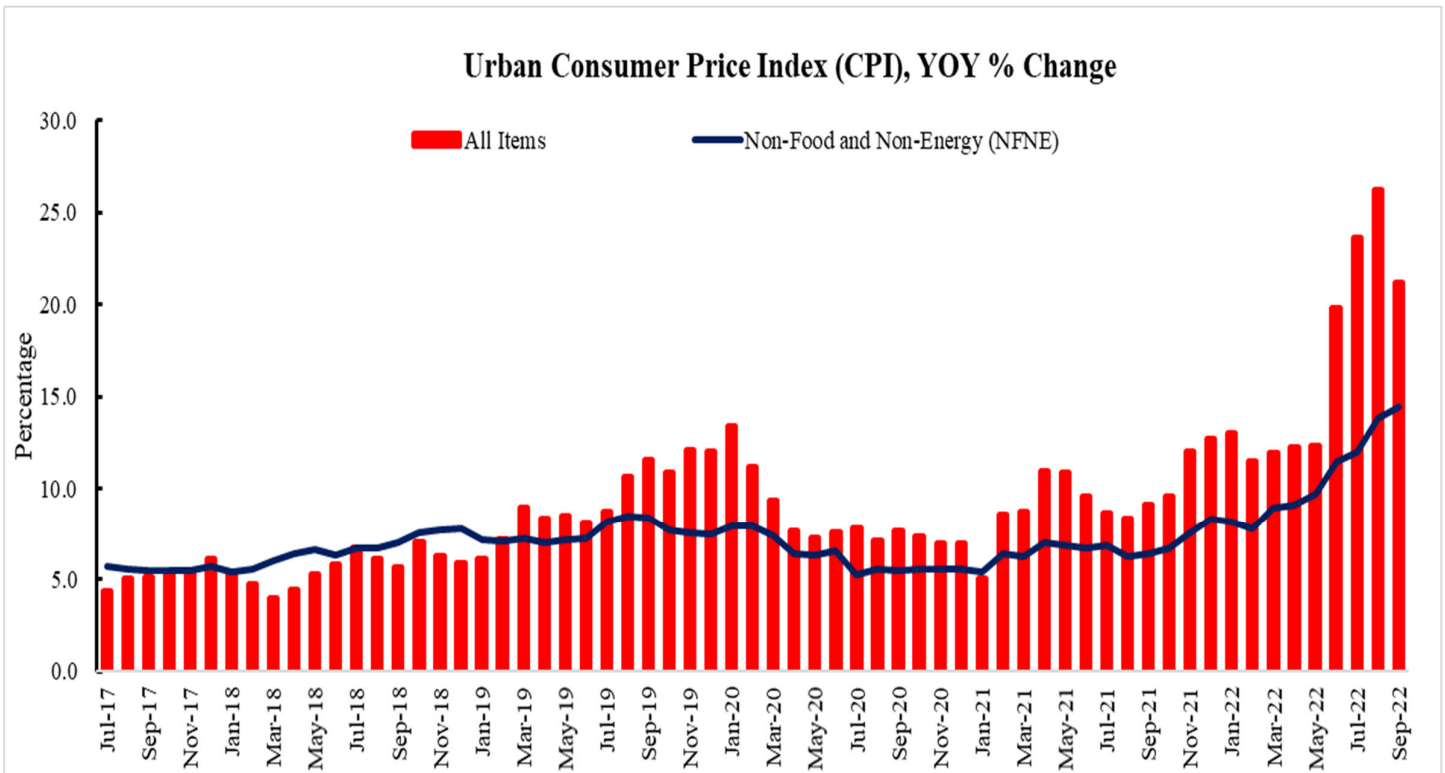




Inflation Monitor

September 2022



State Bank of Pakistan
Data Services and Innovations Department

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

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Table of Contents

1.	Inflation in Brief	5
2.	Heat Maps of CPI inflation	7
3.	Trends in Inflation	11
4.	Movement in Price Indices (Moving Averages)	12
5.	Movement in Price Indices (Month-on-Month)	13
6.	Trends in Consumer Price Indices and Inflation	15
7.	Weighted Contribution	18
8.	Inflation Diffusion Index	20
9.	Domestic Commodity Prices (Growth)	22
10.	Inflation in Global Context	23
11.	Global Commodity Prices	24
12.	Seasonal Adjustment in CPI	25
	List of Tables	29
	Table A0: Inflation – Summary	29
	Table A1: National CPI Inflation by Groups (YoY and MoM in percent)	30
	Table A2: Urban CPI Inflation by Groups (YoY and MoM in percent)	30
	Table A3: Rural CPI Inflation by Groups (YoY and MoM in percent)	31
	Table A4: Top Ten Contributors to Urban CPI Inflation (YoY) – September 2022	32
	Table A5: Top Ten Contributors to Urban CPI Inflation (MoM) in September 2022	33
	Table A6: Top and Bottom Fifteen Contributors to Urban CPI Inflation (YoY) in September 2022	34
	Table A7: Top and Bottom Fifteen Contributors to Urban CPI Inflation (MoM) in September 2022	35
	Table A8: Top and Bottom Fifteen Contributors to MoM Urban CPI Food Inflation in September 2022	36
	Table A9: Top and Bottom Fifteen Contributors to MoM Urban CPI Non-Food Inflation in Sep-22	37
	Table A10: Top Ten Contributors to Rural CPI Inflation (YoY) in September 2022	38
	Table A11: Top Ten Contributors to Rural CPI Inflation (MoM) in September 2022	39
	Table A12: Top and Bottom Fifteen Contributors to Rural CPI Inflation (YoY) in September 2022	40
	Table A13: Top and Bottom Fifteen Contributors to Rural CPI (MoM) Inflation in September 2022	41
	Table A14: Top and Bottom Fifteen Contributors to MoM Rural CPI Food Inflation in September 2022	42
	Table A15: Top and Bottom Fifteen Contributors to MoM Rural CPI Non-Food Inflation in September 2022	43
	Table A16: Distribution of Price Changes (YoY) - Selected Urban CPI Items: September 2022	44
	Table A17: Distribution of Price Changes (YoY) - Selected Rural CPI Items: September 2022	45
	Table A18: Distribution of Price Changes (YoY) - WPI Items: September 2022	46
	Table A19: International Commodity Prices/Indices	47
	Table A20: National CPI Data Series Original and Seasonally Adjusted	48
	Table A21: Urban CPI Data Series Original and Seasonally Adjusted	49
	Table A22: Rural CPI Data Series Original and Seasonally Adjusted	50
	Table A23: National CPI Monthly & Average Seasonal Factors	51
	Table A24: Urban CPI Monthly & Average Seasonal Factors	51
	Table A25: Rural CPI Monthly & Average Seasonal Factors	52
	Table A26: National CPI (Month-on-Month) Original & Seasonally Adjusted	53
	Table A27: Urban CPI (Month-on-Month) Original & Seasonally Adjusted Series	54
	Table A28: Rural CPI (Month-on-Month) Original & Seasonally Adjusted Series	55

List of Figures	56
Figure A1: National CPI Non-food Inflation (YoY, 12MMA, MoM in percent)	56
Figure A2: Urban CPI Non-food Inflation (YoY, 12MMA, MoM in percent)	57
Figure A3: Rural CPI Non-food Inflation (YoY, 12MMA, MoM in percent)	58
Figure A4: Frequency Distribution of Price Changes of Urban CPI Items (YoY)	59
Figure A5: Frequency Distribution of Price Changes of Rural CPI Items (YoY)	60
Figure A6: Frequency Distribution of Price Changes of Urban CPI Items (MoM)	61
Figure A7: Frequency Distribution of Price Changes of Rural CPI Items (MoM)	62
Figure A8: Frequency Distribution of Price Changes of WPI Commodities (YoY)	63
Technical Notes, Definitions and Methodologies	64
Technical Notes	64
Methodology for Estimating Inflation Diffusion Index for Pakistan	66

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Data Support

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1. Inflation in Brief

1. National CPI Inflation on year-on-year (YoY) basis decreased to 23.2 percent in September 2022 from 27.3 percent in previous month. It stood at 9.0 percent in the corresponding month of last year. On month-on-month (MoM) basis, a deflation of 1.2 percent is observed in September 2022 as compared to an inflation of 2.4 percent in previous month. It stood at 2.1 percent during corresponding month of last year.
2. Urban CPI Inflation (YOY) decreased to 21.2 percent in September 2022 from 26.2 percent in previous month. It stood at 9.1 percent during the corresponding month of last year. On MoM basis, a deflation of 2.1% is observed in September 2022 as compared to an inflation of 2.6% in the previous month. It stood at 2.0 percent during corresponding month of last year. Seasonally adjusted MoM CPI showed a deflation of 2.4 percent in September 2022 compared to an inflation of 2.7 percent in the previous month.
3. Rural CPI Inflation (YoY) decreased to 26.1 percent in September 2022 from 28.8 percent in previous month. It was recorded 8.8 percent during the corresponding month of last year. Rural CPI Inflation (on MoM basis) decreased to 0.2 percent in September 2022 from 2.2 percent in the previous month. It stood at 2.3 percent during corresponding month of last year. Seasonally adjusted (MoM) CPI showed a deflation of 0.1 percent in September 2022 as compared to an inflation of 2.2 percent in previous month.
4. Urban Core (Non-food, Non-energy (NFNE)) Inflation on YoY basis increased to 14.4 percent in September 2022 from 13.8 percent in previous month. It stood at 6.4 percent during corresponding month of last year. On MoM basis, Urban Core (NFNE) Inflation decreased to 0.9 percent in September 2022 from 1.8 percent in previous month. It stood at 0.4 percent during the corresponding month of last year.
5. Rural Core (Non-food, Non-energy (NFNE)) Inflation on YOY basis increased to 17.6 percent in September 2022 from 16.5 percent in previous month. It stood at 6.2 percent during the corresponding month of last year. On MoM basis, it decreased to 1.4 percent in September 2022 from 1.8 percent in previous month. It was recorded 0.5 percent during the corresponding month of last year.
6. Urban Core Inflation (trimmed) on YoY basis decreased to 19.5 percent in September 2022 from 21.4 percent in previous month. It stood at 8.7 percent during the corresponding month of last year. On MoM basis, Urban Core Inflation (trimmed) decreased to 1.6 percent in September 2022 from 1.7 percent in previous month. It stood at 0.9 percent during the corresponding month of last year.
7. Rural Core Inflation (trimmed) on YoY basis increased to 24.4 percent in September 2022 from 23.8 percent in previous month. It was recorded 8.2 percent during the corresponding month of last year. On MoM basis, Rural Core Inflation (trimmed) increased to 2.5 percent in September 2022 from 1.8 percent in previous month. It stood at 1.2 percent during corresponding month of last year.

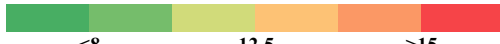
8. WPI Inflation on YoY basis decreased to 38.9 percent in September 2022 from 41.2 percent in previous month. It stood at 19.6 percent during the corresponding month of last year. On MoM basis, it decreased to 1.4 percent in September 2022 from 3.1 percent in previous month. It was recorded 3.2 percent during the corresponding month of last year.

9. SPI Inflation on YoY basis decreased to 35.9 percent in September 2022 from 40.6 percent in previous month. During corresponding month of last year, SPI Inflation stood at 13.8 percent. On MoM basis, SPI showed a deflation of 0.6 percent in September 2022 as compared to an inflation of 5.6 percent in previous month. It stood at 2.9 percent during corresponding month of last year.


2. Heat Maps of CPI inflation

Heat map visually elaborates the evolution of inflation. A heat map for National, Urban and Rural CPI inflation (YoY and MoM) and their important sub-indices for the last thirteen months is presented. The observed inflation is compared with the benchmark of inflation target of 11.5 percent¹ for FY23. Green areas indicate low inflation pressures whereas red areas indicate higher inflationary pressures.


		Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22
Headline	National	9.0	9.2	11.5	12.3	13.0	12.2	12.7	13.4	13.8	21.3	24.9	27.3	23.2
	Urban	9.1	9.6	12.0	12.7	13.0	11.5	11.9	12.2	12.4	19.8	23.6	26.2	21.2
	Rural	8.8	8.7	10.9	11.6	12.9	13.3	13.9	15.1	15.9	23.6	26.9	28.8	26.1
Food	Urban	10.8	9.4	11.9	11.7	13.3	14.3	14.5	15.6	15.5	24.0	27.4	28.8	30.8
	Rural	9.1	7.2	8.6	9.0	11.8	14.6	15.5	17.7	19.0	27.0	29.6	30.2	32.7
Core	Urban	6.4	6.7	7.6	8.3	8.2	7.8	8.9	9.1	9.7	11.5	12.0	13.8	14.4
	Rural	6.2	6.7	8.2	8.9	9.0	9.4	10.3	10.9	11.5	13.6	14.6	16.5	17.6

Key  Source: Pakistan Bureau of Statistics

		Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22
Headline	National	2.1	1.9	3.0	-0.02	0.4	1.2	0.8	1.6	0.4	6.3	4.3	2.4	-1.2
	Urban	2.0	1.7	2.9	0.3	0.1	0.9	0.7	1.6	0.3	6.2	4.5	2.6	-2.1
	Rural	2.3	2.2	3.1	-0.5	0.9	1.5	1.0	1.6	0.6	6.6	4.2	2.2	0.2
Food	Urban	3.6	1.5	3.9	-2.3	-0.8	2.2	1.8	3.7	1.0	5.3	4.3	1.6	5.2
	Rural	3.7	2.6	3.3	-3.1	0.4	2.6	2.3	2.8	1.3	6.0	3.7	1.2	5.7
Core	Urban	0.4	0.9	1.1	1.1	0.8	0.8	1.2	1.1	0.7	2.0	1.2	1.8	0.9
	Rural	0.5	1.0	1.8	1.1	1.2	0.9	1.1	1.2	0.9	2.3	1.6	1.8	1.4

Key  Source: Pakistan Bureau of Statistics

	Weights	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22
General	100.00	9.0	9.2	11.5	12.3	13.0	12.2	12.7	13.4	13.8	21.3	24.9	27.3	23.2
Food and Non-Alcoholic Beverages	34.58	10.2	8.3	10.5	10.3	12.8	14.7	15.3	17.0	17.3	25.9	28.8	29.5	31.7
Alcoholic Beverages, Tobacco	1.02	2.0	1.9	1.8	2.0	2.0	2.1	1.8	5.1	10.1	17.6	22.5	25.8	32.7
Clothing and Footwear	8.60	9.2	9.3	9.8	11.2	11.2	9.7	9.7	10.8	11.3	13.7	14.6	17.6	17.7
Housing, Water, Elec., Gas and Other Fuels	23.63	9.8	12.0	14.8	16.6	15.5	9.0	8.3	7.1	5.8	13.5	21.8	27.6	3.4
Furnishing and Household Equipment Maintenance	4.10	9.3	9.2	10.4	12.3	13.0	13.4	13.8	14.7	16.1	18.8	19.7	21.9	25.1
Health	2.79	8.0	8.0	8.5	9.4	9.2	10.1	10.0	10.4	10.6	11.3	11.2	11.9	13.8
Transport	5.91	9.1	14.4	24.4	24.1	23.1	25.0	26.3	28.3	31.8	62.2	64.7	63.1	64.5
Communication	2.21	2.8	2.8	2.5	2.5	2.6	2.5	2.6	1.6	1.8	2.0	1.2	1.2	1.3
Recreation and Culture	1.59	6.9	7.5	7.5	7.7	7.8	8.2	9.3	9.7	12.3	14.4	15.4	21.8	22.8
Education	3.79	2.6	2.2	2.4	2.8	3.2	3.4	8.3	8.4	9.5	9.5	9.8	10.0	10.0
Restaurants and Hotels	6.92	7.8	8.3	11.0	12.6	13.0	14.4	14.6	14.6	16.0	21.9	25.0	27.4	28.8
Misc. Goods and Services	4.87	7.4	8.7	10.0	10.6	10.3	10.1	12.4	12.8	13.3	15.8	17.2	20.0	22.9

Key  Source: Pakistan Bureau of Statistics

¹ As per Annual Plan 2022-23 published by Planning Commission of Pakistan.

