54.84	5.93
5	Tomatoes	0.35	-58.71	321.04	5.16
6	Motor Fuel	2.91	23.72	17.95	5.02
7	Milk Fresh	7.11	4.63	8.74	4.91
8	Onions	0.59	-52.36	169.45	4.53
9	Wheat Flour	3.01	1.31	15.80	3.48
10	Education	4.88	10.81	6.30	2.99
Total		45.27			54.45
B. Ranked by Percentage Change					
1	Tomatoes	0.35	-58.71	321.04	5.16
2	Onions	0.59	-52.36	169.45	4.53
3	Fresh Vegetables	1.53	-35.96	83.59	7.87
4	Potatoes	0.45	-35.86	78.23	2.63
5	Gas Charges	1.08	38.63	54.84	5.93
6	Pulse Moong	0.17	11.60	53.24	0.49
7	Pulse Mash	0.12	-4.66	38.44	0.20
8	Gur	0.04	-0.29	31.22	0.08
9	Butter	0.09	4.98	31.15	0.24
10	Sugar	1.11	0.80	27.81	1.96
Total		5.53			29.09
C. Ranked by Weights					
1	House Rent	19.26	7.06	5.02	8.36
2	Milk Fresh	7.11	4.63	8.74	4.91
3	Readymade Food	5.52	4.80	6.22	2.88
4	Education	4.88	10.81	6.30	2.99
5	Electricity Charges	4.56	8.11	17.57	6.21
6	Wheat Flour	3.01	1.31	15.80	3.48
7	Appliances/Articles/Products For P	2.98	7.84	8.74	2.14
8	Motor Fuel	2.91	23.72	17.95	5.02
9	Cotton Cloth	2.22	6.21	12.49	2.23
10	Meat	2.04	8.67	13.45	2.43
Total		54.48			40.66
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 12.0 percent in December 2019.					

Table A5: Top Ten Contributors to Urban CPI Inflation (MoM) in December 2019					
Items/ Contributors		Weights	MoM Change		Weighted Contribution (%)
			Nov-19	Dec-19	
A. Ranked by Weighted Contribution					
1	Tomatoes	0.35	149.41	-36.49	113.35
2	Chicken	1.36	-2.28	-11.21	35.44
3	Onions	0.59	3.82	-12.45	29.87
4	Fresh Vegetables	1.53	-11.52	-4.62	24.39
5	Sugar	1.11	-1.18	-3.54	9.62
6	Potatoes	0.45	6.72	-1.96	3.49
7	Personal Effects N.E.C.	0.94	0.03	-0.79	2.54
8	Wheat Flour	3.01	4.74	-0.25	1.88
9	Motor Fuel	2.91	0.84	-0.18	1.76
10	Condiments And Spices	1.33	1.86	-0.25	1.03
		13.59			223.38
B. Ranked by Percentage Change					
1	Dry Fruits	0.33	3.22	6.35	-5.42
2	Garbage Collection	0.11	0.40	5.94	-1.92
3	Wheat	0.61	6.86	5.62	-8.54
4	Eggs	0.51	-0.87	4.61	-6.39
5	Transport Services	1.75	-0.06	3.75	-16.96
6	Woolen Readymade Garments	0.43	3.62	2.72	-2.94
7	Furniture And Furnishing	0.48	0.53	2.68	-3.28
8	Tailoring	1.07	0.78	2.36	-6.94
9	Fresh Fruits	1.44	-0.90	2.30	-7.48
10	Construction Input Items	0.38	0.99	2.06	-2.27
		7.10			-62.13
C. Ranked by Weights					
1	House Rent	19.26	0.00	0.00	0.00
2	Milk Fresh	7.11	1.42	0.06	-1.04
3	Readymade Food	5.52	0.62	0.02	-0.23
4	Education	4.88	0.14	0.03	-0.41
5	Electricity Charges	4.56	-0.93	1.54	-18.32
6	Wheat Flour	3.01	4.74	-0.25	1.88
7	Appliances/Articles/Products For P	2.98	0.37	0.62	-4.78
8	Motor Fuel	2.91	0.84	-0.18	1.76
9	Cotton Cloth	2.22	0.31	0.03	-0.19
10	Meat	2.04	0.70	0.33	-2.00
		54.48			-23.32
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 -0.4 percent in December 2019.					

Table A6: Top and Bottom Fifteen Contributors to Urban CPI Inflation (YoY) in December 2019					
Top 15 Contributors		YoY Change		Weighted Contribution (%)	
Items/ Contributors	Weights	Dec-18	Dec-19		
Ranked by Weighted Contribution					
1	House Rent	19.26	7.06	5.02	8.36
2	Fresh Vegetables	1.53	-35.96	83.59	7.87
3	Electricity Charges	4.56	8.11	17.57	6.21
4	Gas Charges	1.08	38.63	54.84	5.93
5	Tomatoes	0.35	-58.71	321.04	5.16
6	Motor Fuel	2.91	23.72	17.95	5.02
7	Milk Fresh	7.11	4.63	8.74	4.91
8	Onions	0.59	-52.36	169.45	4.53
9	Wheat Flour	3.01	1.31	15.80	3.48
10	Education	4.88	10.81	6.30	2.99
11	Readymade Food	5.52	4.80	6.22	2.88
12	Potatoes	0.45	-35.86	78.23	2.63
13	Meat	2.04	8.67	13.45	2.43
14	Cotton Cloth	2.22	6.21	12.49	2.23
15	Appliances/Articles/Products For P	2.98	7.84	8.74	2.14
Total		58.48			66.78
Bottom 15 Contributors					
1	Chicken	1.36	6.24	-17.17	-1.99
2	Liquefied Hydrocarbons	0.51	8.30	-2.83	-0.16
3	Dental Services	0.02	8.50	-1.24	0.00
4	Postal Services	0.02	18.66	0.00	0.00
5	Therapeutic Appliances And	0.01	1.71	0.29	0.00
6	Major Tools & Equipments	0.01	7.87	5.05	0.00
7	Accommodation Services	0.13	3.51	0.40	0.00
8	Carpets	0.03	2.58	2.73	0.01
9	Mustard Oil	0.01	1.56	9.18	0.01
10	Pan Prepared	0.14	32.36	0.47	0.01
11	Electrical Appliances For Personal	0.05	2.96	2.29	0.01
12	Plastic Products	0.05	4.97	3.77	0.02
13	Gram Whole	0.09	-7.04	2.54	0.02
14	Dessert Preparation	0.04	5.15	6.37	0.02
15	Newspapers	0.07	36.27	3.88	0.03
Total		2.53			-2.03