Heat Map of Urban CPI inflation (YoY)														
	Weights	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22
General	100.00	9.1	9.6	12.0	12.7	13.0	11.5	11.9	12.2	12.4	19.8	23.6	26.2	21.2
Food and Non-Alcoholic Beverages	30.42	11.1	9.4	12.2	11.7	13.6	14.5	14.8	16.0	15.8	24.6	27.8	28.9	30.7
Alcoholic Beverages, Tobacco	0.85	2.6	2.1	1.9	2.1	2.0	2.0	1.5	4.8	9.4	18.3	21.7	25.8	34.1
Clothing and Footwear	8.01	10.0	10.2	9.5	12.2	12.4	9.4	9.6	10.5	11.0	14.2	15.0	18.8	18.9
Housing, Water, Elec., Gas and Other Fuels	27.03	8.9	11.1	13.6	15.4	14.2	7.8	7.1	5.6	4.4	11.3	19.2	24.8	1.0
Furnishing and Household Equipment Maintenance	4.09	9.5	9.1	10.0	11.4	11.9	12.4	12.6	13.5	15.2	17.6	18.2	20.3	24.3
Health	2.31	8.7	8.4	9.3	10.1	10.0	10.2	10.0	10.3	10.3	10.9	10.8	11.8	12.3
Transport	6.14	9.7	15.0	25.7	25.0	23.4	24.8	26.3	28.6	32.2	61.5	63.8	62.4	63.3
Communication	2.35	3.8	3.8	3.4	3.3	3.4	3.3	3.3	2.0	2.3	2.5	1.1	1.2	1.2
Recreation and Culture	1.73	6.3	7.6	7.5	7.9	8.1	8.0	8.7	8.9	11.9	13.3	13.9	20.4	21.1
Education	4.88	2.3	1.9	2.2	2.6	3.0	3.2	9.0	9.2	10.4	10.4	10.5	10.1	10.0
Restaurants and Hotels	7.41	8.5	8.6	11.4	13.2	13.2	15.0	14.5	14.5	14.5	21.2	24.7	27.4	29.1
Misc. Goods and Services	4.77	8.0	9.3	10.1	10.4	10.1	9.6	11.9	12.0	12.2	15.1	16.8	20.1	23.1

Source: Pakistan Bureau of Statistics

Heat Map of Rural CPI inflation (YoY)														
	Weights	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22
General	100.00	8.8	8.7	10.9	11.6	12.9	13.3	13.9	15.1	15.9	23.6	26.9	28.8	26.1
Food and Non-Alcoholic Beverages	40.87	9.3	7.1	8.7	8.9	12.0	15.0	15.9	18.2	19.0	27.4	29.9	30.2	32.8
Alcoholic Beverages, Tobacco	1.28	1.3	1.6	1.7	1.9	2.0	2.3	2.3	5.5	11.0	16.9	23.4	25.8	31.1
Clothing and Footwear	9.48	8.2	8.2	10.1	10.1	9.7	10.0	9.8	11.3	11.7	13.1	14.0	16.2	16.3
Housing, Water, Elec., Gas and Other Fuels	18.49	11.6	14.0	17.5	19.2	18.5	11.6	11.1	10.3	9.1	18.4	27.6	33.9	8.6
Furnishing and Household Equipment Maintenance	4.10	8.9	9.3	11.0	13.7	14.8	15.0	15.6	16.4	17.5	20.5	22.0	24.2	26.2
Health	3.51	7.3	7.5	7.8	8.7	8.3	10.0	10.0	10.4	10.9	11.8	11.7	12.0	15.2
Transport	5.56	8.2	13.4	22.3	22.5	22.5	25.4	26.2	27.9	31.0	63.4	66.3	64.2	66.6
Communication	1.99	0.9	1.0	0.8	0.9	1.1	1.1	1.1	0.8	0.8	1.0	1.2	1.4	1.4
Recreation and Culture	1.38	7.9	7.3	7.5	7.3	7.4	8.5	10.5	11.0	13.0	16.3	18.2	24.3	25.7
Education	2.13	4.1	3.2	3.2	3.5	3.7	4.4	5.6	5.1	6.0	6.2	7.2	9.8	9.8
Restaurants and Hotels	6.19	6.6	7.6	10.3	11.5	12.6	13.3	14.6	14.7	18.5	23.0	25.4	27.5	28.2
Misc. Goods and Services	5.02	6.5	7.9	9.7	10.7	10.8	10.7	13.1	13.9	14.9	16.8	17.7	19.7	22.6

Source: Pakistan Bureau of Statistics

Heat Map of National CPI inflation (MoM)														
	Weights	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22
General	100.00	2.1	1.9	3.0	-0.02	0.4	1.2	0.8	1.6	0.4	6.3	4.3	2.4	-1.2
Food and Non-Alcoholic Beverages	34.58	4.0	2.1	3.9	-3.4	-0.5	2.5	2.3	3.7	0.9	5.5	4.1	1.3	5.8
Alcoholic Beverages, Tobacco	1.02	0.4	0.4	0.2	0.3	0.1	0.3	0.0	3.1	4.9	7.0	4.1	2.7	5.9
Clothing and Footwear	8.60	0.2	0.5	1.9	2.0	0.8	1.0	1.0	2.1	0.7	2.3	1.1	2.8	0.3
Housing, Water, Elec., Gas and Other Fuels	23.63	1.6	2.4	2.4	2.8	1.0	-1.6	-2.2	-0.7	-2.3	7.7	8.8	5.5	-17.7
Furnishing and Household Equipment Maintenance	4.10	0.8	0.8	1.6	2.3	1.1	1.8	1.4	1.6	1.8	2.9	1.7	2.3	3.4
Health	2.79	0.5	0.7	1.2	1.6	0.7	2.1	0.6	0.9	0.5	1.2	0.2	1.2	2.2
Transport	5.91	1.3	5.3	6.3	1.3	1.0	3.6	0.3	0.4	2.7	24.4	5.7	-0.3	2.2
Communication	2.21	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.4	0.1	0.1
Recreation and Culture	1.59	1.2	1.2	0.4	0.6	0.4	0.5	1.3	0.4	2.8	3.2	1.6	6.3	2.0
Education	3.79	0.0	0.1	0.2	0.4	0.4	0.3	4.7	0.6	1.0	0.3	0.5	1.1	0.0
Restaurants and Hotels	6.92	1.1	1.3	3.5	2.1	1.0	1.7	0.9	0.2	1.8	5.8	2.9	2.3	2.2
Misc. Goods and Services	4.87	1.4	1.3	1.8	0.7	0.8	1.1	1.6	0.8	1.2	3.3	1.6	2.7	3.8

Source: Pakistan Bureau of Statistics

Heat Map of Urban CPI inflation (MoM)														
	Weights	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22
General	100.00	2.0	1.7	2.9	0.3	0.1	0.9	0.7	1.6	0.3	6.2	4.5	2.6	-2.1
Food and Non-Alcoholic Beverages	30.42	4.0	1.6	4.3	-3.0	-1.1	2.3	2.1	4.3	0.9	5.0	4.3	1.4	5.4
Alcoholic Beverages, Tobacco	0.85	0.2	0.2	0.3	0.1	0.0	0.2	0.1	3.3	4.6	8.2	2.9	3.4	6.8
Clothing and Footwear	8.01	0.1	0.4	1.3	2.9	0.7	1.3	0.9	2.0	0.5	3.0	1.0	3.4	0.1
Housing, Water, Elec., Gas and Other Fuels	27.03	1.6	2.3	2.0	2.6	0.6	-1.6	-2.2	-0.6	-2.3	7.0	8.6	5.2	-17.8
Furnishing and Household Equipment Maintenance	4.09	0.8	0.7	1.4	1.8	0.9	2.0	1.1	1.6	2.0	2.6	1.5	2.3	4.1
Health	2.31	0.6	0.6	1.1	1.6	0.5	1.6	0.9	0.8	0.4	1.4	0.1	1.6	1.0
Transport	6.14	1.5	5.3	6.6	1.3	0.4	3.4	0.5	0.6	2.9	23.5	5.6	-0.2	2.0
Communication	2.35	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.2	0.4	0.0	0.1
Recreation and Culture	1.73	1.3	1.5	0.3	0.5	0.3	0.2	0.9	0.2	3.0	3.1	1.2	6.3	2.0
Education	4.88	0.0	0.2	0.2	0.5	0.5	0.1	5.7	0.6	1.1	0.1	0.3	0.7	0.0
Restaurants and Hotels	7.41	1.4	1.0	3.5	2.3	0.6	2.0	0.7	0.2	0.6	6.6	3.3	2.3	2.8
Misc. Goods and Services	4.77	1.4	1.0	1.7	0.6	0.7	1.2	1.8	0.7	1.1	3.7	1.4	3.4	3.9

Source: Pakistan Bureau of Statistics

Heat Map of Rural CPI inflation (MoM)														
	Weights	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22
General	100.00	2.3	2.2	3.1	-0.5	0.9	1.5	1.0	1.6	0.6	6.6	4.2	2.2	0.2
Food and Non-Alcoholic Beverages	40.87	4.1	2.7	3.6	-3.7	0.2	2.8	2.5	3.1	0.8	6.1	3.8	1.2	6.2
Alcoholic Beverages, Tobacco	1.28	0.6	0.5	0.1	0.5	0.3	0.3	0.0	2.8	5.3	5.6	5.5	1.9	4.8
Clothing and Footwear	9.48	0.4	0.6	2.6	0.9	0.8	0.6	1.1	2.3	0.9	1.6	1.2	2.0	0.5
Housing, Water, Elec., Gas and Other Fuels	18.49	1.7	2.7	3.3	3.2	1.9	-1.4	-2.3	-0.8	-2.5	9.2	9.4	6.0	-17.5
Furnishing and Household Equipment Maintenance	4.10	0.7	1.0	2.0	3.1	1.3	1.3	1.7	1.6	1.5	3.3	2.0	2.4	2.4
Health	3.51	0.4	0.7	1.3	1.7	0.9	2.5	0.2	0.9	0.6	1.1	0.3	0.8	3.4
Transport	5.56	1.0	5.2	5.8	1.3	2.0	3.9	0.0	0.2	2.5	25.9	5.7	-0.5	2.5
Communication	1.99	0.0	0.2	0.0	0.0	0.2	0.0	0.1	0.1	0.0	0.2	0.4	0.2	0.1
Recreation and Culture	1.38	1.1	0.7	0.5	0.6	0.7	1.2	2.0	0.8	2.5	3.4	2.2	6.4	2.2
Education	2.13	0.0	0.1	0.0	0.3	0.2	0.8	1.1	1.0	0.8	0.9	1.4	2.8	0.0
Restaurants and Hotels	6.19	0.6	1.9	3.5	1.6	1.6	1.0	1.2	0.3	3.9	4.4	2.2	2.4	1.2
Misc. Goods and Services	5.02	1.3	1.9	2.0	0.9	1.0	0.8	1.4	1.0	1.3	2.8	2.0	1.9	3.7

Source: Pakistan Bureau of Statistics

<0.00 0.75 >1.50

Heat Map of Rural CPI inflation (YoY)														
	Weights	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22
Rural	100.00	8.8	8.7	10.9	11.6	12.9	13.3	13.9	15.1	15.9	23.6	26.9	28.8	26.1
Food	45.95	9.1	7.2	8.6	9.0	11.8	14.6	15.5	17.7	19.0	27.0	29.6	30.2	32.7
Non-perishable	40.16	12.3	11.2	11.7	12.8	12.8	12.4	13.7	15.8	17.0	25.5	29.3	29.6	29.7
Perishable	5.79	-6.8	-12.5	-5.5	-12.0	6.6	35.8	32.8	34.4	33.7	41.2	33.5	34.3	52.6
Non Food	54.05	8.5	10.0	13.0	14.0	13.9	12.2	12.5	12.8	13.1	20.4	24.5	27.5	20.1
Energy	11.41	17.2	23.2	32.0	34.0	32.7	21.9	20.4	19.8	19.3	46.6	61.2	67.8	28.8
NFNE (Core)	42.64	6.2	6.7	8.2	8.9	9.0	9.4	10.3	10.9	11.5	13.6	14.6	16.5	17.6
HRI	8.61	6.1	6.6	6.6	6.6	5.9	5.9	5.9	5.7	5.7	5.7	5.9	5.9	5.9
Core Excl HRI	34.03	6.3	6.7	8.6	9.5	9.7	10.3	11.4	12.2	12.9	15.5	16.8	19.1	20.4

Source: Pakistan Bureau of Statistics

<8 12.5 >15

Heat Map of Urban CPI inflation (YoY)														
	Weights	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22
Urban	100.00	9.1	9.6	12.0	12.7	13.0	11.5	11.9	12.2	12.4	19.8	23.6	26.2	21.2
Food	36.80	10.8	9.4	11.9	11.7	13.3	14.3	14.5	15.6	15.5	24.0	27.4	28.8	30.8
Non-perishable	32.34	15.3	13.2	15.3	15.5	14.7	11.8	13.0	14.4	15.0	23.5	27.1	28.2	27.9
Perishable	4.46	-9.6	-8.9	-1.9	-8.7	6.3	34.1	28.0	25.6	20.6	32.4	32.4	33.5	48.3
Non Food	63.20	8.1	9.7	12.0	13.4	12.8	9.9	10.4	10.2	10.4	17.3	21.3	24.7	15.2
Energy	9.47	17.8	25.9	37.2	41.3	38.1	20.2	18.0	15.7	14.1	48.8	70.2	80.7	18.9
NFNE (Core)	53.73	6.4	6.7	7.6	8.3	8.2	7.8	8.9	9.1	9.7	11.5	12.0	13.8	14.4
HRI	19.26	6.1	6.6	6.6	6.6	6.1	6.1	6.1	5.6	5.6	5.6	5.6	5.6	5.6
Core Excl HRI	34.47	6.5	6.8	8.1	9.2	9.3	8.7	10.5	11.0	11.9	14.7	15.5	18.2	19.2

Source: Pakistan Bureau of Statistics

<8 12.5 >15

Heat Map of Rural CPI inflation (MoM)														
	Weights	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22
Rural	100.00	2.3	2.2	3.1	-0.5	0.9	1.5	1.0	1.6	0.6	6.6	4.2	2.2	0.2
Food	45.95	3.7	2.6	3.3	-3.1	0.4	2.6	2.3	2.8	1.3	6.0	3.7	1.2	5.7
Non-perishable	40.16	4.1	2.0	1.8	-0.4	1.0	1.4	2.8	0.6	2.8	6.2	3.5	0.7	4.2
Perishable	5.79	4.3	7.1	14.5	-21.8	-5.1	13.3	0.5	20.0	-10.7	5.2	6.0	3.9	18.4
Non Food	54.05	1.0	1.9	3.0	1.9	1.4	0.4	-0.2	0.5	0.0	7.1	4.6	3.1	-4.9
Energy	11.41	2.9	5.2	7.0	4.4	1.9	-0.9	-4.0	-1.8	-2.8	24.3	13.4	6.4	-21.0
NFNE (Core)	42.64	0.5	1.0	1.8	1.1	1.2	0.9	1.1	1.2	0.9	2.3	1.6	1.8	1.4
HRI	8.61	0.0	1.3	0.0	0.0	2.1	0.0	0.0	1.0	0.0	0.0	1.4	0.0	0.0
Core Excl HRI	34.03	0.6	1.0	2.2	1.4	1.0	1.1	1.3	1.3	1.0	2.9	1.7	2.2	1.7