Table A7: Top and Bottom Fifteen Contributors to Urban CPI Inflation (MoM) in December 2019					
Top 15 Contributors			MoM Change		Weighted Contribution (%)
Items/ Contributors	Weights	Nov-19	Dec-19		
Ranked by Weighted Contribution					
1	Tomatoes	0.35	149.41	-36.49	113.35
2	Chicken	1.36	-2.28	-11.21	35.44
3	Onions	0.59	3.82	-12.45	29.87
4	Fresh Vegetables	1.53	-11.52	-4.62	24.39
5	Sugar	1.11	-1.18	-3.54	9.62
6	Potatoes	0.45	6.72	-1.96	3.49
7	Personal Effects N.E.C.	0.94	0.03	-0.79	2.54
8	Wheat Flour	3.01	4.74	-0.25	1.88
9	Motor Fuel	2.91	0.84	-0.18	1.76
10	Condiments And Spices	1.33	1.86	-0.25	1.03
11	Liquefied Hydrocarbons	0.51	-0.47	-0.05	0.07
12	Gur	0.04	-0.29	-0.63	0.06
13	Carpets	0.03	0.00	-0.07	0.00
14	Electrical Appliances For Personal	0.05	0.03	-0.01	0.00
15	Household Servant	0.77	1.32	0.00	0.00
Total		14.98			223.53
Bottom 15 Contributors					
1	Electricity Charges	4.56	-0.93	1.54	-18.32
2	Transport Services	1.75	-0.06	3.75	-16.96
3	Wheat	0.61	6.86	5.62	-8.54
4	Fresh Fruits	1.44	-0.90	2.30	-7.48
5	Tailoring	1.07	0.78	2.36	-6.94
6	Eggs	0.51	-0.87	4.61	-6.39
7	Dry Fruits	0.33	3.22	6.35	-5.42
8	Cooking Oil	1.10	1.20	1.71	-5.12
9	Appliances/Articles/Products For P	2.98	0.37	0.62	-4.78
10	Drugs And Medicines	1.07	0.93	1.15	-3.49
11	Furniture And Furnishing	0.48	0.53	2.68	-3.28
12	Woolen Readymade Garments	0.43	3.62	2.72	-2.94
13	Vegetable Ghee	1.03	1.00	0.95	-2.65
14	Household Equipments	1.00	0.37	0.99	-2.57
15	Woolen Cloth	0.84	3.15	1.15	-2.39
Total		19.20			-97.25

Table A8: Top and Bottom Fifteen Contributors to MoM Urban CPI Food Inflation in December 2019					
Top 15 Contributors			MoM Change		Weighted Contribution (%)
Items/ Contributors	Weights	Nov-19	Dec-19		
Ranked by Weighted Contribution					
1	Tomatoes	0.35	149.41	-36.49	113.35
2	Chicken	1.36	-2.28	-11.21	35.44
3	Onions	0.59	3.82	-12.45	29.87
4	Fresh Vegetables	1.53	-11.52	-4.62	24.39
5	Sugar	1.11	-1.18	-3.54	9.62
6	Potatoes	0.45	6.72	-1.96	3.49
7	Wheat Flour	3.01	4.74	-0.25	1.88
8	Condiments And Spices	1.33	1.86	-0.25	1.03
9	Gur	0.04	-0.29	-0.63	0.06
10	Butter	0.09	5.20	0.00	0.00
11	Mustard Oil	0.01	2.49	0.32	-0.01
12	Cigarettes	0.72	0.04	0.01	-0.01
13	Marriage Hall Charges	1.75	0.24	0.01	-0.04
14	Milk Products	0.64	-0.45	0.02	-0.04
15	Tea	0.84	0.22	0.02	-0.05
Total		13.83			219.00
Bottom 15 Contributors					
1	Wheat	0.61	6.86	5.62	-8.54
2	Fresh Fruits	1.44	-0.90	2.30	-7.48
3	Eggs	0.51	-0.87	4.61	-6.39
4	Dry Fruits	0.33	3.22	6.35	-5.42
5	Cooking Oil	1.10	1.20	1.71	-5.12
6	Vegetable Ghee	1.03	1.00	0.95	-2.65
7	Meat	2.04	0.70	0.33	-2.00
8	Bakery And Confectionary	0.48	1.52	1.36	-1.66
9	Rice	1.18	0.50	0.43	-1.35
10	Fish	0.39	1.17	1.22	-1.22
11	Milk Fresh	7.11	1.42	0.06	-1.04
12	Pulse Moong	0.17	7.79	1.88	-0.77
13	Nimco	0.12	0.91	1.29	-0.39
14	Pulse Mash	0.12	11.72	1.84	-0.38
15	Sweet Meat	0.35	0.14	0.35	-0.35
Total		16.97			-44.73

Table A9: Top and Bottom Fifteen Contributors to MoM Urban CPI Non-food Inflation in December 2019					
Top 15 Contributors			MoM Change		Weighted Contribution (%)
Items/ Contributors	Weights	Nov-19	Dec-19		
Ranked by Weighted Contribution					
1	Electrical Appliances For Personal	0.94	0.03	-0.79	2.54
2	Motor Fuel	2.91	0.84	-0.18	1.76
3	Liquefied Hydrocarbons	0.51	-0.47	-0.05	0.07
4	Carpets	0.03	0.00	-0.07	0.00
5	Accommodation Services	0.05	0.03	-0.01	0.00
6	Household Servant	0.77	1.32	0.00	0.00
7	Footwear	1.48	0.23	0.00	0.00
8	Text Books	0.67	0.02	0.00	0.00
9	Major Tools & Equipments	0.01	0.67	0.00	0.00
10	Dental Services	0.02	0.15	0.00	0.00
11	Therapeutic Appliances And	0.01	0.19	0.00	0.00
12	House Rent	19.26	0.00	0.00	0.00
13	Water Supply	0.53	0.00	0.00	0.00
14	Hospitals Services	0.57	0.00	0.00	0.00
15	Gas Charges	1.08	0.00	0.00	0.00
Total		28.82			4.38
Bottom 15 Contributors					
1	Electricity Charges	4.56	-0.93	1.54	-18.32
2	Transport Services	1.75	-0.06	3.75	-16.96
3	Tailoring	1.07	0.78	2.36	-6.94
4	Personal Grooming Services	2.98	0.37	0.62	-4.78
5	Drugs And Medicines	1.07	0.93	1.15	-3.49
6	Furniture And Furnishing	0.48	0.53	2.68	-3.28
7	Woolen Readymade Garments	0.43	3.62	2.72	-2.94
8	Household Equipments	1.00	0.37	0.99	-2.57
9	Woolen Cloth	0.84	3.15	1.15	-2.39
10	Construction Input Items	0.38	0.99	2.06	-2.27
11	Garbage Collection	0.11	0.40	5.94	-1.92
12	Mechanical Services	0.43	0.08	1.70	-1.92
13	Washing Soap/Detergents/Match Box	1.41	1.13	0.44	-1.62
14	Readymade Garments	1.32	0.17	0.32	-1.13
15	Communication Apparatus	0.45	0.12	0.85	-0.94
Total		18.27			-71.46

Table A10: Top Ten Contributors to Rural CPI Inflation (YoY) in December 2019

Table A.10: Top Ten Contributors to Rural CPI Inflation (2017) in December 2019					
Items/ Contributors		Weights	YoY Change		Weighted Contribution (%)
			Dec-18	Dec-19	
A. Ranked by Weighted Contribution					
1	Fresh Vegetables	2.09	-34.12	80.19	9.72
2	Tomatoes	0.51	-54.62	342.53	7.25
3	Onions	0.90	-56.26	174.83	6.17
4	Motor Vehicles	1.01	9.25	12.98	5.86
5	Milk Fresh	10.38	5.10	7.43	5.60
6	Wheat	3.47	4.07	22.22	5.17
7	Electricity Charges	3.44	8.11	17.57	4.22
8	Wheat Flour	3.43	1.51	18.28	4.10
9	Marriage Hall Charges	6.19	1.72	9.05	3.90
10	Mechanical Services	2.49	7.53	2.31	3.88
Total		33.91			55.86
B. Ranked by Percentage Change					
1	Tomatoes	0.51	-54.62	342.53	7.25
2	Onions	0.90	-56.26	174.83	6.17
3	Fresh Vegetables	2.09	-34.12	80.19	9.72
4	Potatoes	0.74	-34.88	68.04	3.75
5	Pulse Moong	0.25	9.70	55.84	0.73
6	Pulse Mash	0.15	-6.67	35.97	0.22
7	Gur	0.15	0.61	31.85	0.29
8	Postal Services	1.80	0.08	31.47	0.22
9	Water Supply	0.06	0.00	30.55	0.15
10	Sugar	2.03	2.03	28.79	3.36
Total		8.68			31.86
C. Ranked by Weights					
1	Milk Fresh	10.38	5.10	7.43	5.60
2	House Rent	8.61	7.30	4.10	2.76
3	Marriage Hall Charges	6.19	1.72	9.05	3.90
4	Solid Fuel	4.48	4.44	6.02	1.97
5	Furniture And Furnishing	4.10	6.55	9.22	2.87
6	Accommodation Services	3.80	0.00	0.00	2.39
7	Drugs And Medicines	3.51	6.94	14.79	3.22
8	Wheat	3.47	4.07	22.22	5.17
9	Electricity Charges	3.44	8.11	17.57	4.22
10	Wheat Flour	3.43	1.51	18.28	4.10
Total		51.42			36.18
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 Rural CPI, which is 13.6 percent in December 2019.					

Table A11: Top Ten Contributors to Rural CPI Inflation (MoM) in December 2019					
Items/ Contributors		Weights	MoM Change		Weighted Contribution (%)
			Nov-19	Dec-19	
A. Ranked by Weighted Contribution					
1	Tomatoes	0.51	189.67	-29.17	154.07
2	Onions	0.90	13.83	-13.63	61.15
3	Chicken	1.46	-0.98	-10.85	47.79
4	Fresh Vegetables	2.09	-14.33	-2.99	26.86
5	Sugar	2.03	-1.37	-2.76	17.07
6	Wheat Flour	3.43	6.15	-0.36	3.87
7	Mechanical Services	2.49	0.00	0.00	2.17
8	Liquefied Hydrocarbons	1.00	0.34	-0.42	1.46
9	Gur	0.15	-6.71	-1.68	0.83
10	Cigarettes	1.24	0.66	0.00	0.00
		15.30			315.26
B. Ranked by Percentage Change					
1	Condiments And Spices	1.49	3.01	7.06	-34.81
2	Pulse Masoor	0.21	3.89	3.88	-1.85
3	Pulse Mash	0.15	8.18	3.80	-1.21
4	Transport Services	0.02	-0.04	3.47	-19.56
5	Wheat	3.47	10.85	3.46	-38.03
6	Fresh Fruits	1.45	4.68	3.25	-13.54
7	Cooking Oil	0.60	0.26	3.20	-6.67
8	Pulse Moong	0.25	8.55	3.19	-2.50
9	Eggs	0.57	1.31	2.99	-5.53
10	Pulse Gram	0.28	1.01	2.70	-2.12
		8.48			-125.83
C. Ranked by Weights					
1	Milk Fresh	10.38	0.07	0.00	0.00
2	House Rent	8.61	0.00	0.00	0.00
3	Marriage Hall Charges	6.19	0.00	0.00	-4.13
4	Solid Fuel	4.48	2.02	0.79	-10.90
5	Furniture And Furnishing	4.10	0.44	0.74	-3.89
6	Accommodation Services	3.80	0.00	0.00	-4.19
7	Drugs And Medicines	3.51	1.24	0.31	-4.33
8	Wheat	3.47	10.85	3.46	-38.03
9	Electricity Charges	3.44	-0.93	1.54	-17.04
10	Wheat Flour	3.43	6.15	-0.36	3.87
		51.42			-78.64
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 -0.3 percent in December 2019.					

Table A12: Top and Bottom Fifteen Contributors to Rural CPI Inflation (YoY) in December 2019

<u>Top 15 Contributors</u>		<u>YoY Change</u>		<u>Weighted Contribution (%)</u>	
<u>Items/ Contributors</u>	<u>Weights</u>	<u>Dec-18</u>	<u>Dec-19</u>		
Ranked by Weighted Contribution					
1	Fresh Vegetables	2.09	-34.12	80.19	9.72
2	Tomatoes	0.51	-54.62	342.53	7.25
3	Onions	0.90	-56.26	174.83	6.17
4	Motor Vehicles	1.01	9.25	12.98	5.86
5	Milk Fresh	10.38	5.10	7.43	5.60
6	Wheat	3.47	4.07	22.22	5.17
7	Electricity Charges	3.44	8.11	17.57	4.22
8	Wheat Flour	3.43	1.51	18.28	4.10
9	Marriage Hall Charges	6.19	1.72	9.05	3.90
10	Mechanical Services	2.49	7.53	2.31	3.88
11	Potatoes	0.74	-34.88	68.04	3.75
12	Sugar	2.03	2.03	28.79	3.36
13	Vegetable Ghee	2.38	9.76	18.38	3.33
14	Drugs And Medicines	3.51	6.94	14.79	3.22
15	Cotton Cloth	2.84	11.35	13.55	3.11
Total		45.42			72.62
Bottom 15 Contributors					
1	Chicken	1.46	15.39	-19.00	-2.31
2	Liquefied Hydrocarbons	1.00	17.44	-2.91	-0.26
3	Eggs	0.57	-7.92	-1.33	-0.06
4	Personal Grooming Services	0.14	8.14	10.42	0.00
5	Stationery	0.02	8.07	6.56	0.00
6	Garbage Collection	0.01	0.00	1.15	0.00
7	Major Tools And Equipments	0.03	5.42	2.35	0.01
8	Dessert Preparation	0.01	2.51	6.44	0.01
9	Honey	0.03	5.50	3.34	0.01
10	Mustard Oil	0.01	6.73	7.74	0.01
11	Cleaning And Laundering	0.02	4.67	6.73	0.01
12	Communication Apparatus	0.01	12.31	3.31	0.02
13	Motor Vehicle Tax	0.36	8.58	17.87	0.02
14	Pan Prepared	0.04	19.93	6.59	0.03
15	Gram Whole	0.11	-7.05	3.09	0.03
Total		3.83			-2.51

Table A13: Top and Bottom Fifteen Contributors to Rural CPI Inflation (MoM) in December 2019					
Top 15 Contributors			MoM Change		Weighted Contribution (%)
Items/ Contributors	Weights	Nov-19	Dec-19		
Ranked by Weighted Contribution					
1	Tomatoes	0.51	189.67	-29.17	154.07
2	Onions	0.90	13.83	-13.63	61.15
3	Chicken	1.46	-0.98	-10.85	47.79
4	Fresh Vegetables	2.09	-14.33	-2.99	26.86
5	Sugar	2.03	-1.37	-2.76	17.07
6	Wheat Flour	3.43	6.15	-0.36	3.87
7	Mechanical Services	2.49	0.00	0.00	2.17
8	Liquefied Hydrocarbons	1.00	0.34	-0.42	1.46
9	Gur	0.15	-6.71	-1.68	0.83
10	Cigarettes	1.24	0.66	0.00	0.00
11	Dental Services	0.51	0.77	0.00	0.00
12	Milk Fresh	10.38	0.07	0.00	0.00
13	Readymade Garments	1.13	0.09	0.00	0.00
14	Pan Prepared	0.04	1.18	0.00	0.00
15	Cleaning And Laundering	0.02	2.15	0.00	0.00
Total		27.39			315.26
Bottom 15 Contributors					
1	Wheat	3.47	10.85	3.46	-38.03
2	Condiments And Spices	1.49	3.01	7.06	-34.81
3	Vegetable Ghee	2.38	0.45	2.49	-20.78
4	Transport Services	0.02	-0.04	3.47	-19.56
5	Motor Vehicles	1.01	0.27	0.15	-18.10
6	Electricity Charges	3.44	-0.93	1.54	-17.04
7	Fresh Fruits	1.45	4.68	3.25	-13.54
8	Solid Fuel	4.48	2.02	0.79	-10.90
9	Cooking Oil	0.60	0.26	3.20	-6.67
10	Eggs	0.57	1.31	2.99	-5.53
11	Potatoes	0.74	4.43	1.31	-4.81
12	Personal Effects N.E.C.	2.27	0.58	-1.00	-4.72
13	Drugs And Medicines	3.51	1.24	0.31	-4.33
14	Accommodation Services	3.80	0.00	0.00	-4.19
15	Marriage Hall Charges	6.19	0.00	0.00	-4.13
Total		35.43			-207.14