Source: Pakistan Bureau of Statistics

<0.00 0.75 >1.50

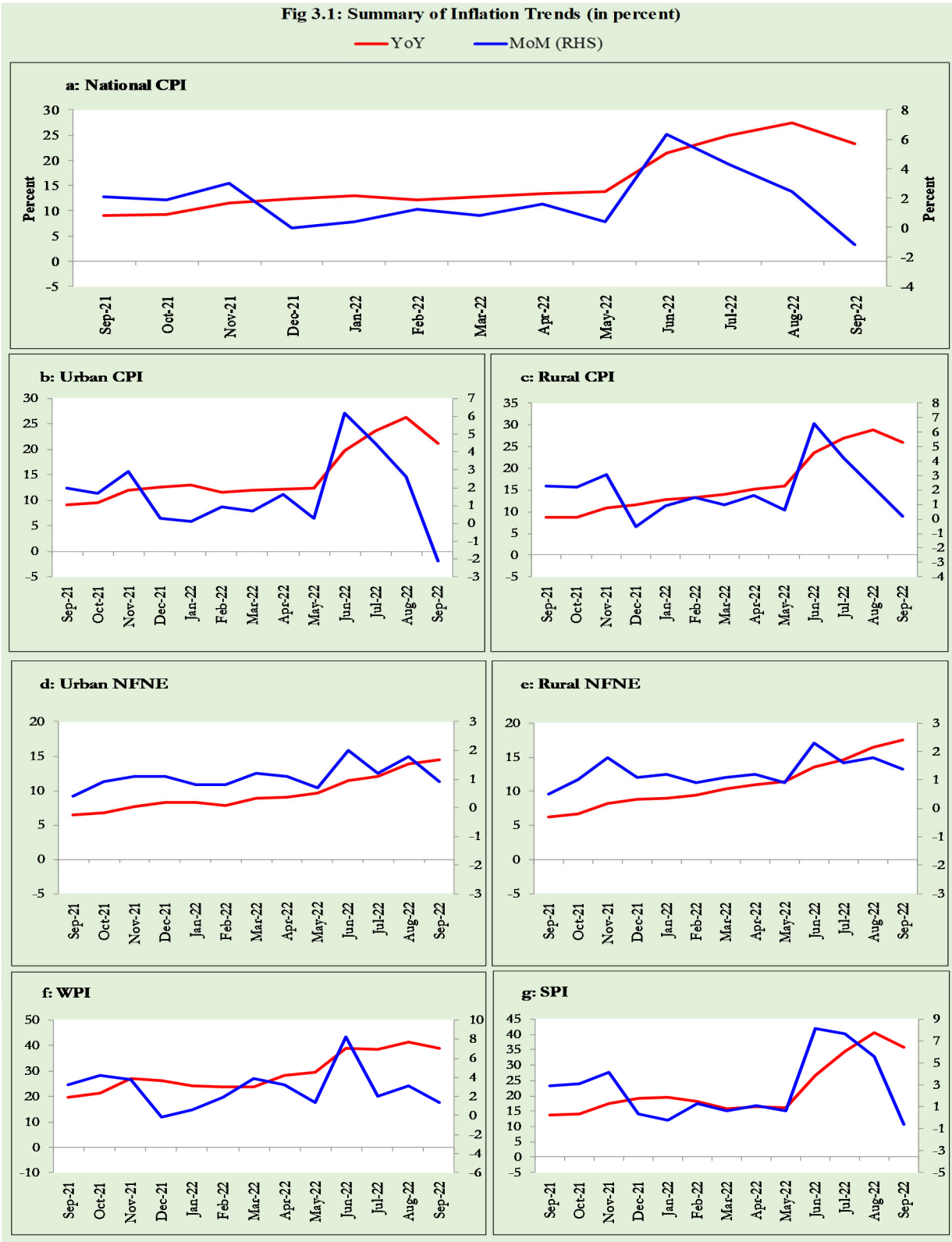
Heat Map of Urban CPI inflation (MoM)														
	Weights	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22
Urban	100.00	2.0	1.7	2.9	0.3	0.1	0.9	0.7	1.6	0.3	6.2	4.5	2.6	-2.1
Food	36.80	3.6	1.5	3.9	-2.3	-0.8	2.2	1.8	3.7	1.0	5.3	4.3	1.6	5.2
<i>Non-perishable</i>	32.34	4.2	1.0	2.4	0.2	-0.4	0.5	2.6	1.7	3.1	4.9	3.8	1.2	4.0
<i>Perishable</i>	4.46	2.6	5.2	15.1	-20.2	-5.4	14.7	-1.1	20.8	-10.8	5.5	7.3	2.8	14.0
Non Food	63.20	1.1	1.8	2.2	2.0	0.6	0.2	-0.1	0.3	-0.1	6.8	4.6	3.3	-6.6
<i>Energy</i>	9.47	4.6	6.0	7.6	5.8	-0.4	-2.3	-5.9	-3.4	-4.6	32.2	18.3	8.4	-31.1
<i>NFNE (Core)</i>	53.73	0.4	0.9	1.1	1.1	0.8	0.8	1.2	1.1	0.7	2.0	1.2	1.8	0.9
<i>HRI</i>	19.26	0.0	1.4	0.0	0.0	1.5	0.0	0.0	1.1	0.0	0.0	1.5	0.0	0.0
<i>Core Excl HRI</i>	34.47	0.6	0.6	1.7	1.7	0.4	1.1	1.9	1.0	1.1	3.0	1.1	2.7	1.4

Source: Pakistan Bureau of Statistics

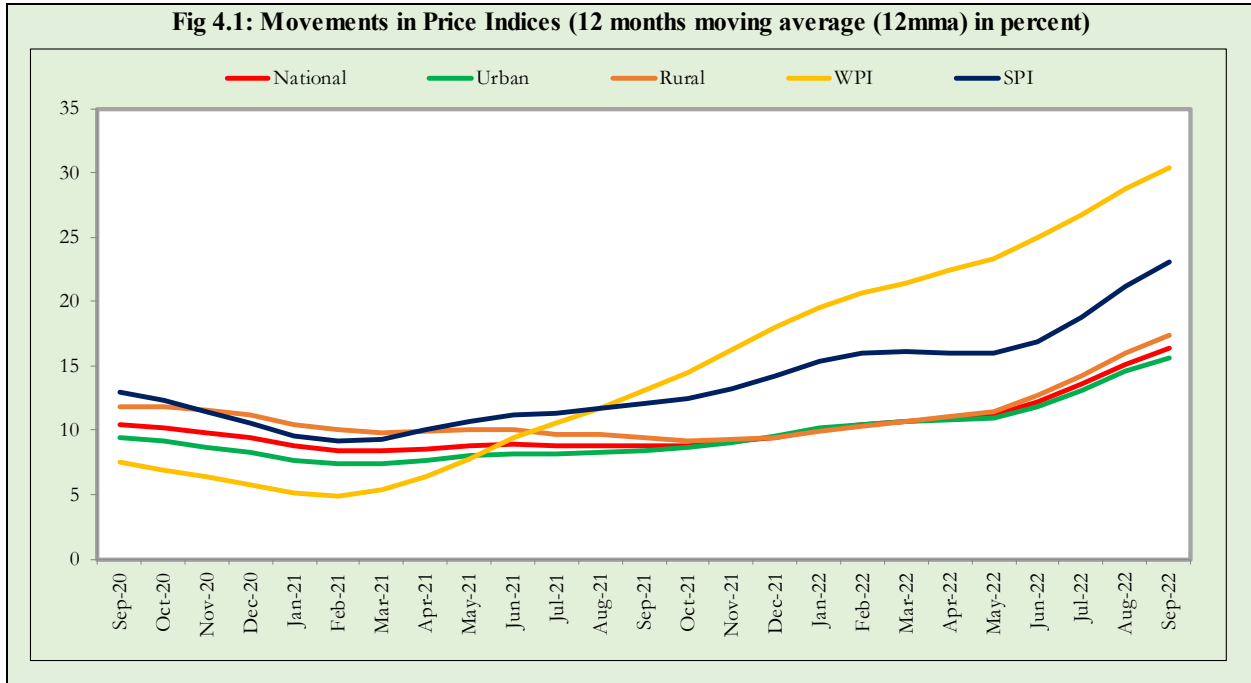
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3. Trends in Inflation

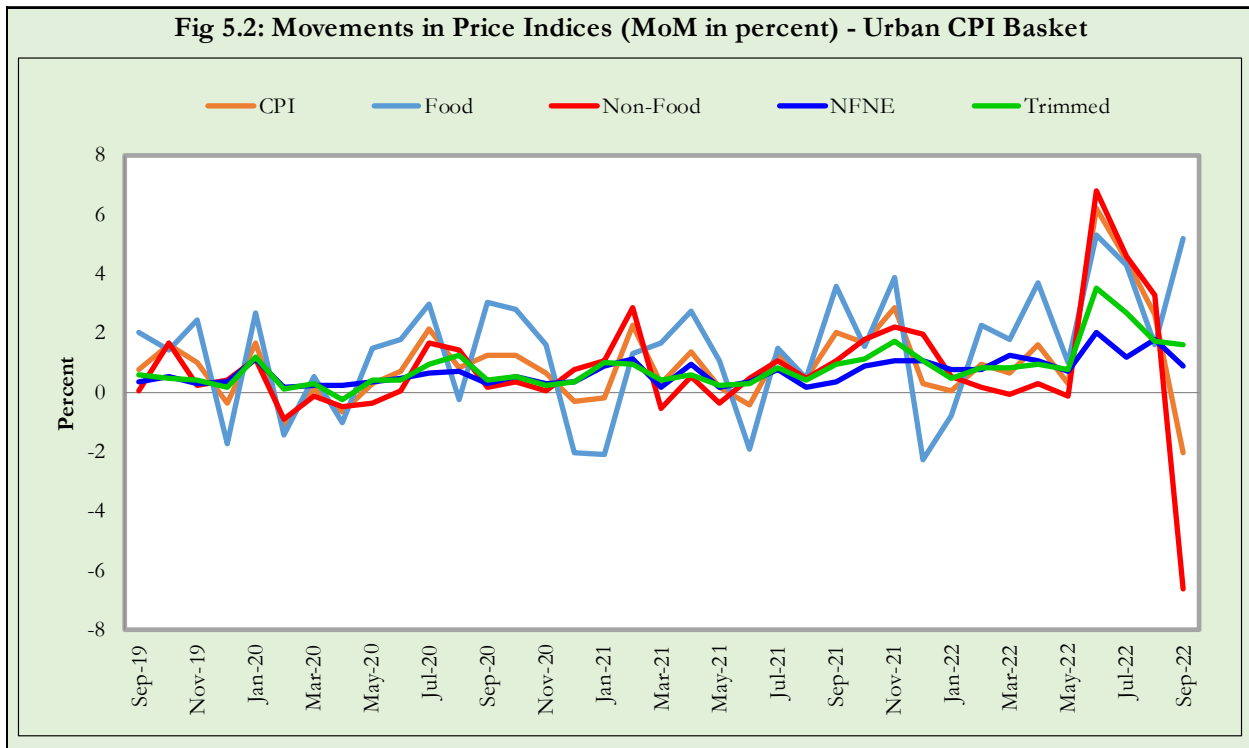
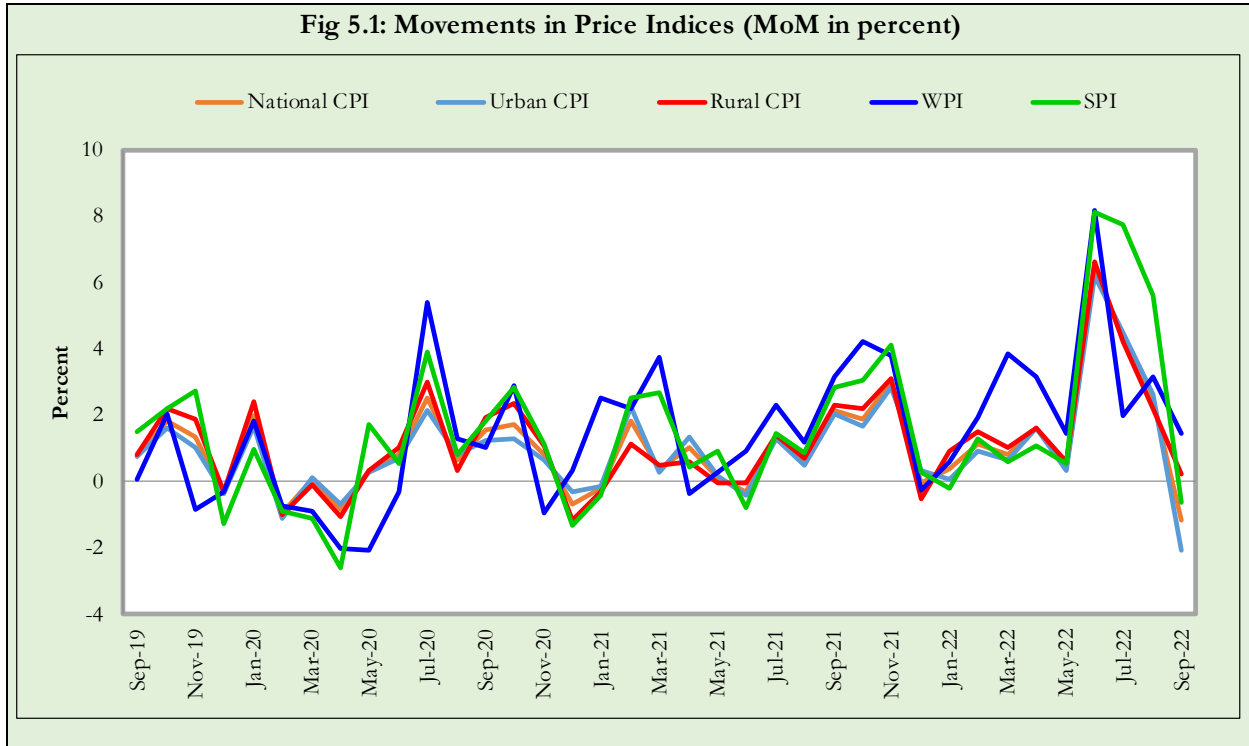
Fig 3.1: Summary of Inflation Trends (in percent)