Table A14: Top and Bottom Fifteen Contributors to MoM Rural CPI Food Inflation in December 2019

<u>Top 15 Contributors</u>		<u>MoM Change</u>		Weighted Contribution (%)	
Items/ Contributors	Weights	Nov-19	Dec-19		
Ranked by Weighted Contribution					
1	Tomatoes	0.51	189.67	-29.17	154.07
2	Onions	0.90	13.83	-13.63	61.15
3	Chicken	1.46	-0.98	-10.85	47.79
4	Fresh Vegetables	2.09	-14.33	-2.99	26.86
5	Sugar	2.03	-1.37	-2.76	17.07
6	Wheat Flour	3.43	6.15	-0.36	3.87
7	Gur	0.15	-6.71	-1.68	0.83
8	Cigarettes	1.24	0.66	0.00	0.00
9	Milk Fresh	10.38	0.07	0.00	0.00
10	Pan Prepared	0.04	1.18	0.00	0.00
11	Milk Products	0.96	0.00	0.00	0.00
12	Mustard Oil	0.01	0.20	0.03	0.00
13	Dessert Preparation	0.01	1.39	0.41	-0.02
14	Honey	0.03	0.00	0.43	-0.04
15	Milk Powder	0.11	0.07	0.13	-0.04
Total		23.36			311.53
Bottom 15 Contributors					
1	Wheat	3.47	10.85	3.46	-38.03
2	Condiments And Spices	1.49	3.01	7.06	-34.81
3	Vegetable Ghee	2.38	0.45	2.49	-20.78
4	Fresh Fruits	1.45	4.68	3.25	-13.54
5	Cooking Oil	0.60	0.26	3.20	-6.67
6	Eggs	0.57	1.31	2.99	-5.53
7	Potatoes	0.74	4.43	1.31	-4.81
8	Marriage Hall Charges	6.19	0.00	0.00	-4.13
9	Pulse Moong	0.25	8.55	3.19	-2.50
10	Pulse Gram	0.28	1.01	2.70	-2.12
11	Pulse Masoor	0.21	3.89	3.88	-1.85
12	Meat	1.71	0.37	0.28	-1.71
13	Rice	1.55	1.02	0.22	-1.35
14	Pulse Mash	0.15	8.18	3.80	-1.21
15	Bakery And Confectionary	0.37	1.23	1.06	-1.21
Total		21.41			-140.25

Table A15: Top and Bottom Fifteen Contributors to MoM Rural CPI Non-food Inflation in December 2019					
Top 15 Contributors		MoM Change			Weighted Contribution (%)
Items/ Contributors	Weights	Nov-19	Dec-19		
Ranked by Weighted Contribution					
1	Mechanical Services	2.49	0.00	0.00	2.17
2	Liquefied Hydrocarbons	1.00	0.34	-0.42	1.46
3	Dental Services	0.51	0.77	0.00	0.00
4	Readymade Garments	1.13	0.09	0.00	0.00
5	Cleaning And Laundering	0.02	2.15	0.00	0.00
6	Tailoring	1.30	0.01	0.00	0.00
7	House Rent	8.61	0.00	0.00	0.00
8	Garbage Collection	0.01	0.00	0.00	0.00
9	Major Tools And Equipments	0.03	0.00	0.00	0.00
10	Motor Vehicle Tax	0.36	0.00	0.00	0.00
11	Communication Apparatus	0.01	0.53	0.19	0.00
12	Recreation And Culture	1.65	0.15	0.33	0.00
13	Newspapers	0.50	0.00	0.00	0.00
14	Stationery	0.02	0.02	0.24	0.00
15	Personal Grooming Services	0.14	0.49	0.61	0.00
Total		17.80			3.63
Bottom 15 Contributors					
1	Transport Services	0.02	-0.04	3.47	-19.56
2	Motor Vehicles	1.01	0.27	0.15	-18.10
3	Electricity Charges	3.44	-0.93	1.54	-17.04
4	Solid Fuel	4.48	2.02	0.79	-10.90
5	Personal Effects N.E.C.	2.27	0.58	-1.00	-4.72
6	Drugs And Medicines	3.51	1.24	0.31	-4.33
7	Accommodation Services	3.80	0.00	0.00	-4.19
8	Furniture And Furnishing	4.10	0.44	0.74	-3.89
9	Cotton Cloth	2.84	2.58	0.36	-3.78
10	Appliances/Articles/Products For	1.54	0.54	0.70	-3.19
11	Woolen Readymade Garments	0.54	2.52	1.13	-1.92
12	Doctor (Mbbs) Clinic Fee	1.58	1.21	0.00	-1.74
13	Medical Tests	0.02	1.72	1.13	-1.57
14	Washing Soaps, Detergents And	1.70	1.27	0.28	-1.44
15	Hospitals Services	0.40	0.76	0.31	-1.01
Total		31.24			-97.39

Table A16: Distribution of Price Changes (YoY) - Selected Urban CPI Items: December 2019