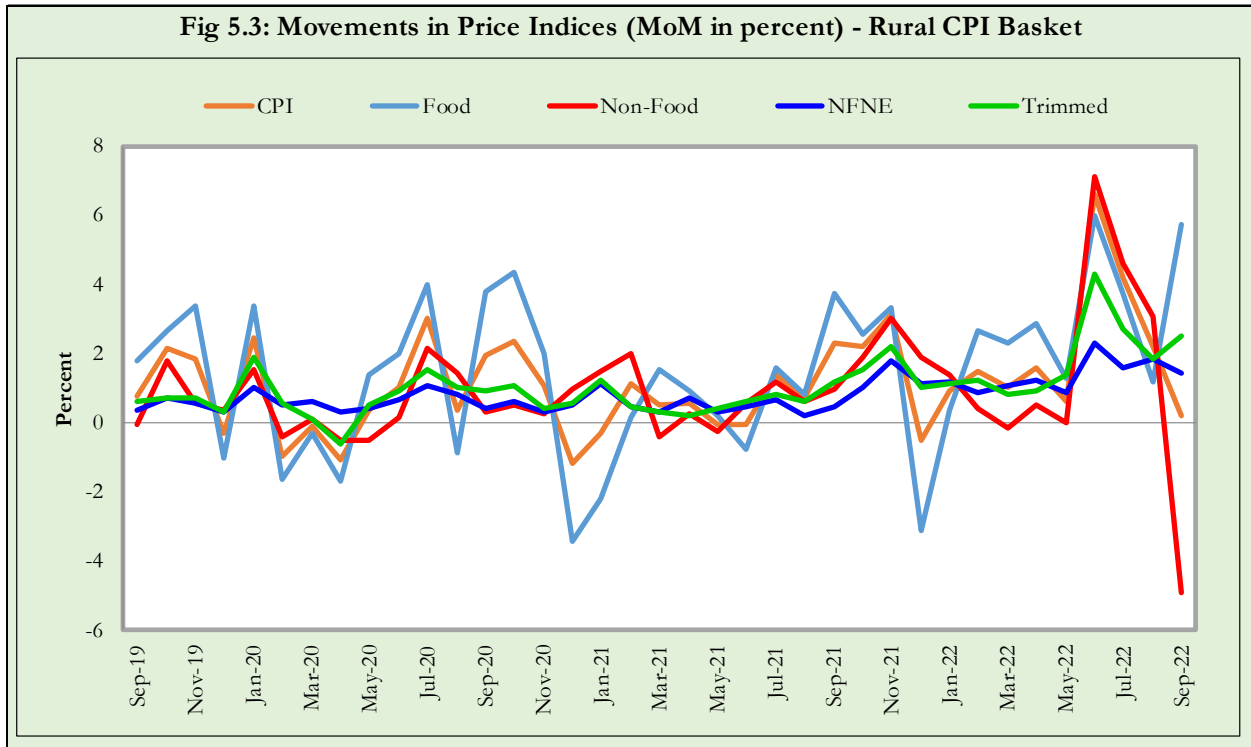


4. Movement in Price Indices (Moving Averages)



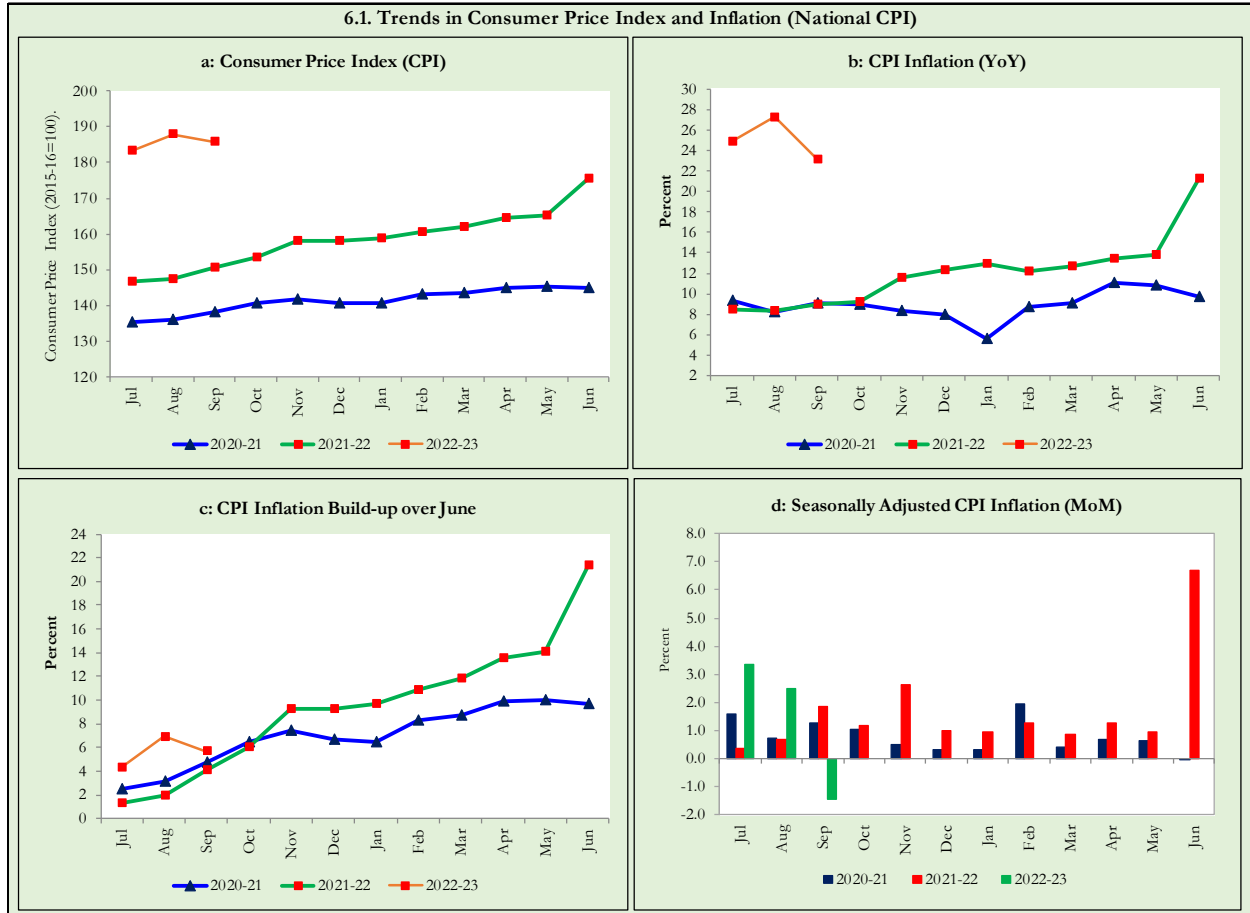
5. Movement in Price Indices (Month-on-Month)



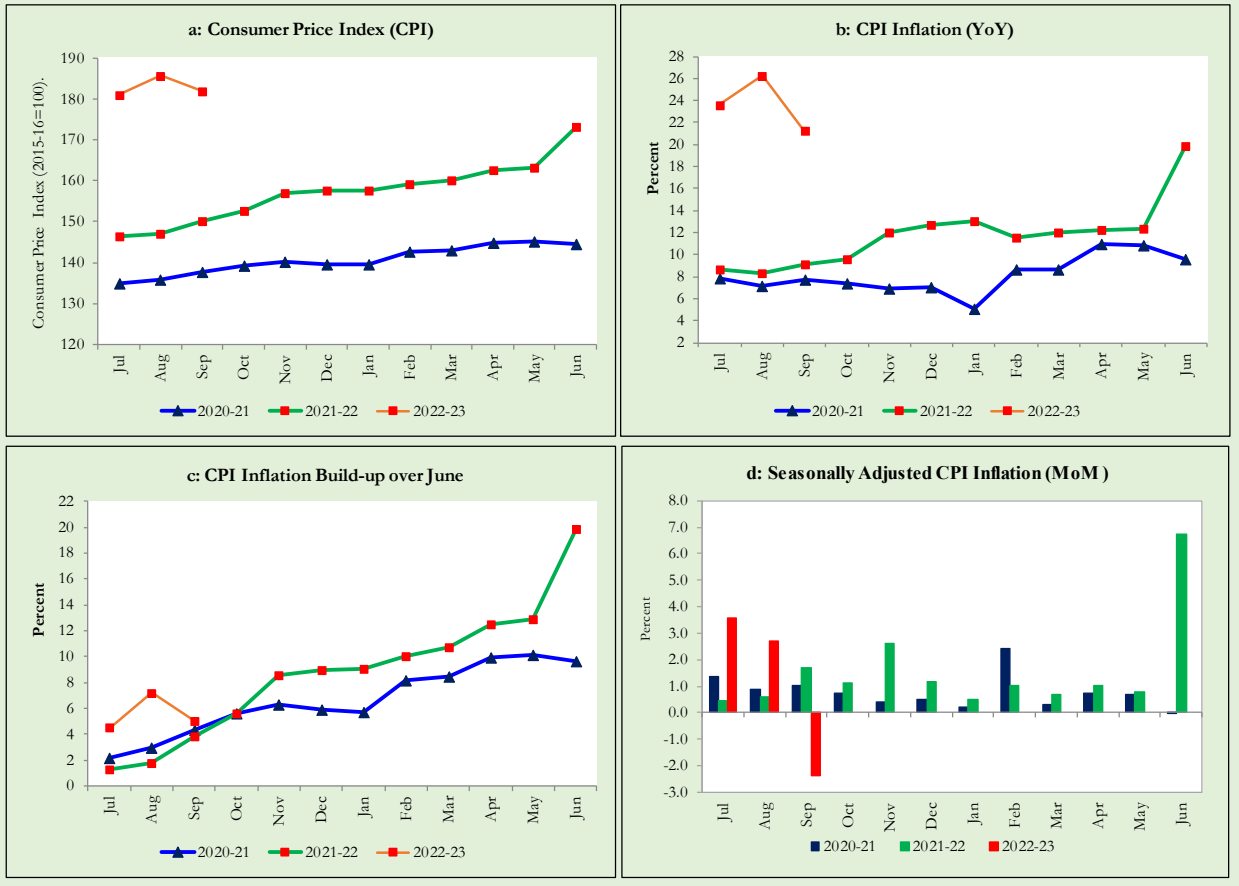


6. Trends in Consumer Price Indices and Inflation

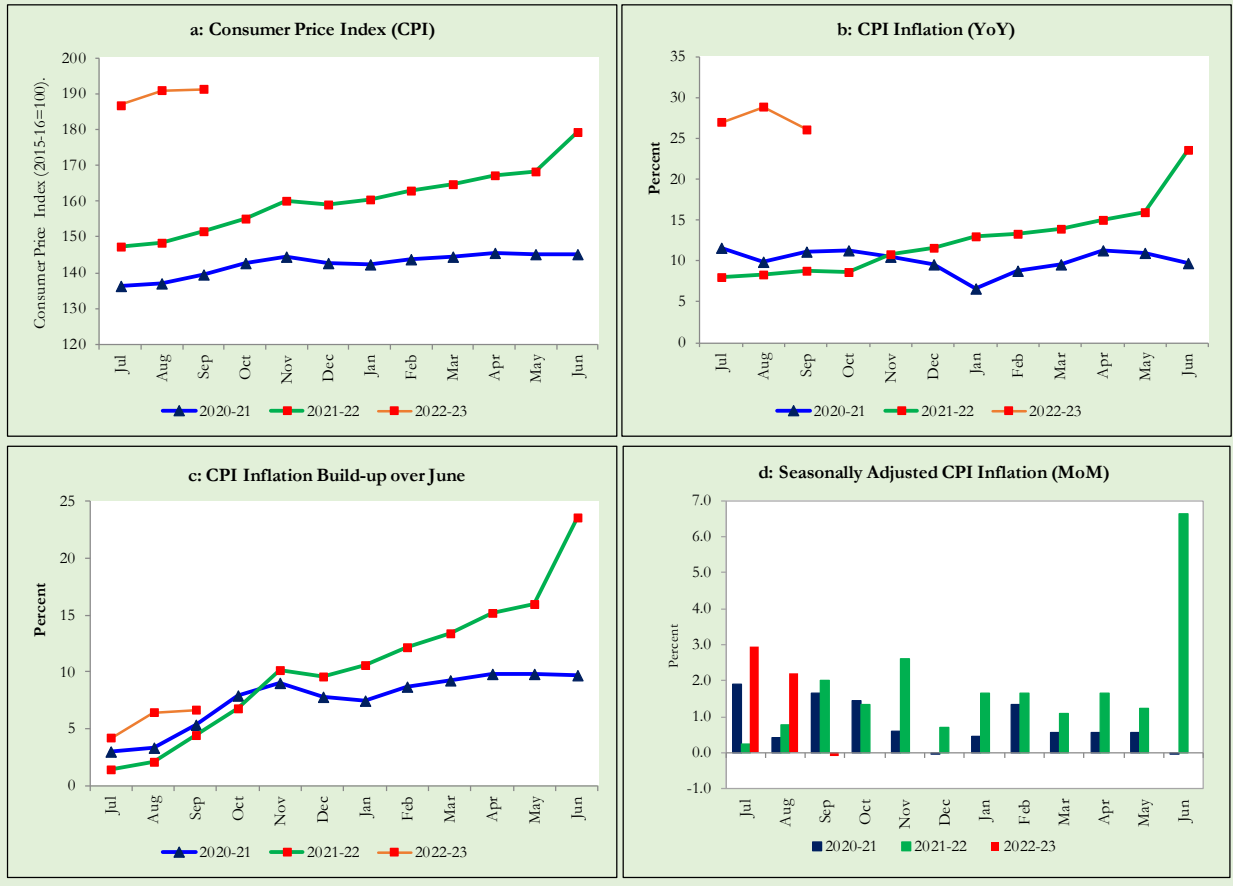
Monthly Consumer Price Indices, YoY growth rates and inflation build up over September along with seasonally adjusted (MoM) growth rates in CPI (National, Urban and Rural) is summarized in the following graphs (Figure 6.1 to 6.3).



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



6.3. Trends in Consumer Price Index and Inflation (Rural CPI Basket)



7. Weighted Contribution

The weighted contribution of food group in the overall urban CPI inflation increased to 56.0 percent during September 2022 from 41.6 percent in previous month. It was 44.7 percent during corresponding month of last year. The weighted contribution of non-food group decreased to 44.0 percent in September 2022 from 58.4 percent in previous month. Weighted Contribution of non-food was 55.3 percent during corresponding month of last year. Table 7.1 provides the historical perspective of weighted contribution of food and non-food group and their respective sub-indices (Perishable food, Non-Perishable food, Energy, Core Inflation (NFNE), NFNE excluding HRI and HRI) in the overall inflation for urban basket.

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
Sep-21	100.0	44.7	-5.6	50.4	55.3	18.7	36.7	24.4	12.3
Oct-21	100.0	37.9	-5.1	43.0	62.1	25.4	36.7	24.0	12.8
Nov-21	100.0	38.6	-0.9	39.5	61.4	28.6	32.8	22.7	10.1
Dec-21	100.0	35.0	-3.4	38.5	65.0	30.8	34.2	24.6	9.5
Jan-22	100.0	38.2	2.0	36.2	61.8	28.4	33.4	24.5	8.9
Feb-22	100.0	46.1	10.9	35.2	54.0	18.7	35.3	25.5	9.8
Mar-22	100.0	45.6	8.9	36.7	54.4	15.3	39.1	29.7	9.4
Apr-22	100.0	48.5	9.6	38.9	51.5	12.7	38.7	30.4	8.4
May-22	100.0	48.2	7.1	41.1	51.7	10.9	40.9	32.6	8.3
Jun-22	100.0	45.7	6.7	39.0	54.3	23.9	30.3	25.2	5.2
Jul-22	100.0	44.0	6.0	38.0	56.0	29.5	26.5	22.1	4.4
Aug-22	100.0	41.6	5.6	36.0	58.4	31.0	27.3	23.4	3.9
Sep-22	100.0	56.0	10.1	45.8	44.0	9.2	34.8	30.0	4.8

Note: The weighted contribution of sub-indices may not exactly tally with the weighted contribution of overall CPI index due to rounding off

For rural basket, the weighted contribution of food group in the overall rural CPI inflation increased to 60.1 percent during September 2022 from 49.6 percent in previous month. It was 49.5 percent during corresponding month of last year. The weighted contribution of non-food group decreased to 39.9 percent in September 2022 from 50.4 percent in previous month. Weighted contribution of non-food group was 50.4 percent during corresponding month of last year. Table 7.2 provides the historical perspective of weighted contribution of food (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.