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	Chicken Farm Broiler (Live), Lemon, Gram Whole Yellow (Average Quality)	Milk Tetra Pack 1 Litre (Milk Pak/Haleeb/Olpers), Chilies Powder National 200 Gm Packet	Lactogen 400 Gm Packet, Milk Fresh (Un-Boiled), Mustard Oil (Average Quality)	Tomatoes, Onions, Garlic (Lehsun), Chilies (Green), Cauliflower (Phool Gobhi), Potatoes, Cardamom Small (Average Quality), Cucumber (Kheera), Turnip (Shalgham), Ginger (Adrak)
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	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, Brassier (Average Quality)	Gents Sandal Bata, Children Shoes Power Lite Bata, Heavy Weight Suiting Lawrance Pur (Average Quality), Long Cloth 57" Gul Ahmed/Al Karam, Cheetah 50 Size 3-5 Servis, Dopatta Cotton (Average Quality), Shoe Repair Full Sole, Linen, Ladies (Average Quality)
Housing, Water, Elect, Gas & other Fuels	Cement (Local) 50 Kg Bag, Lpg 11.67 Kg Cylinder, Gas Charges Upto 3.3719 Mmbtu	Firewood Whole, 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	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 Above 700 Units, Electricity Charges 51-100 Units
Furnishing & Household Equip. Maintenance etc		Sofa Set Five Seater, Water Set (Omroc) 6 Glasses + Jug, Bed Sheet Double With Two Pillow Covers (Superior Quality)	Air Cooler Super Asia Ecm-4000/Jc-1000, Harpic 500 MI Bottle, Sewing Machine (Sn) Without Cover	Tube Light Philips 40 Watt, Robin Blue Liquid 75 MI Bottle, Phenyl Tyfon/Finis 2.75 Litre Bottle, Geyser Super Asia Large Size 30 Gallons (Gas), Finis 400 MI Bottle, Central Table Set With Glass Top, Match Box
Health	Dental Extraction Fee, Physiotherapist Fee Per Visit, Hydryllin Syrup 120 MI Bottle	Dental Surgeon Fee Per Visit, Glaxose-D 400 Gm Packet, Entox Tablets, Cost Of Surgery (C-Section)	Panadol Tablets Plain, Blood Test (Cp) Charges, Ecg Charges, Urine Test (Dr) Charges	Dettol Medium Bottle, Septtran Tablets, Daonil Tablets 5 Mg, Calpol Syrup 100 MI Bottle, Inderal Tablets 10 Mg, Cac 1000 Tablets Sandoz Bottle, Phenergan Syrup 120 MI Bottle
Transport	Bus Fare Outside City (Non Ac)	Motorcycle United/Unique 70 Cc, Tire Motorcycle Cd 70 (Back Wheel), Air Fare Economy Class Per Kilometer (National Average)	Car Tax 800 Cc To 1500 Cc, Motorcycle Honda Cd 70, Bus Fare Outside City (Ac), Auto Rickshaw Fare, Motorcycle Service Charges	Suzuki Fare Maximum Within City, Car Honda Civic Turbo 1.5 Vtec, Bus Fare Maximum Within City, Train Fare Business Class Per Person, Mini Bus Fare Maximum Within City, Car Suzuki 1000 Cc, Car Toyota 1300 Cc Xli
Communication	Courier Charges Minimum Within Zone Outside City (Tcs), Telephone Call Charges		Mobile Set With Rear Camera And Without Touch Screen	Internet Charges (Dsl) 1 Mb (Unlimited)
Recreation & Culture	Cable Charges, Newspaper Daily Jang, Mag The Weekly (Magazine)	English Book Class Xi Complete Set, Recreational Park Charges (Minimum Playland Ticket)	English Book Ba/B.Sc, Led Sony/Samsung 32" Colored, Pen Ink Dollar 57 MI Bottle, Mathematics Book Class Xi (Text Book Board), Urdu Book Ba/B.Sc	English Book Class Ix And X, Ballpoint Pen Local, Akhbar-E-Jehan Weekly, Photostat Paper 70 Gm, Newspaper Daily Dawn, Urdu Book Class Xi/Inter, English Book Class Vi, Lead Pencil Goldfish, Mathematics Book Class Ix And X (Text Book Board)
Education	Vocational Training Basic Computer Short Course Fee (3 Months)	Government College Fee First Year, Coaching Fee For Class Ix/X Science Group	Government University Fee M.S.C / M.A., Private School Fee English Medium Average Standard (Class I)	Government Medical College/University Tuition Fee For Mbbs (1St Year), Private Engineering University Tuition Fee For Be (1St Year)
Restaurant & Hotels		Chicken Biryani Full/Double, Cooked Chicken At Average Hotel	Bread Tandoori Standard Size	Tea Prepared Ordinary, Cooked Daal At Average Hotel, Cooked Beef At Average Hotel
Miscellaneous		Trunk Medium Size (Average Quality), Toilet Soap Lux 75 Gm, Face Cream Ponds Medium Size (Cold)	Tissue Paper Perfumed Box 100 Napkins, Suitcase Ragzine (24"X16"X6") (Average Quality), Shaving Charges	Gold Tezabi 24 Carett, Pampers (Medium Size), Silver Tezabi 24 Carett, Tooth Paste Colgate 75 Gm, Tooth Brush (Shield), Lipstick Swiss Miss/Medora (Medium)

Table A17: Distribution of Price Changes (YoY) - Selected Rural CPI Items: December 2019

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	Chicken Farm Broiler (Live), Gram Whole Yellow (Average Quality), Lemon, Eggs Farm	Honey Marhaba Bottle 500 Gm, Nimko (Loose, Average Quality)	Almonds (Badam) Kaghazi With Shell (Average Quality), Jam-E-Shireen Standard Size (800 Ml)	Tomatoes, Onions, Peas (Matar), Garlic (Lehsun), Cauliflower (Phool Gobhi), Chilies (Green), Turnip (Shalgham), Potatoes, Ginger (Adrak), Cucumber (Kheera)
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		Lungi/Dhoti Cotton (Average Quality), Tailoring Charges Simple Suit (Female), Pullover Ladies (Average Quality), Chaddar (Wash-N-Wear) (2X2.5 Meter)	Footware Gents Local (Average Quality), School Uniform Boys (Pant & Shirt) 24"/26", Socks Nylon Local (Average Quality), Tailoring Charges Awami Suit (Male)	Brassier (Average Quality), Shirt Boy Length 24"/26", Dopatta Cotton (Average Quality), Shoe Repair Full Sole, Full Pant Boy Length 24"/26", Lawn Printed (Average Quality), Long Cloth, Shoe Polish Charges, Dopatta Georgette (Average Quality), Shirting (Average Quality)
Housing, Water, Elect, Gas & other Fuels	Cement (Local) 50 Kg Bag, Lpg 11.67 Kg Cylinder	House Rent Combined, Bajri, Coal, Charges For Refuse/Waste Collection	Kerosene Oil, Firewood Whole, Plumber Wage Rate, Electrician Charges	Water Charges Per House, Electricity Charges Above 1000 Units, Electricity Charges 51-100 Units, Electricity Charges Combined, Sand (Black Pit), Unskilled Labor Wage Rate, Electricity Charges 101-300 Units, Electricity Charges 301-1000 Units
Furnishing & Household Equip. Maintenance etc		Readymade Quilt (3 Kg), Water Pump Golden Monoblock/Donkey 0.5 H.P	Towel Medium Size (2' X 3'), Blanket Single (Sn), Sewing Machine (Sn) Without Cover, Dinner Set Plastic 72 Pieces Super Quality	Tube Light Philips 40 Watt, Robin Blue Liquid 75 Ml Bottle, Aluminium Cooking Pan (Degchi), Boot Polish Cherry/Kiwi 42 Ml, Washing Soap 250 Gm Cake (Specify Name), Ceiling Fan 56" Pak/Younas/Millat, Match Box
Health	Hydrylin 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, Dettol Medium Bottle, Doctor (Mbbs) Clinic Fee, Blood Test (Cp) Charges
Transport		Tire Cycle, Air Fare Economy Class Per Kilometer, Motorcycle Service Charges	Bicycle, Chingchi Rickshaw Charges, Minimum	Petrol Super, Car Tax 800 Cc To 1500 Cc, Train Fare Economy Per Person, Car Suzuki 800 Cc Without Ac, Tire Motorcycle Cd 70 (Back Wheel), Bus Fare Outside City (Non Ac), Cng, Hi-Speed Diesel, Mobil Oil (Havoline 20W-50)
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	Led Sony/Samsung 32" Colored, English Books Class Xi Complete Set, Cable Charges, Personal Computer With Led Monitor (17") Dell/Hp/Acer Core I5	Lead Pencil Goldfish, Urdu Books Class Ix And X (Text Book Board), Ballpoint Pen Local, 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)	Chicken Biryani Full/Double, Bread Tandoori Standard Size	Cooked Daal At Average Hotel, Tea Prepared Ordinary
Miscellaneous		Shampoo Sun Silk/Pantene 90 Ml Bottle	Artificial Jewelry (Locket Set) (Average Quality), Tooth Paste Colgate 75 Gm, Hair Color (Kala Kola)	Gold Tezabi 24 Carett, Shaving Charges, Blade Treet Ordinary (10 No. Packet), Hair Cut Charges For Men, Disposable Razor Gillette Blue Ii

Table A18: Distribution of Price Changes (YoY) - WPI Items: December 2019

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

Table A19: International Commodity Prices/Indices				
	Sep-19	Oct-19	Nov-19	Dec-19
Energy				
Crude Oil (US\$ per barrel) *	60.0	57.3	60.4	63.4
Energy Index (2010 = 100)	73.6	70.9	74.6	76.9
Food				
Rice (\$/MT)	427.0	424.0	421.0	432.0
Wheat (\$/MT)	189.6	199.5	203.2	210.9
Sugar (US cent/ pound)^	11.88	12.57	12.80	13.41
Palm Oil (\$/MT)	580.3	591.4	683.4	769.9
Soybean Oil (\$/MT)	779.3	770.8	774.9	820.6
Non-Food Non-Energy				
Cotton Outlook 'A' Index #^	71.31	73.88	74.86	75.83
Metal Price Index (2010 = 100)	80.5	80.1	80.4	80.7
Copper (\$/MT)	5,759.3	5,757.3	5,860.0	6,077.1
Aluminum (\$/MT)	1,753.5	1,726.0	1,774.8	1,771.4
Iron Ore (\$ cents/dry MT)	93.1	88.5	85.0	92.7
Tin (\$/MT)	16,830.6	16,603.4	16,335.5	17,141.1
Nickel (\$/MT)	17,656.9	17,046.2	15,171.8	13,829.4
Zinc (\$/MT)	2,331.6	2,451.7	2,425.5	2,272.5
Lead (\$/MT)	2,071.9	2,184.1	2,021.2	1,900.5
Uranium (\$/MT)@	25.7	24.3	26.1	24.9
DAP (\$/MT)	285.8	277.4	248.0	238.2
Urea (\$/MT)	237.8	237.0	224.5	217.5
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	
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	102.84	106.79	113.91	123.46
Aug	102.45	106.96	113.58	125.53
Sep	102.82	107.66	113.55	126.52
Oct	103.31	108.31	115.37	128.11
Nov	103.81	109.03	115.19	129.76
Dec	104.22	110.02	115.91	130.53
Jan	104.84	110.36	116.52	
Feb	105.91	110.62	118.07	
Mar	106.90	110.75	120.31	
Apr	106.94	111.17	120.34	
May	106.78	112.07	121.49	
Jun	106.91	112.95	122.00	

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	
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	102.69	107.16	114.35	124.31
Aug	102.29	107.48	114.12	126.29
Sep	102.67	108.02	114.16	127.40
Oct	103.14	108.59	116.25	128.88
Nov	103.68	109.31	116.16	130.16
Dec	104.10	110.43	116.91	130.95
Jan	104.97	110.71	117.57	
Feb	106.02	111.06	119.07	
Mar	106.98	111.26	121.18	
Apr	107.12	111.85	121.17	
May	107.07	112.72	122.31	
Jun	107.32	113.56	122.73	

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	
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	122.18
Aug	102.69	106.18	112.77	124.39
Sep	103.03	107.12	112.63	125.18
Oct	103.56	107.90	114.03	126.95
Nov	104.02	108.60	113.72	129.16
Dec	104.40	109.42	114.39	129.89
Jan	104.64	109.83	114.95	
Feb	105.75	109.97	116.57	
Mar	106.79	109.97	118.98	
Apr	106.67	110.14	119.08	
May	106.35	111.09	120.26	
Jun	106.30	112.03	120.90	

Table A23: National CPI Monthly & Average Seasonal Factors					
Period	FY17	FY18	FY19	FY20	Average
Jul	100.32	100.34	100.33	100.32	100.33
Aug	100.34	100.33	100.31	100.29	100.32
Sep	100.40	100.35	100.31	100.27	100.33
Oct	100.86	100.84	100.83	100.82	100.84
Nov	100.84	100.85	100.86	100.88	100.86
Dec	99.87	99.91	99.93	99.94	99.91
Jan	99.71	99.68	99.65		99.68
Feb	99.17	99.18	99.20		99.18
Mar	99.29	99.29	99.30		99.29
Apr	99.97	99.98	100.00		99.98
May	99.60	99.63	99.64		99.62
Jun	99.65	99.68	99.70		99.67

Table A24: Urban CPI Monthly & Average Seasonal Factors					
Period	FY17	FY18	FY19	FY20	Average
Jul	100.49	100.51	100.52	100.51	100.51
Aug	100.43	100.42	100.40	100.38	100.42
Sep	100.38	100.33	100.29	100.25	100.34
Oct	100.71	100.69	100.68	100.67	100.70
Nov	100.66	100.66	100.67	100.68	100.67
Dec	99.65	99.69	99.71	99.71	99.67
Jan	99.64	99.61	99.58		99.63
Feb	99.15	99.16	99.17		99.16
Mar	99.25	99.25	99.26		99.25
Apr	100.07	100.08	100.10		100.08
May	99.81	99.83	99.84		99.81
Jun	99.78	99.81	99.83		99.79

Table A25: Rural CPI Monthly & Average Seasonal Factors					
Period	FY17	FY18	FY19	FY20	Average
Jul	100.07	100.07	100.05	100.03	100.05
Aug	100.21	100.18	100.16	100.14	100.17
Sep	100.44	100.39	100.34	100.29	100.37
Oct	101.08	101.06	101.05	101.05	101.06
Nov	101.12	101.13	101.15	101.17	101.14
Dec	100.19	100.24	100.27	100.30	100.25
Jan	99.81	99.79	99.77		99.79
Feb	99.21	99.22	99.24		99.22
Mar	99.35	99.35	99.35		99.35
Apr	99.82	99.83	99.84		99.83
May	99.30	99.31	99.33		99.31
Jun	99.46	99.48	99.49		99.48

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	
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	0.75	-0.12	0.85	1.20
Aug	-0.38	0.16	-0.29	1.67
Sep	0.36	0.66	-0.03	0.79
Oct	0.48	0.60	1.60	1.26
Nov	0.49	0.66	-0.15	1.29
Dec	0.39	0.92	0.62	0.59
Jan	0.60	0.31	0.53	
Feb	1.02	0.24	1.33	
Mar	0.94	0.11	1.90	
Apr	0.03	0.38	0.03	
May	-0.15	0.82	0.96	
Jun	0.12	0.78	0.42	

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	
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	0.73	-0.15	0.69	1.29
Aug	-0.40	0.30	-0.20	1.59
Sep	0.38	0.51	0.04	0.88
Oct	0.45	0.52	1.83	1.16
Nov	0.52	0.66	-0.07	0.99
Dec	0.41	1.02	0.65	0.60
Jan	0.83	0.26	0.56	
Feb	1.00	0.31	1.27	
Mar	0.90	0.18	1.78	
Apr	0.13	0.53	-0.01	
May	-0.05	0.78	0.94	
Jun	0.23	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	
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	0.77	-0.07	1.09	1.06
Aug	-0.35	-0.05	-0.41	1.80
Sep	0.33	0.89	-0.13	0.64
Oct	0.51	0.73	1.25	1.41
Nov	0.44	0.65	-0.27	1.74
Dec	0.36	0.75	0.58	0.57
Jan	0.24	0.38	0.49	
Feb	1.05	0.12	1.41	
Mar	0.99	0.00	2.07	
Apr	-0.11	0.15	0.08	
May	-0.30	0.87	0.99	
Jun	-0.04	0.84	0.54	