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)	h
Sep-21	100.0	49.5	-5.2	54.8	50.4	20.8	29.6	24.0	5.6
Oct-21	100.0	40.8	-10.9	51.7	59.2	27.7	31.5	25.3	6.2
Nov-21	100.0	39.2	-4.0	43.2	60.8	30.1	30.8	25.9	4.9
Dec-21	100.0	37.2	-6.9	44.1	62.8	31.2	31.6	27.0	4.6
Jan-22	100.0	43.2	2.7	40.5	56.8	27.7	29.1	25.3	3.8
Feb-22	100.0	51.3	12.4	38.9	48.7	19.2	29.5	25.8	3.6
Mar-22	100.0	52.6	11.2	41.5	47.4	16.7	30.7	27.2	3.5
Apr-22	100.0	55.5	12.7	42.8	44.5	14.6	29.9	26.8	3.1
May-22	100.0	56.7	10.6	46.1	43.3	13.2	30.1	27.1	3.0
Jun-22	100.0	54.2	8.7	45.4	45.8	21.7	24.1	22.1	2.0
Jul-22	100.0	52.1	6.9	45.2	47.9	25.4	22.6	20.8	1.8
Aug-22	100.0	49.6	6.8	42.9	50.4	26.7	23.7	22.0	1.7
Sep-22	100.0	60.1	11.6	48.5	39.9	12.6	27.3	25.5	1.8

Note: The weighted contribution of sub-indices may not exactly tally with the weighted contribution of overall CPI index due to rounding off

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													
Groups	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22
General	57.6	60.1	70.2	63.2	57.6	60.1	60.1	57.3	61.2	75.3	71.1	70.8	62.4
Food & Non-Alcoholic Beverages	55.6	41.1	42.2	34.4	40.0	46.7	34.4	44.4	37.8	57.8	66.7	54.4	56.7
Alcoholic Beverages & Tobacco	33.3	33.3	33.3	33.3	66.7	33.3	33.3	66.7	100.0	100.0	100.0	100.0	100.0
Clothing & Footwear	50.0	55.0	80.0	85.0	77.5	77.5	70.0	67.5	72.5	82.5	62.5	70.0	62.5
Housing, Water, Elect, Gas & other Fuels	58.6	72.4	72.4	69.0	13.8	3.4	10.3	17.2	20.7	72.4	75.9	58.6	3.4
Furnishing & Household Equip. Maintenance etc.	83.3	88.1	90.5	88.1	88.1	90.5	90.5	90.5	97.6	100.0	97.6	95.2	97.6
Health	54.8	51.6	64.5	90.3	71.0	87.1	77.4	74.2	61.3	90.3	61.3	77.4	87.1
Transport	40.6	50.0	93.8	53.1	62.5	62.5	59.4	40.6	53.1	93.8	81.3	50.0	37.5
Communication	20.0	20.0	0.0	20.0	40.0	20.0	20.0	20.0	20.0	40.0	40.0	20.0	40.0
Recreation & Culture	48.0	72.0	68.0	24.0	36.0	36.0	68.0	44.0	76.0	44.0	52.0	80.0	72.0
Education	25.0	56.3	81.3	68.8	31.3	37.5	75.0	43.8	50.0	25.0	31.3	75.0	12.5
Restaurant & Hotels	64.3	85.7	85.7	100.0	78.6	92.9	78.6	78.6	92.9	92.9	85.7	100.0	92.9
Miscellaneous	89.7	82.8	96.6	86.2	89.7	86.2	100.0	89.7	96.6	100.0	86.2	96.6	93.1
NFNE	59.1	66.0	80.9	75.3	67.2	69.4	76.6	67.2	72.8	81.3	71.5	77.4	67.2

Groups	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22
General	54.1	66.8	61.9	56.1	57.4	59.4	52.0	54.9	59.0	74.2	76.6	72.5	67.2
Food & Non-Alcoholic Beverages	41.8	49.4	29.1	21.5	44.3	45.6	41.8	32.9	40.5	53.2	64.6	53.2	62.0
Alcoholic Beverages & Tobacco	40.0	80.0	40.0	80.0	60.0	100.0	0.0	80.0	100.0	100.0	100.0	100.0	100.0
Clothing & Footwear	74.1	81.5	96.3	96.3	70.4	92.6	74.1	92.6	88.9	81.5	81.5	88.9	66.7
Housing, Water, Elect, Gas & other Fuels	65.2	91.3	87.0	73.9	17.4	4.3	0.0	26.1	26.1	82.6	95.7	78.3	30.4
Furnishing & Household Equip. Maintenance etc.	57.7	84.6	88.5	96.2	92.3	92.3	84.6	80.8	84.6	92.3	92.3	100.0	88.5
Health	42.9	57.1	71.4	78.6	64.3	78.6	42.9	71.4	42.9	100.0	64.3	71.4	92.9
Transport	62.5	68.8	81.3	43.8	62.5	62.5	37.5	50.0	68.8	87.5	75.0	43.8	68.8
Communication	0.0	20.0	0.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	40.0	20.0	20.0
Recreation & Culture	53.8	61.5	53.8	15.4	38.5	53.8	69.2	30.8	76.9	53.8	53.8	84.6	69.2
Education	0.0	20.0	0.0	20.0	60.0	80.0	80.0	100.0	80.0	80.0	100.0	80.0	0.0
Restaurant & Hotels	64.3	78.6	85.7	85.7	78.6	57.1	78.6	57.1	71.4	92.9	85.7	92.9	85.7
Miscellaneous	88.2	88.2	88.2	82.4	94.1	76.5	88.2	94.1	76.5	94.1	94.1	94.1	94.1
NFNE	57.4	71.3	75.0	72.1	67.6	71.3	66.9	74.3	69.9	82.4	78.7	80.9	72.1

9. Domestic Commodity Prices (Growth)

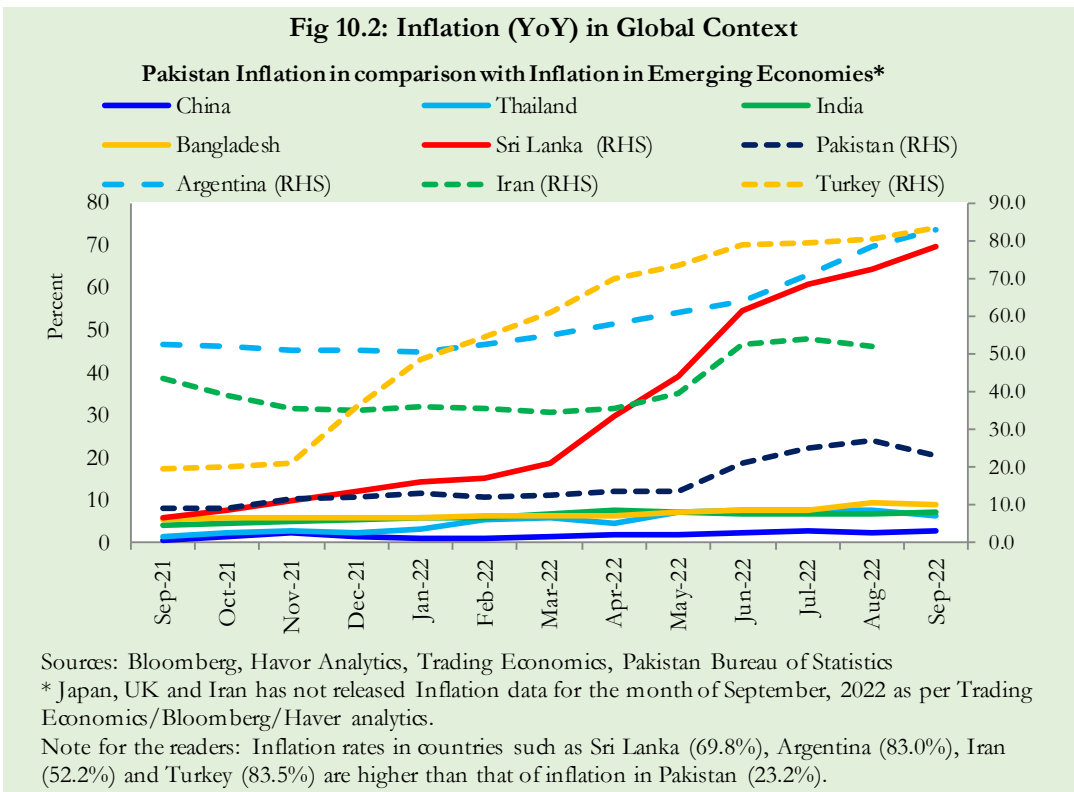
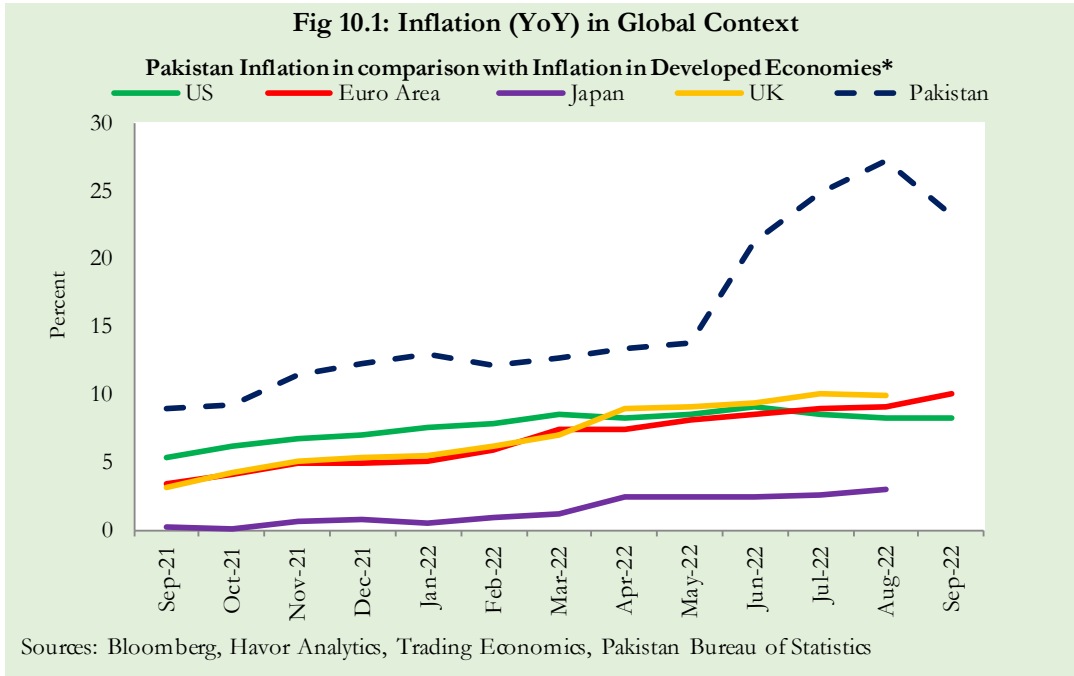
Growth of domestic food commodities (YoY and MoM in percent) for selected essential food items covering both urban and rural CPI baskets is given in table 9.1.

S. No	Item	Unit	Urban CPI		Rural CPI	
			YoY	MoM	YoY	MoM
1	Wheat	10 Kg	55.3	15.4	43.3	9.7
2	Wheat Flour Bag	20 Kg	8.8	7.7	17.5	5.9
3	Rice Basmati Broken (Superior/Average Quality)*	1 Kg	60.2	1.9	35.3	1.9
4	Beef With Bone (Average Quality)	1 Kg	21.0	0.7	26.1	1.2
5	Mutton (Average Quality)	1 Kg	30.4	0.7	24.1	1.5
6	Chicken Farm Broiler (Live)	1 Kg	27.3	13.1	22.4	10.9
7	Milk Fresh (Un-Boiled)	1 Litre	28.7	3.0	27.1	4.5
8	Eggs Farm	Dozen	35.0	14.2	39.4	15.9
9	Vegetable Ghee Dalda/Habib Or Other Superior Quality 1 Kg Pouch	Each	57.0	-4.5	61.1	-1.3
10	Pulse Masoor (Washed)	1 Kg	79.5	-3.1	78.9	-3.1
11	Pulse Moong (Washed)	1 Kg	38.9	19.5	41.7	14.5
12	Pulse Mash (Washed)	1 Kg	56.3	6.3	57.5	4.9
13	Pulse Gram	1 Kg	64.2	6.9	63.6	4.1
14	Potatoes	1 Kg	37.6	17.9	31.9	12.8
15	Onions	1 Kg	38.3	-3.9	42.1	0.9
16	Tomatoes	1 Kg	127.8	33.9	144.5	72.3
17	Sugar Refined	1 Kg	-18.9	-0.9	-19.1	-0.6
18	Garlic (Lehsun)	1 Kg	32.1	3.2	30.1	5.0
19	Ginger (Adrak)	500 Gm	-11.4	17.8	-12.1	16.6
20	Tea Lipton Yellow Label 190 Gm Packet	Each	35.6	11.6	30.1	7.5

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

10. Inflation in Global Context

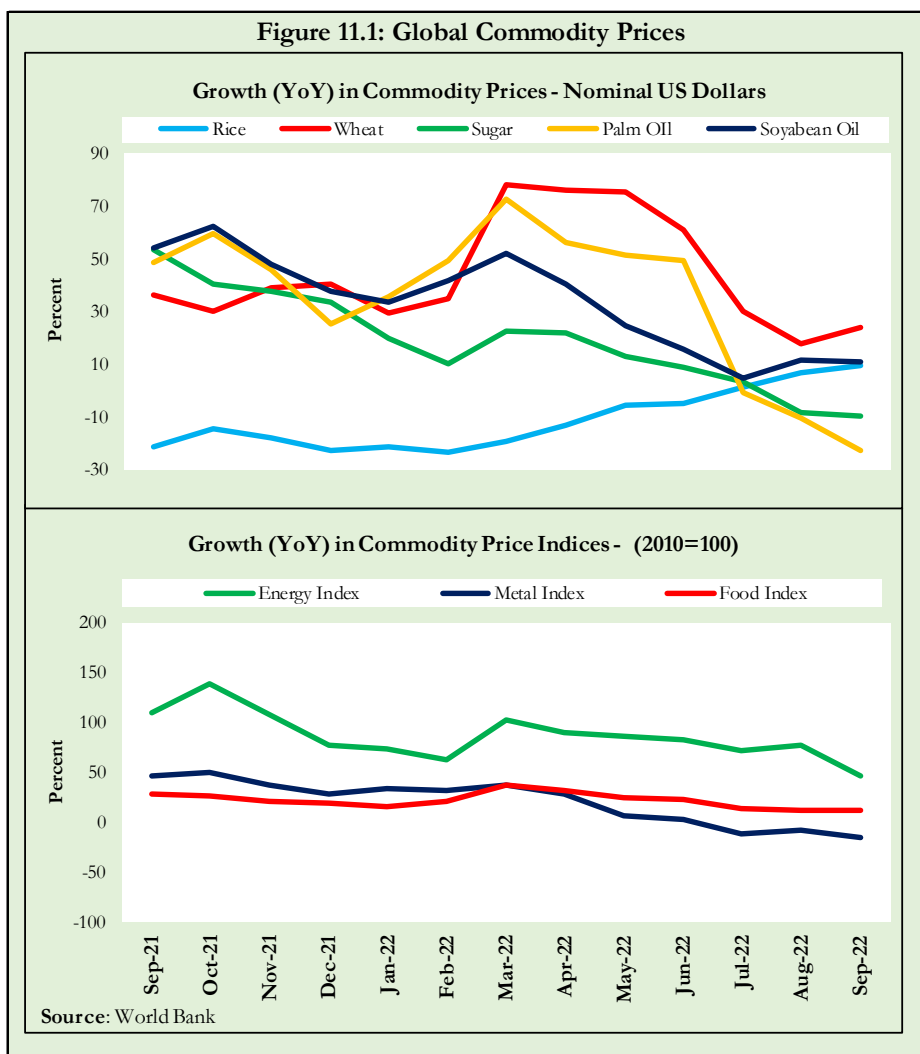
In global context, Pakistan’s inflation in comparison with inflation in selected developed and emerging economies is given in figure 10.1 and 10.2.



11. Global Commodity Prices

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

Item/ Group	Sep-21		Aug-22		Sep-22	
	YoY	MoM	YoY	MoM	YoY	MoM
Food	28.0	-0.9	11.0	-1.6	12.1	0.1
Metals	45.7	2.7	-8.5	4.2	-15.6	-5.3
Energy	109.5	11.3	77.6	1.4	46.7	-8.1
Agricultural	21.5	-0.2	7.9	-1.1	7.3	-0.8
Cotton	46.4	2.3	22.8	-5.0	14.1	-4.9



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 September 2008 to September 2022 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 on historical data and that the future data Jun not necessarily show the same seasonal pattern.

Fig. 12.1 (a): Seasonal Factor of National CPI

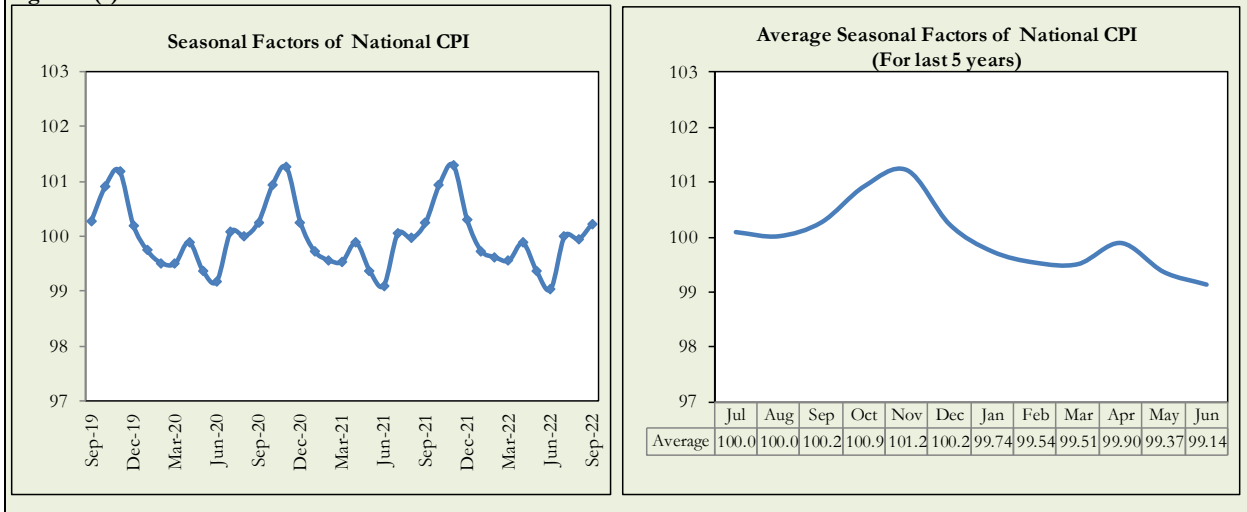


Fig. 12.1 (b): Seasonal Factor of Urban CPI

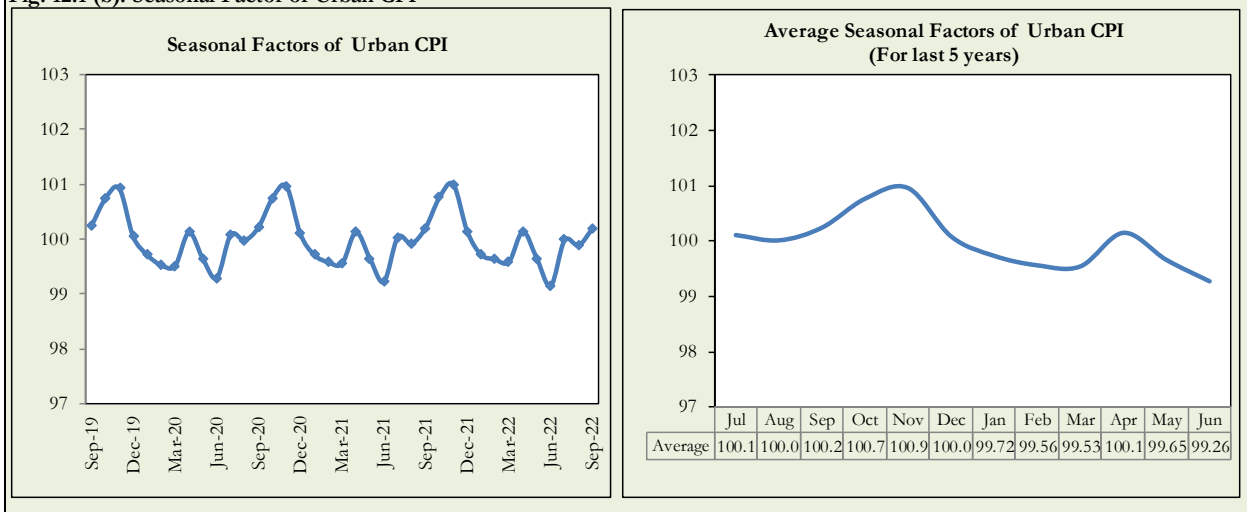
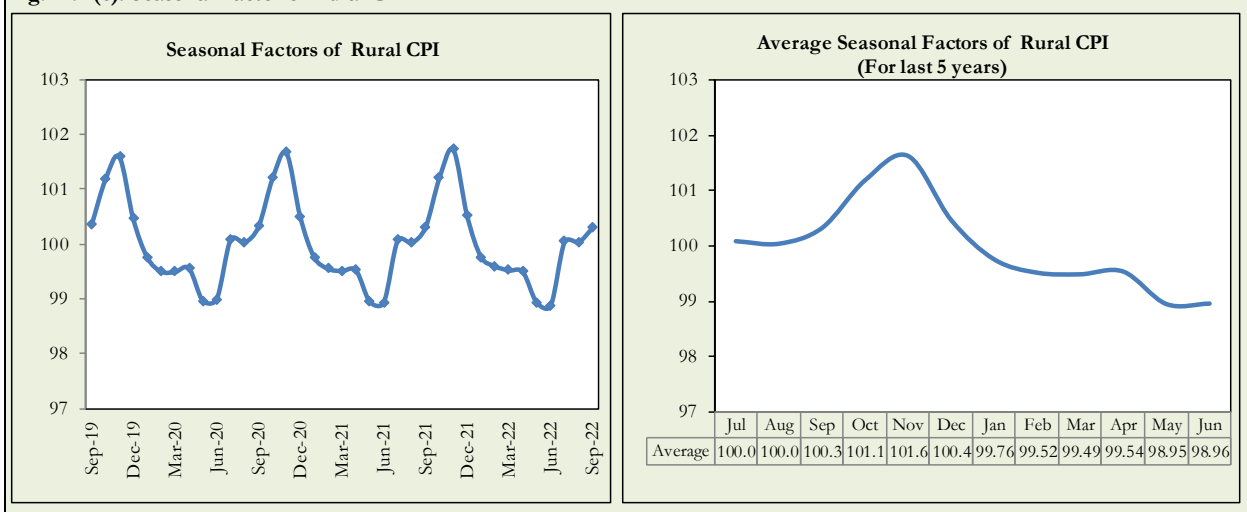


Fig. 12.1 (c): Seasonal Factor of Rural CPI



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 Plot of National CPI

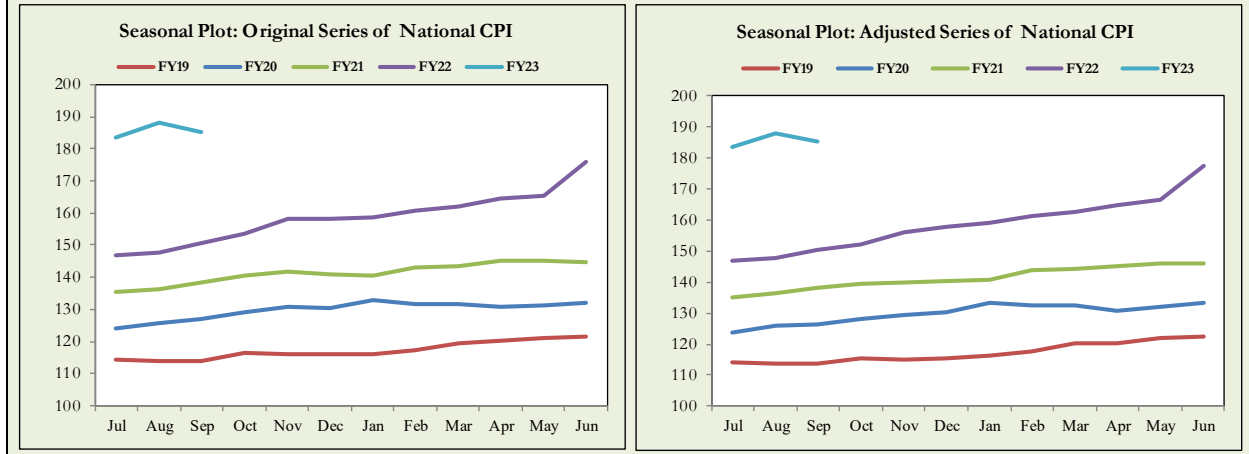


Fig. 12.2 (b): Seasonal Plot of Urban CPI

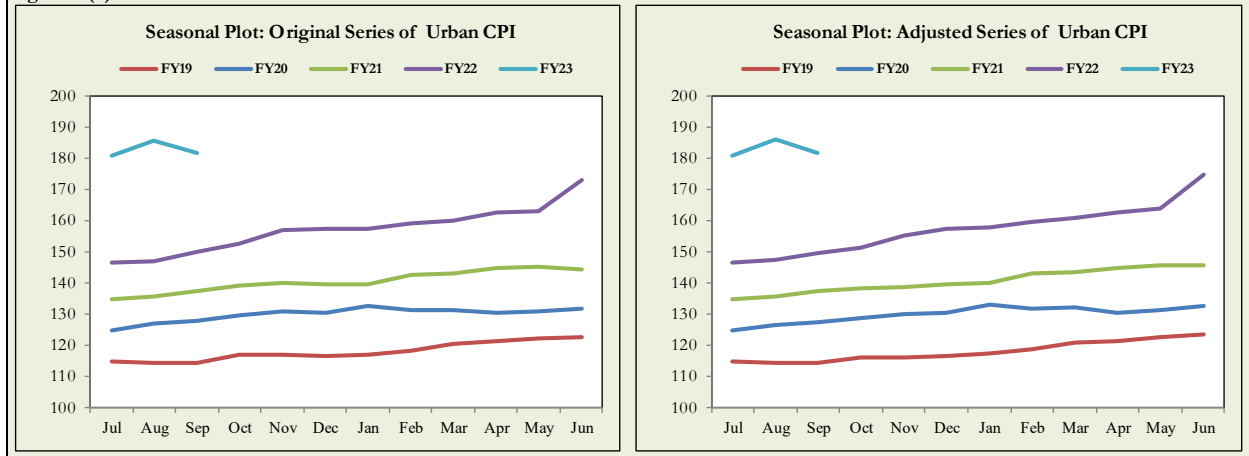
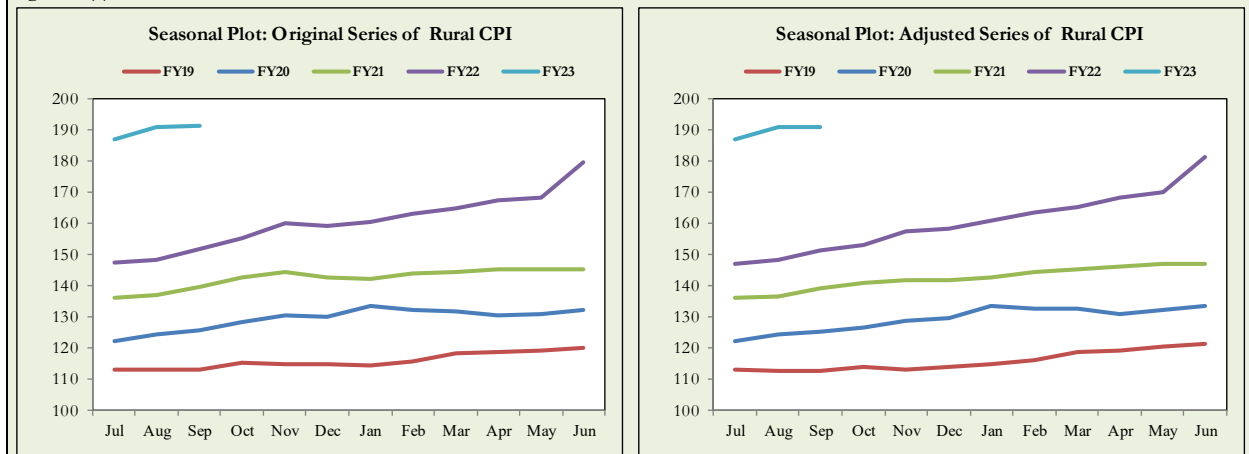


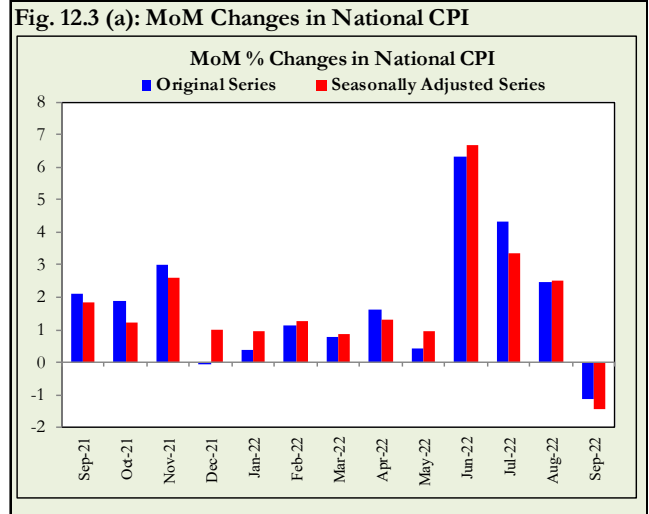
Fig. 12.2 (c): Seasonal Plot of Rural CPI



Seasonally adjusted Index of National CPI for September 2022 stood at 185.24 against 185.68 in original series showing a decrease of 0.44 because of seasonal adjustment.

Seasonally adjusted Index of Urban CPI for September 2022 stood at 181.54 against 181.90 in original series showing a decrease of 0.36 on account of seasonal adjustment.

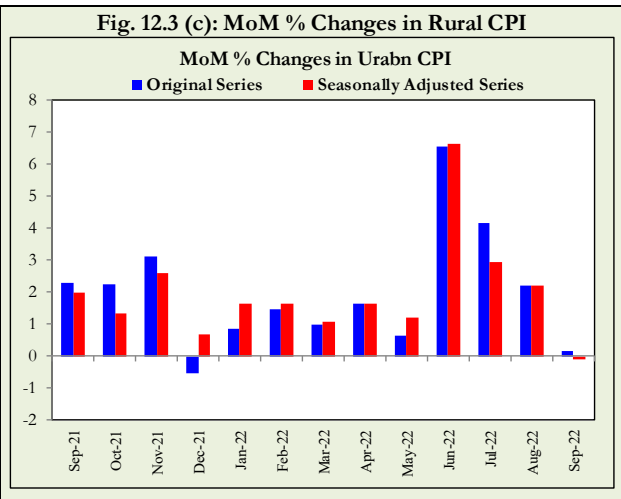
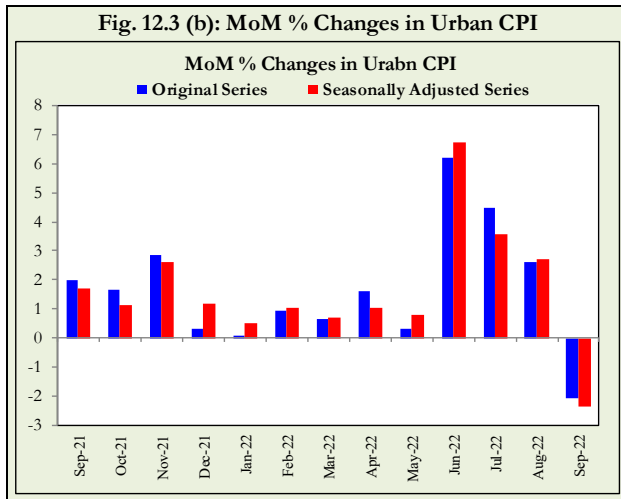
Seasonally adjusted Index of Rural CPI for September 2022 stood at 190.83 against 191.38 in original series showing a decrease of 0.55 on account of seasonal adjustment.



Month-on-month change of seasonally adjusted National CPI series showed a deflation of 1.43% during September 2022 over previous month and a deflation of 1.15% in original series.

Month-on-month change of seasonally adjusted Urban CPI series showed a deflation of 2.36% during September 2022 over previous month and a deflation of 2.06% in original series.

Month-on-month change of seasonally adjusted Rural CPI series showed a deflation of 0.08% during September 2022 over previous month and an inflation of 0.18% in original series.