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



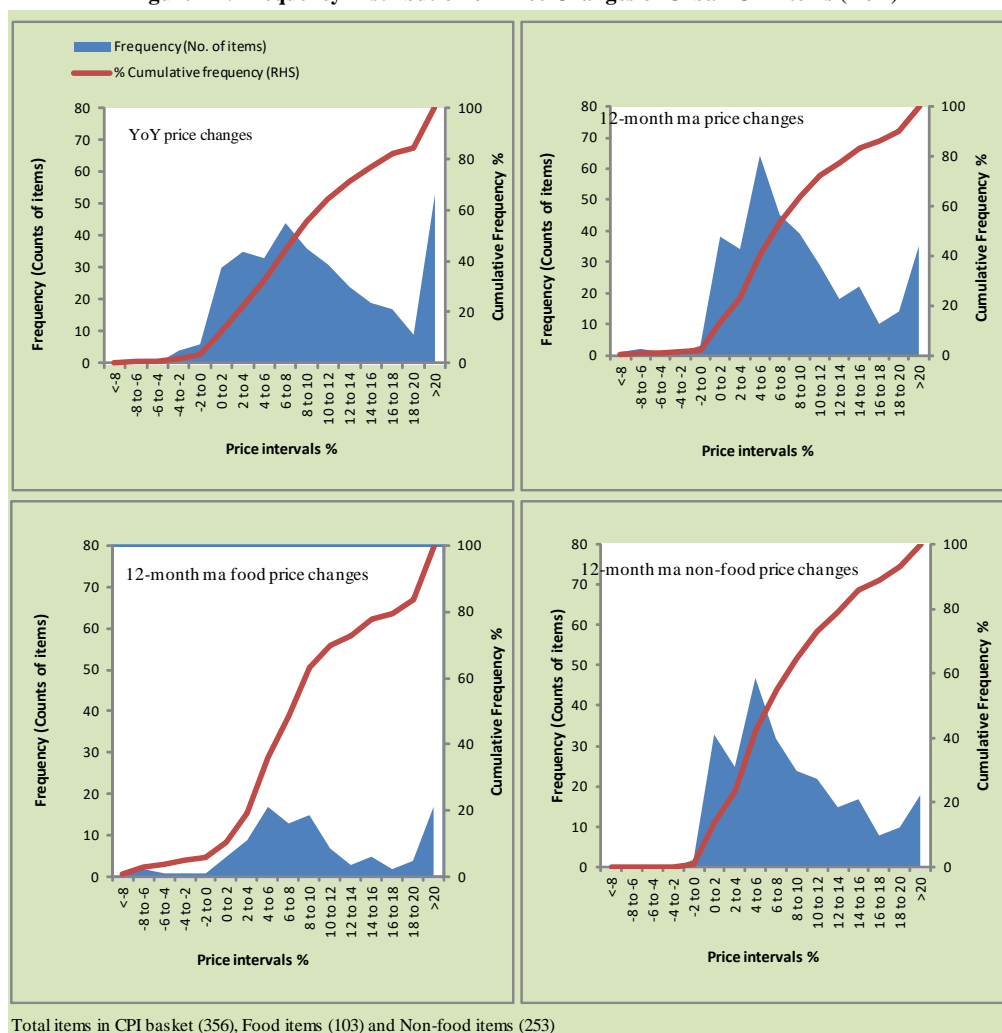
Figure A2: Urban CPI Non-food Inflation (YoY, 12MMA, MoM in percent)



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

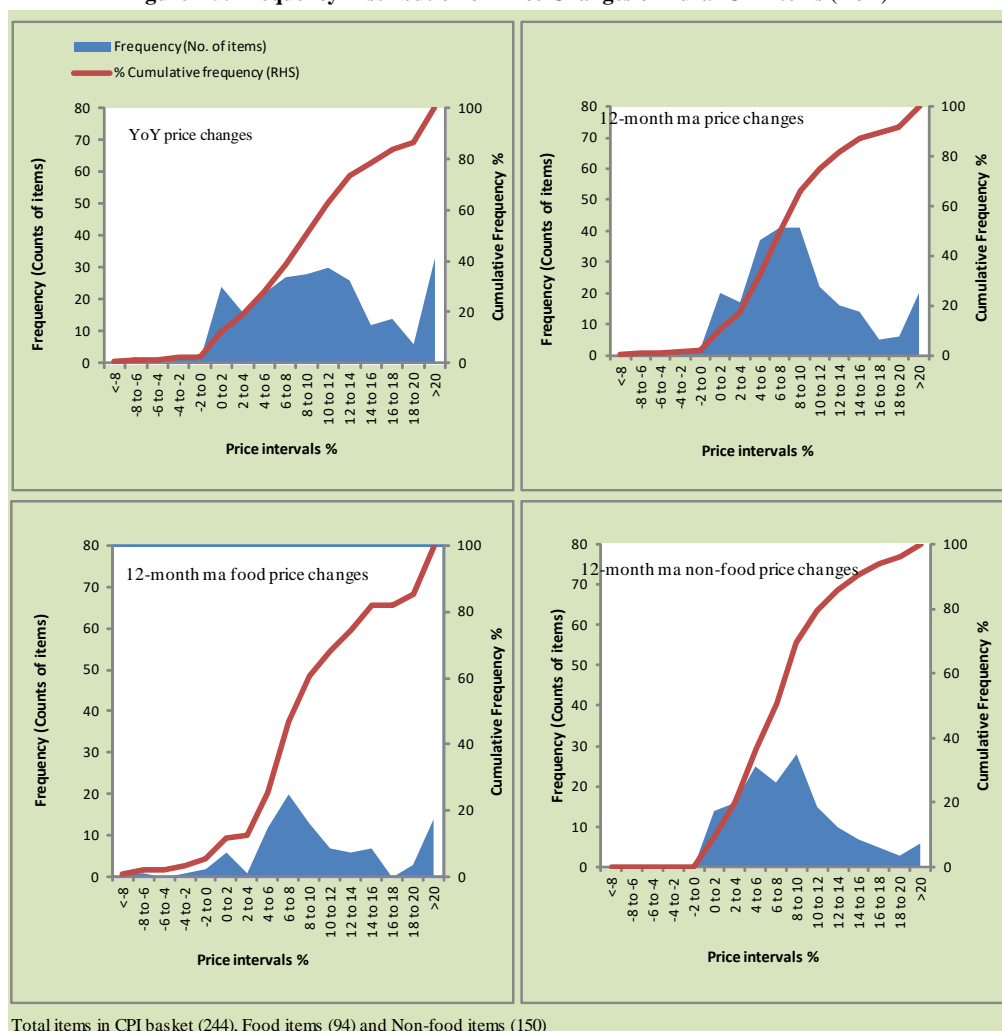


Figure A4: Frequency Distribution of Price Changes of Urban CPI Items (YoY)



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)