List of Tables

Table A0: Inflation – Summary

Period	CPI							WPI	SPI**	Core Inflation			
	General			Food		Non-Food				NFNE*		Trimmed	
	National	Urban	Rural	Urban	Rural	Urban	Rural			Urban	Rural	Urban	Rural
Year-on-Year													
Sep-21	9.0	9.1	8.8	10.8	9.1	8.1	8.5	19.6	13.8	6.4	6.2	8.7	8.2
Oct-21	9.2	9.6	8.7	9.4	7.2	9.7	10.0	21.2	14.0	6.7	6.7	8.7	8.2
Nov-21	11.5	12.0	10.9	11.9	8.6	12.0	13.0	27.0	17.4	7.6	8.2	9.8	9.5
Dec-21	12.3	12.7	11.6	11.7	9.0	13.4	14.0	26.2	19.3	8.3	8.9	10.8	10.3
Jan-22	13.0	13.0	12.9	13.3	11.8	12.8	13.9	24.0	19.5	8.2	9.0	10.6	10.9
Feb-22	12.2	11.5	13.3	14.3	14.6	9.9	12.2	23.6	18.1	7.8	9.4	9.8	11.3
Mar-22	12.7	11.9	13.9	14.5	15.5	10.4	12.5	23.8	15.8	8.9	10.3	10.5	11.7
Apr-22	13.4	12.2	15.1	15.6	17.7	10.2	12.8	28.1	16.5	9.1	10.9	10.5	12.8
May-22	13.8	12.4	15.9	15.5	19.0	10.4	13.1	29.6	16.1	9.7	11.5	10.7	14.1
Jun-22	21.3	19.8	23.6	24.0	27.0	17.3	20.4	38.9	26.5	11.5	13.6	16.7	19.1
Jul-22	24.9	23.6	26.9	27.4	29.6	21.3	24.5	38.5	34.3	12.0	14.6	19.1	21.7
Aug-22	27.3	26.2	28.8	28.8	30.2	24.7	27.5	41.2	40.6	13.8	16.5	21.4	23.8
Sep-22	23.2	21.2	26.1	30.8	32.7	15.2	20.1	38.9	35.9	14.4	17.6	19.5	24.4
Month-on-Month													
Sep-21	2.1	2.0	2.3	3.6	3.7	1.1	1.0	3.2	2.9	0.4	0.5	0.9	1.2
Oct-21	1.9	1.7	2.2	1.5	2.6	1.8	1.9	4.2	3.1	0.9	1.0	1.1	1.6
Nov-21	3.0	2.9	3.1	3.9	3.3	2.2	3.0	3.8	4.1	1.1	1.8	1.7	2.2
Dec-21	-0.02	0.3	-0.5	-2.3	-3.1	2.0	1.9	-0.2	0.3	1.1	1.1	1.1	1.0
Jan-22	0.4	0.1	0.9	-0.8	0.4	0.6	1.4	0.6	-0.2	0.8	1.2	0.5	1.1
Feb-22	1.2	0.9	1.5	2.2	2.6	0.2	0.4	1.9	1.3	0.8	0.9	0.8	1.2
Mar-22	0.8	0.7	1.0	1.8	2.3	-0.1	-0.2	3.9	0.6	1.2	1.1	0.8	0.8
Apr-22	1.6	1.6	1.6	3.7	2.8	0.3	0.5	3.2	1.1	1.1	1.2	0.9	0.9
May-22	0.4	0.3	0.6	1.0	1.3	-0.1	0.0	1.4	0.6	0.7	0.9	0.8	1.4
Jun-22	6.3	6.2	6.6	5.3	6.0	6.8	7.1	8.2	8.1	2.0	2.3	3.5	4.3
Jul-22	4.3	4.5	4.2	4.3	3.7	4.6	4.6	2.0	7.7	1.2	1.6	2.7	2.7
Aug-22	2.4	2.6	2.2	1.6	1.2	3.3	3.1	3.1	5.6	1.8	1.8	1.7	1.8
Sep-22	-1.2	-2.1	0.2	5.2	5.7	-6.6	-4.9	1.4	-0.6	0.9	1.4	1.6	2.5

* Non-Food Non-Energy, ** SPI for all expenditure groups combined

Table A1: National CPI Inflation by Groups (YoY and MoM in percent)

Groups	Weights	MoM change			YoY change		
		Sep-21	Aug-22	Sep-22	Sep-21	Aug-22	Sep-22
Food & Non-Alcoholic	34.6	4.0	1.3	5.8	10.2	29.5	31.7
Alcoholic Beverages & Tobacco	1.0	0.4	2.7	5.9	2.0	25.8	32.7
Clothing & Footwear	8.6	0.2	2.8	0.3	9.2	17.6	17.7
Housing, Water, Elec, Gas & other Fuels	23.6	1.6	5.5	-17.7	9.8	27.6	3.4
Furnishing & Household Equip. Maintenance etc	4.1	0.8	2.3	3.4	9.3	21.9	25.1
Health	2.8	0.5	1.2	2.2	8.0	11.9	13.8
Transport	5.9	1.3	-0.3	2.2	9.1	63.1	64.5
Communication	2.2	0.0	0.1	0.1	2.8	1.2	1.3
Recreation & Culture	1.6	1.2	6.3	2.0	6.9	21.8	22.8
Education	3.8	0.0	1.1	0.0	2.6	10.0	10.0
Restaurants & Hotels	6.9	1.1	2.3	2.2	7.8	27.4	28.8
Miscellaneous	4.9	1.4	2.7	3.8	7.4	20.0	22.9
Overall National CPI	100.0	2.1	2.4	-1.2	9.0	27.3	23.2

Table A2: Urban CPI Inflation by Groups (YoY and MoM in percent)

Groups	Weights	MoM change			YoY change		
		Sep-21	Aug-22	Sep-22	Sep-21	Aug-22	Sep-22
I. Food Group	36.8	3.6	1.6	5.2	10.8	28.8	30.8
Food & Non-Alcoholic Beverages	30.4	4.0	1.4	5.4	11.1	28.9	30.7
Alcoholic Beverages & Tobacco	0.9	0.2	3.4	6.8	2.6	25.8	34.1
Restaurant & Hotels (Food)	5.5	1.8	2.4	3.6	10.4	28.7	31.0
II. Non-Food Group	63.2	1.1	3.3	-6.6	8.1	24.7	15.2
Clothing & Footwear	8.0	0.1	3.4	0.1	10.0	18.8	18.9
Housing, Water, Elec, Gas & other Fuels	27.0	1.6	5.2	-17.8	8.9	24.8	1.0
Furnishing & Household Equip. Maintenance etc	4.1	0.8	2.3	4.1	9.5	20.3	24.3
Health	2.3	0.6	1.6	1.0	8.7	11.8	12.3
Transport	6.1	1.5	-0.2	2.0	9.7	62.4	63.3
Communication	2.4	0.0	0.0	0.1	3.8	1.2	1.2
Recreation & Culture	1.7	1.3	6.3	2.0	6.3	20.4	21.1
Education	4.9	0.0	0.7	0.0	2.3	10.1	10.0
Restaurants & Hotels (Non-food Component)	1.9	0.3	2.0	0.2	2.7	23.3	23.2
Miscellaneous	4.8	1.4	3.4	3.9	8.0	20.1	23.1
Overall Urban CPI	100.0	2.0	2.6	-2.1	9.1	26.2	21.2

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

Groups	Weights	MoM Change			YoY Change		
		Sep-21	Aug-22	Sep-22	Sep-21	Aug-22	Sep-22
I. Food Group	45.9	3.7	1.2	5.7	9.1	30.2	32.7
Food and Non-Alcoholic Beverages	40.9	4.1	1.2	6.2	9.3	30.2	32.8
Alcoholic Beverages, Tobacco	1.3	0.6	1.9	4.8	1.3	25.8	31.1
Restaurants and Hotels (Food Component)	3.8	1.0	2.1	1.7	9.4	31.0	32.0
II. Non-Food Group	54.1	1.0	3.1	-4.9	8.5	27.5	20.1
Clothing and Footwear	9.5	0.4	2.0	0.5	8.2	16.2	16.3
Housing, Water, Elec., Gas and Other Fuels	18.5	1.7	6.0	-17.5	11.6	33.9	8.6
Furnishing and Household Equip. Maintenance	4.1	0.7	2.4	2.4	8.9	24.2	26.2
Health	3.5	0.4	0.8	3.4	7.3	12.0	15.2
Transport	5.6	1.0	-0.5	2.5	8.2	64.2	66.6
Communication	2.0	0.0	0.2	0.1	0.9	1.4	1.4
Recreation and Culture	1.4	1.1	6.4	2.2	7.9	24.3	25.7
Education	2.1	0.0	2.8	0.0	4.1	9.8	9.8
Restaurants and Hotels (Non-Food Component)	2.4	0.0	2.9	0.2	1.3	20.5	20.7
Miscellaneous	5.0	1.3	1.9	3.7	6.5	19.7	22.6
Rural CPI	100.0	2.3	2.2	0.2	8.8	28.8	26.1

Table A4: Top Ten Contributors to Urban CPI Inflation (YoY) – September 2022

Items/Contributors	Weights	YoY Change		Weighted Contribution (%)	
		Sep-21	Sep-22		
<u>A. Ranked by Weighted Contribution</u>					
1	Motor Fuel	2.91	17.55	86.96	13.66
2	Milk Fresh	7.11	9.48	28.58	9.29
3	Readymade Food	5.52	10.43	31.00	7.99
4	Fresh Vegetables	1.53	-13.80	67.16	5.06
5	House Rent	19.26	6.05	5.62	4.76
6	Cooking Oil	1.10	38.34	65.33	4.46
7	Vegetable Ghee	1.03	39.57	57.16	3.84
8	Wheat Flour	3.01	19.32	24.33	3.73
9	Appliances/Articles/Products For Personal	2.98	12.07	22.11	3.05
10	Transport Services	1.75	-0.26	42.39	2.99
Total		46.20			58.83
<u>B. Ranked by Percentage Change</u>					
1	Tomatoes	0.35	-23.92	127.81	2.06
2	Motor Fuel	2.91	17.55	86.96	13.66
3	Pulse Masoor	0.16	18.63	79.54	0.50
4	Gram Whole	0.09	12.01	74.48	0.29
5	Mustard Oil	0.01	37.70	71.85	0.05
6	Fresh Vegetables	1.53	-13.80	67.16	5.06
7	Cooking Oil	1.10	38.34	65.33	4.46
8	Pulse Gram	0.17	6.14	64.20	0.42
9	Besan	0.08	7.02	58.47	0.19
10	Vegetable Ghee	1.03	39.57	57.16	3.84
Total		7.43			30.53
<u>C. Ranked by Weights</u>					
1	House Rent	19.26	6.05	5.62	4.76
2	Milk Fresh	7.11	9.48	28.58	9.29
3	Readymade Food	5.52	10.43	31.00	7.99
4	Education	4.88	2.25	10.04	2.29
5	Electricity Charges	4.56	22.36	-30.48	-6.40
6	Wheat Flour	3.01	19.32	24.33	3.73
7	Appliances/Articles/Products For Personal	2.98	12.07	22.11	3.05
8	Motor Fuel	2.91	17.55	86.96	13.66
9	Cotton Cloth	2.22	9.78	23.68	2.49
10	Meat	2.04	15.79	24.89	2.85
Total		54.49			43.71

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 21.2 percent in September 2022.

Table A5: Top Ten Contributors to Urban CPI Inflation (MoM) in September 2022

Items/Contributors	Weights	MoM Change		Weighted Contribution (%)	
		Aug-22	Sep-22		
A. Ranked by Weighted Contribution					
1	Electricity Charges	4.56	19.73	-65.33	229.09
2	Vegetable Ghee	1.03	-0.74	-4.50	4.15
3	Cooking Oil	1.10	2.34	-1.89	1.81
4	Onions	0.59	-0.17	-3.86	1.21
5	Motor Vehicles	0.81	12.09	-2.43	1.09
6	Sugar	1.11	-0.04	-0.93	0.39
7	Pulse Masoor	0.16	11.76	-3.08	0.30
8	Mustard Oil	0.01	0.15	-0.81	0.01
9	Honey	0.10	5.90	0.00	0.00
10	Garbage Collection	0.11	3.43	0.00	0.00
Total		9.58			238.05
B. Ranked by Percentage Change					
1	Tomatoes	0.35	52.85	33.86	-7.72
2	Fresh Vegetables	1.53	13.44	22.70	-19.42
3	Pulse Moong	0.17	15.27	19.53	-1.15
4	Potatoes	0.45	4.99	17.43	-4.81
5	Wheat	0.61	-0.14	15.35	-5.48
6	Eggs	0.51	7.53	14.20	-4.59
7	Chicken	1.36	-11.54	13.05	-8.07
8	Tea	0.84	1.42	11.59	-4.50
9	Besan	0.08	6.50	9.74	-0.39
10	Wheat Flour	3.01	0.79	9.71	-14.06
Total		8.91			-70.19
C. Ranked by Weights					
1	House Rent	19.26	0.00	0.00	0.00
2	Milk Fresh	7.11	2.16	2.96	-10.01
3	Readymade Food	5.52	2.35	3.58	-9.72
4	Education	4.88	0.66	0.01	-0.01
5	Electricity Charges	4.56	19.73	-65.33	229.09
6	Wheat Flour	3.01	0.79	9.71	-14.06
7	Appliances/Articles/Products For	2.98	4.30	3.19	-4.33
8	Motor Fuel	2.91	-2.60	3.19	-7.57
9	Cotton Cloth	2.22	4.67	0.13	-0.15
10	Meat	2.04	1.04	0.65	-0.77
Total		54.49			182.47

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 -2.1 percent in September 2022.

Table A6: Top and Bottom Fifteen Contributors to Urban CPI Inflation (YoY) in September 2022

Items/Contributors	Weights	YoY Change		Weighted Contribution (%)	
		Sep-21	Sep-22		
A. Ranked by Weighted Contribution					
1	Motor Fuel	2.91	17.55	86.96	13.66
2	Milk Fresh	7.11	9.48	28.58	9.29
3	Readymade Food	5.52	10.43	31.00	7.99
4	Fresh Vegetables	1.53	-13.80	67.16	5.06
5	House Rent	19.26	6.05	5.62	4.76
6	Cooking Oil	1.10	38.34	65.33	4.46
7	Vegetable Ghee	1.03	39.57	57.16	3.84
8	Wheat Flour	3.01	19.32	24.33	3.73
9	Appliances/Articles/Products For	2.98	12.07	22.11	3.05
10	Transport Services	1.75	-0.26	42.39	2.99
11	Meat	2.04	15.79	24.89	2.85
12	Cotton Cloth	2.22	9.78	23.68	2.49
13	Washing Soap/Detergents/Match	1.41	12.32	37.65	2.48
14	Education	4.88	2.25	10.04	2.29
15	Rice	1.18	6.91	39.82	2.17
Total		57.93			71.11
Bottom 15 Contributors					
1	Electricity Charges	4.56	22.36	-30.48	-6.40
2	Condiments And Spices	1.33	8.15	-14.10	-1.28
3	Sugar	1.11	15.26	-18.94	-1.15
4	Gas Charges	1.08	0.00	0.00	0.00
5	Therapeutic Appliances And	0.01	2.99	6.14	0.00
6	Gur	0.04	8.30	2.45	0.00
7	Dental Services	0.02	6.29	12.46	0.01
8	Major Tools & Equipments	0.01	8.19	23.60	0.01
9	Postal Services	0.02	11.13	13.51	0.01
10	Newspapers	0.07	0.00	4.21	0.01
11	Carpets	0.03	1.61	13.35	0.01
12	Motor Vehicle Tax	0.05	7.62	8.92	0.02
13	Accommodation Services	0.13	4.41	5.16	0.02
14	Electrical Appliances For Personal	0.05	1.25	17.37	0.03
15	Communication Services	1.88	2.54	0.52	0.03
Total		10.39			-8.68

Table A7: Top and Bottom Fifteen Contributors to Urban CPI Inflation (MoM) in September 2022

Items/Contributors	Weights	MoM Change		Weighted Contribution (%)	
		Aug-22	Sep-22		
A. Ranked by Weighted Contribution					
1	Electricity Charges	4.56	19.73	-65.33	229.09
2	Vegetable Ghee	1.03	-0.74	-4.50	4.15
3	Cooking Oil	1.10	2.34	-1.89	1.81
4	Onions	0.59	-0.17	-3.86	1.21
5	Motor Vehicles	0.81	12.09	-2.43	1.09
6	Sugar	1.11	-0.04	-0.93	0.39
7	Pulse Masoor	0.16	11.76	-3.08	0.30
8	Mustard Oil	0.01	0.15	-0.81	0.01
9	Honey	0.10	5.90	0.00	0.00
10	Garbage Collection	0.11	3.43	0.00	0.00
11	Motor Vehicle Tax	0.05	8.92	0.00	0.00
12	House Rent	19.26	0.00	0.00	0.00
13	Communication Services	1.88	0.00	0.00	0.00
14	Newspapers	0.07	0.00	0.00	0.00
15	Gas Charges	1.08	0.00	0.00	0.00
Total		31.92			238.05
Bottom 15 Contributors					
1	Fresh Vegetables	1.53	13.44	22.70	-19.42
2	Wheat Flour	3.01	0.79	9.71	-14.06
3	Milk Fresh	7.11	2.16	2.96	-10.01
4	Readymade Food	5.52	2.35	3.58	-9.72
5	Chicken	1.36	-11.54	13.05	-8.07
6	Tomatoes	0.35	52.85	33.86	-7.72
7	Motor Fuel	2.91	-2.60	3.19	-7.57
8	Washing Soap/Detergents/Match	1.41	3.88	8.30	-5.80
9	Wheat	0.61	-0.14	15.35	-5.48
10	Potatoes	0.45	4.99	17.43	-4.81
11	Eggs	0.51	7.53	14.20	-4.59
12	Tea	0.84	1.42	11.59	-4.50
13	Appliances/Articles/Products For	2.98	4.30	3.19	-4.33
14	Cigarettes	0.72	2.97	8.21	-2.72
15	Condiments And Spices	1.33	1.94	4.14	-2.58
Total		30.64			-111.38