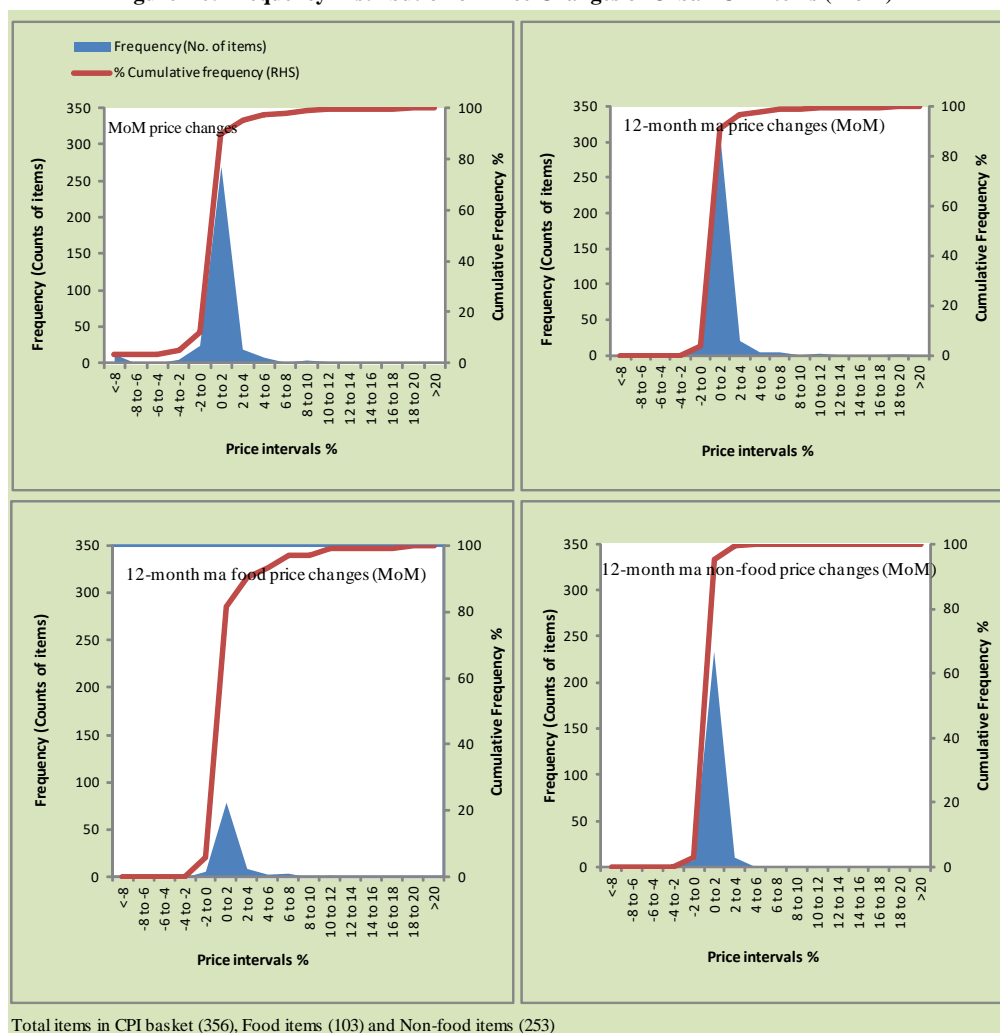


Figure A7: Frequency Distribution of Price Changes of Rural CPI Items (MoM)

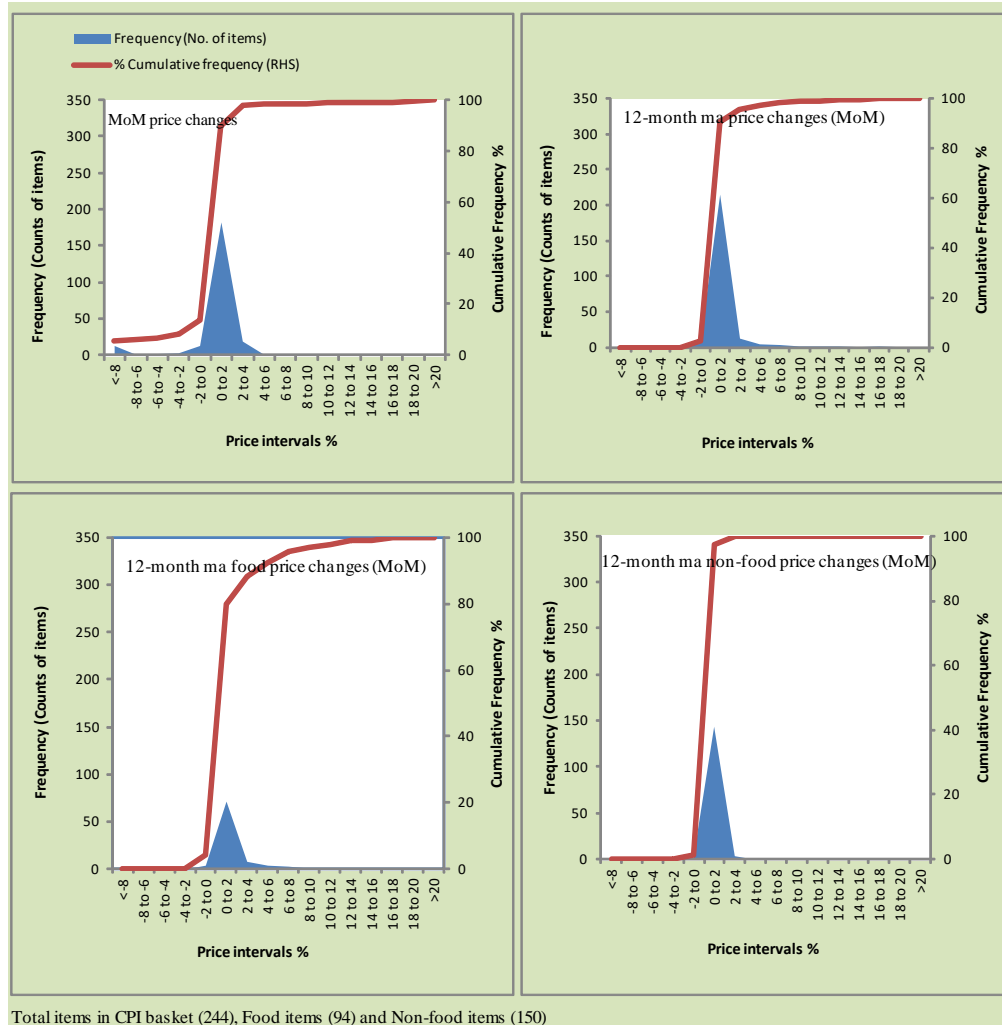
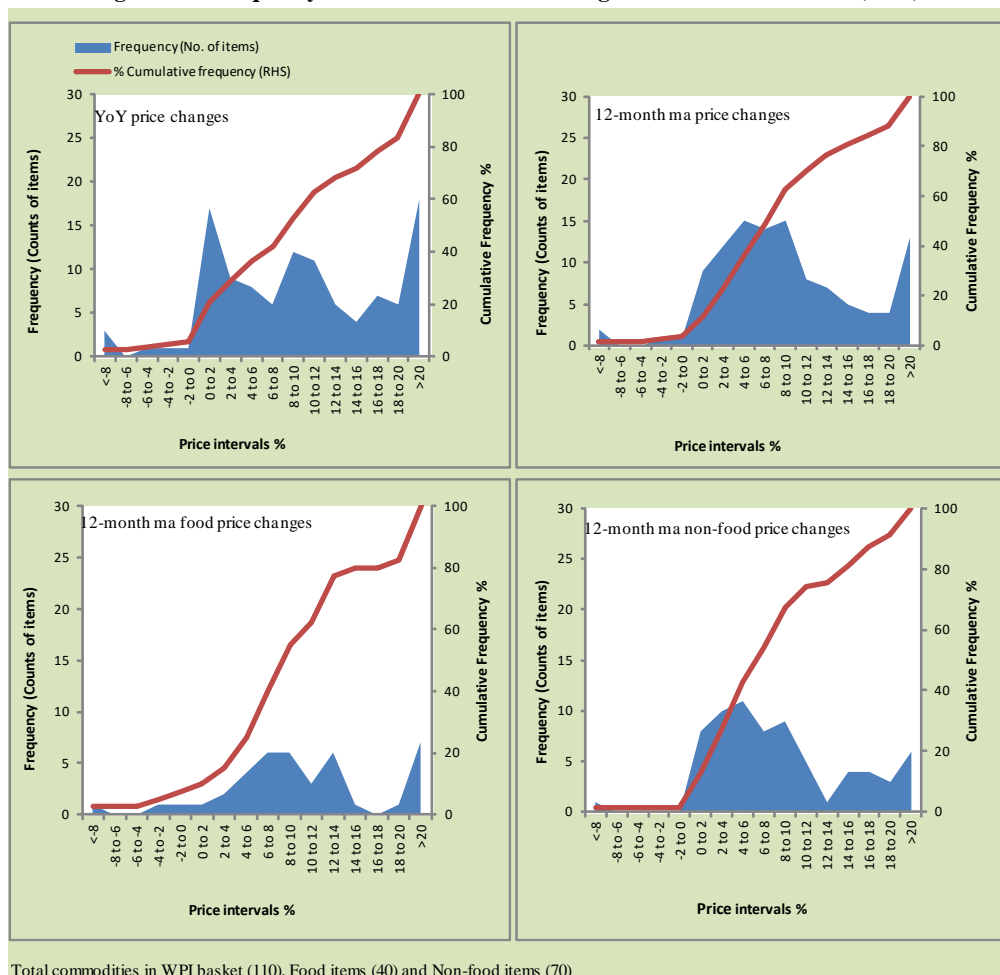


Figure A8: Frequency Distribution of Price Changes of WPI Commodities (YoY)



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.