Table A8: Top and Bottom Fifteen Contributors to MoM Urban CPI Food Inflation in September 2022

Items/Contributors	Weights	MoM Change		Weighted Contribution (%)	
		Aug-22	Sep-22		
A. Ranked by Weighted Contribution					
1	Vegetable ghee	1.03	-0.74	-4.50	4.15
2	Cooking oil	1.10	2.34	-1.89	1.81
3	Onions	0.59	-0.17	-3.86	1.21
4	Sugar	1.11	-0.04	-0.93	0.39
5	Pulse masoor	0.16	11.76	-3.08	0.30
6	Mustard oil	0.01	0.15	-0.81	0.01
7	Honey	0.10	5.90	0.00	0.00
8	Fresh fruits	1.44	-19.98	0.02	-0.01
9	Gur	0.04	0.61	1.22	-0.02
10	Beans	0.04	3.07	3.21	-0.07
11	Dry fruits	0.33	0.62	0.52	-0.07
12	Fish	0.39	-0.22	1.13	-0.14
13	Dessert preparation	0.04	3.76	8.86	-0.16
14	Pan prepared	0.14	4.67	2.14	-0.22
15	Gram whole	0.09	5.67	4.34	-0.24
Total		6.62			6.94
Bottom 15 Contributors					
1	Fresh vegetables	1.53	13.44	22.70	-19.42
2	Wheat flour	3.01	0.79	9.71	-14.06
3	Milk fresh	7.11	2.16	2.96	-10.01
4	Readymade food	5.52	2.35	3.58	-9.72
5	Chicken	1.36	-11.54	13.05	-8.07
6	Tomatoes	0.35	52.85	33.86	-7.72
7	Wheat	0.61	-0.14	15.35	-5.48
8	Potatoes	0.45	4.99	17.43	-4.81
9	Eggs	0.51	7.53	14.20	-4.59
10	Tea	0.84	1.42	11.59	-4.50
11	Cigarettes	0.72	2.97	8.21	-2.72
12	Condiments and Spices	1.33	1.94	4.14	-2.58
13	Rice	1.18	3.94	2.66	-1.65
14	Milk products	0.64	2.33	4.02	-1.22
15	Pulse moong	0.17	15.27	19.53	-1.15
Total		25.33			-97.69

Table A9: Top and Bottom Fifteen Contributors to MoM Urban CPI Non-Food Inflation in Sep-22

Items/Contributors	Weights	MoM Change		Weighted Contribution (%)	
		Aug-22	Sep-22		
A. Ranked by Weighted Contribution					
1	Electricity charges	4.56	19.73	-65.33	229.09
2	Motor vehicles	0.81	12.09	-2.43	1.09
3	Garbage collection	0.11	3.43	0.00	0.00
4	Motor vehicle tax	0.05	8.92	0.00	0.00
5	House rent	19.26	0.00	0.00	0.00
6	Communication Services	1.88	0.00	0.00	0.00
7	Newspapers	0.07	0.00	0.00	0.00
8	Woolen readymade garments	0.43	0.00	0.00	0.00
9	Gas charges	1.08	0.00	0.00	0.00
10	Therapeutic Appliances and	0.01	0.20	0.46	0.00
11	Cleaning and laundering	0.07	6.73	0.03	0.00
12	Dental services	0.02	4.77	0.28	0.00
13	Major tools & equipments	0.01	0.34	0.96	0.00
14	Carpets	0.03	2.09	0.40	0.00
15	Accommodation Services	0.13	0.61	0.12	-0.01
Total		28.50			230.16
Bottom 15 Contributors					
1	Motor fuel	2.91	-2.60	3.19	-7.57
2	Washing soap/detergents/match	1.41	3.88	8.30	-5.80
3	Appliances/Articles/Products for	2.98	4.30	3.19	-4.33
4	Personal Grooming Services	0.80	2.46	6.89	-2.42
5	Liquefied Hydrocarbons	0.51	8.53	6.34	-2.38
6	Personal Effects n.e.c.	0.94	1.77	3.87	-2.26
7	stationery	0.35	7.29	6.01	-1.06
8	Household equipments	1.00	1.37	2.02	-0.92
9	Transport services	1.75	-0.23	0.87	-0.72
10	Drugs and medicines	1.07	0.39	1.42	-0.70
11	Solid Fuel	0.42	1.03	3.55	-0.54
12	Water supply	0.53	0.00	2.25	-0.52
13	Motor vehicle accessories	0.19	5.20	5.22	-0.49
14	Furniture and furnishing	0.48	2.33	2.22	-0.47
15	Mechanical services	0.43	2.43	2.08	-0.39
Total		15.77			-30.56

Table A10: Top Ten Contributors to Rural CPI Inflation (YoY) in September 2022

Items/Contributors	Weights	YoY Change		Weighted Contribution (%)	
		Sep-21	Sep-22		
A. Ranked by Weighted Contribution					
1	Milk Fresh	10.38	7.32	27.09	9.89
2	Motor Fuels	2.49	15.91	90.49	9.56
3	Vegetable Ghee	2.38	41.87	60.74	8.17
4	Wheat	3.47	3.29	43.27	6.24
5	Fresh Vegetables	2.09	-11.41	68.64	5.46
6	Readymade Food	3.80	9.44	31.99	4.88
7	Solid Fuel	4.48	9.37	25.00	4.02
8	Transport Services	1.80	-1.01	61.25	3.54
9	Liquefied Hydrocarbons	1.00	42.09	67.99	2.87
10	Rice	1.55	4.38	37.88	2.80
Total		33.44			57.43
B. Ranked by Percentage Change					
1	Tomatoes	0.51	-16.56	144.49	2.67
2	Motor Fuels	2.49	15.91	90.49	9.56
3	Gram Whole	0.11	18.39	80.31	0.31
4	Pulse Masoor	0.21	21.37	78.92	0.55
5	Fresh Vegetables	2.09	-11.41	68.64	5.46
6	Liquefied Hydrocarbons	1.00	42.09	67.99	2.87
7	Mustard Oil	0.01	37.24	66.88	0.04
8	Pulse Gram	0.28	7.16	63.57	0.56
9	Cooking Oil	0.60	44.95	62.13	2.07
10	Transport Services	1.80	-1.01	61.25	3.54
Total		9.10			27.63
C. Ranked by Weights					
1	Milk Fresh	10.38	7.32	27.09	9.89
2	House Rent	8.61	6.05	5.90	1.80
3	Solid Fuel	4.48	9.37	25.00	4.02
4	Readymade Food	3.80	9.44	31.99	4.88
5	Wheat	3.47	3.29	43.27	6.24
6	Electricity Charges	3.44	22.36	-30.48	-3.88
7	Wheat Flour	3.43	15.68	19.35	2.76
8	Cotton Cloth	2.84	8.15	15.49	1.89
9	Motor Fuels	2.49	15.91	90.49	9.56
10	Vegetable Ghee	2.38	41.87	60.74	8.17
Total		45.32			45.33

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 26.1 percent in September 2022.

Table A11: Top Ten Contributors to Rural CPI Inflation (MoM) in September 2022

Items/Contributors	Weights	MoM Change		Weighted Contribution (%)	
		Aug-22	Sep-22		
A. Ranked by Weighted Contribution					
1	Fresh Vegetables	2.09	19.62	26.31	325.73
2	Milk Fresh	10.38	1.19	4.45	230.50
3	Tomatoes	0.51	30.02	72.34	221.43
4	Wheat	3.47	1.24	9.66	212.30
5	Wheat Flour	3.43	1.36	6.49	121.25
6	Chicken	1.46	-13.64	10.92	86.25
7	Liquefied Hydrocarbons	1.00	6.97	11.40	84.68
8	Potatoes	0.74	5.51	12.67	71.96
9	Motor Fuels	2.49	-3.16	2.86	65.34
10	Eggs	0.57	6.55	15.87	61.07
Total		26.14			1,480.51
B. Ranked by Percentage Change					
1	Tomatoes	0.51	30.02	72.34	221.43
2	Fresh Vegetables	2.09	19.62	26.31	325.73
3	Eggs	0.57	6.55	15.87	61.07
4	Pulse Moong	0.25	12.71	14.47	15.35
5	Potatoes	0.74	5.51	12.67	71.96
6	Liquefied Hydrocarbons	1.00	6.97	11.40	84.68
7	Chicken	1.46	-13.64	10.92	86.25
8	Wheat	3.47	1.24	9.66	212.30
9	Besan	0.07	9.71	7.86	3.17
10	Dessert Preparation	0.01	2.31	7.74	0.48
Total		10.17			1,082.42
C. Ranked by Weights					
1	Milk Fresh	10.38	1.19	4.45	230.50
2	House Rent	8.61	0.00	0.00	0.00
3	Solid Fuel	4.48	1.44	2.27	52.00
4	Readymade Food	3.80	2.09	1.74	40.12
5	Wheat	3.47	1.24	9.66	212.30
6	Electricity Charges	3.44	19.73	-65.33	-1,945.05
7	Wheat Flour	3.43	1.36	6.49	121.25
8	Cotton Cloth	2.84	1.88	0.21	3.51
9	Motor Fuels	2.49	-3.16	2.86	65.34
10	Vegetable Ghee	2.38	-2.86	-1.60	-40.96
Total		45.32			-1,260.99

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 0.2 percent in September 2022.

Table A12: Top and Bottom Fifteen Contributors to Rural CPI Inflation (YoY) in September 2022

Items/Contributors	Weights	YoY Change		Weighted Contribution (%)	
		Sep-21	Sep-22		
A. Ranked by Weighted Contribution					
1	Milk Fresh	10.38	7.32	27.09	9.89
2	Motor Fuels	2.49	15.91	90.49	9.56
3	Vegetable Ghee	2.38	41.87	60.74	8.17
4	Wheat	3.47	3.29	43.27	6.24
5	Fresh Vegetables	2.09	-11.41	68.64	5.46
6	Readymade Food	3.80	9.44	31.99	4.88
7	Solid Fuel	4.48	9.37	25.00	4.02
8	Transport Services	1.80	-1.01	61.25	3.54
9	Liquefied Hydrocarbons	1.00	42.09	67.99	2.87
10	Rice	1.55	4.38	37.88	2.80
11	Wheat Flour	3.43	15.68	19.35	2.76
12	Tomatoes	0.51	-16.56	144.49	2.67
13	Cooking Oil	0.60	44.95	62.13	2.07
14	Washing Soaps, Detergents And	1.70	10.54	32.56	1.98
15	Meat	1.71	17.97	25.52	1.97
Total		41.39			68.88
Bottom 15 Contributors					
1	Electricity Charges	3.44	22.36	-30.48	-3.88
2	Sugar	2.03	13.89	-19.07	-1.70
3	Gur	0.15	6.01	-1.52	-0.01
4	Postal Services	0.01	0.00	0.00	0.00
5	Newspapers	0.02	2.40	0.10	0.00
6	Garbage Collection	0.01	8.74	9.60	0.00
7	Water Supply	0.06	2.26	1.63	0.01
8	Communication Services	1.65	0.78	0.16	0.01
9	Dental Services	0.02	4.71	20.39	0.01
10	Dessert Preparation	0.01	8.38	27.74	0.01
11	Motor Vehicle Tax	0.02	-5.56	24.88	0.01
12	Honey	0.03	9.52	19.82	0.02
13	Cleaning And Laundering	0.02	2.88	31.92	0.02
14	Ice Cream	0.06	7.41	11.12	0.02
15	Accommodation Services	0.14	0.03	7.08	0.02
Total		7.67			-5.46

Table A13: Top and Bottom Fifteen Contributors to Rural CPI (MoM) Inflation in September 2022

Items/Contributors	Weights	MoM Change		Weighted Contribution (%)	
		Aug-22	Sep-22		
A. Ranked by Weighted Contribution					
1	Fresh Vegetables	2.09	19.62	26.31	325.73
2	Milk Fresh	10.38	1.19	4.45	230.50
3	Tomatoes	0.51	30.02	72.34	221.43
4	Wheat	3.47	1.24	9.66	212.30
5	Wheat Flour	3.43	1.36	6.49	121.25
6	Chicken	1.46	-13.64	10.92	86.25
7	Liquefied Hydrocarbons	1.00	6.97	11.40	84.68
8	Potatoes	0.74	5.51	12.67	71.96
9	Motor Fuels	2.49	-3.16	2.86	65.34
10	Eggs	0.57	6.55	15.87	61.07
11	Condiments And Spices	1.49	7.73	6.60	52.48
12	Solid Fuel	4.48	1.44	2.27	52.00
13	Personal Effects N.E.C.	1.21	1.37	5.84	48.65
14	Tea	1.26	1.67	7.52	47.01
15	Readymade Food	3.80	2.09	1.74	40.12
Total		38.38			1,720.77
Bottom 15 Contributors					
1	Electricity Charges	3.44	19.73	-65.33	-1,945.05
2	Vegetable Ghee	2.38	-2.86	-1.60	-40.96
3	Fresh Fruits	1.45	-24.28	-3.40	-21.59
4	Sugar	2.03	-0.31	-0.60	-5.07
5	Pulse Masoor	0.21	13.69	-3.07	-4.58
6	Cooking Oil	0.60	-2.54	-0.65	-4.14
7	Woolen Readymade Garments	0.54	0.00	0.00	0.00
8	Postal Services	0.01	0.00	0.00	0.00
9	Newspapers	0.02	0.00	0.00	0.00
10	Garbage Collection	0.01	0.00	0.00	0.00
11	Communication Services	1.65	0.00	0.00	0.00
12	House Rent	8.61	0.00	0.00	0.00
13	Accommodation Services	0.14	3.31	0.00	0.00
14	Motor Vehicle Tax	0.02	24.88	0.00	0.00
15	Education	2.13	2.81	0.00	0.00
Total		23.24			-2,021.39

Table A14: Top and Bottom Fifteen Contributors to MoM Rural CPI Food Inflation in September 2022

Items/Contributors	Weights	MoM Change		Weighted Contribution (%)	
		Aug-22	Sep-22		
A. Ranked by Weighted Contribution					
1	Fresh Vegetables	2.09	19.62	26.31	325.73
2	Milk fresh	10.38	1.19	4.45	230.50
3	Tomatoes	0.51	30.02	72.34	221.43
4	Wheat	3.47	1.24	9.66	212.30
5	Wheat Flour	3.43	1.36	6.49	121.25
6	Chicken	1.46	-13.64	10.92	86.25
7	Potatoes	0.74	5.51	12.67	71.96
8	Eggs	0.57	6.55	15.87	61.07
9	Condiments and Spices	1.49	7.73	6.60	52.48
10	Tea	1.26	1.67	7.52	47.01
11	Readymade Food	3.80	2.09	1.74	40.12
12	Cigarettes	1.24	1.98	4.82	29.49
13	Rice	1.55	3.57	2.14	24.89
14	Pulse Moong	0.25	12.71	14.47	15.35
15	Meat	1.71	1.88	1.30	14.52
Total		33.96			1,554.36
Bottom 15 Contributors					
1	Vegetable ghee	2.38	-2.86	-1.60	-40.96
2	Fresh fruits	1.45	-24.28	-3.40	-21.59
3	Sugar	2.03	-0.31	-0.60	-5.07
4	Pulse Masoor	0.21	13.69	-3.07	-4.58
5	Cooking oil	0.60	-2.54	-0.65	-4.14
6	Honey	0.03	1.56	0.33	0.05
7	Mustard oil	0.01	-1.18	0.77	0.09
8	Dessert Preparation	0.01	2.31	7.74	0.48
9	Gur	0.15	3.17	0.80	0.56
10	Dry fruits	0.25	3.56	0.83	1.12
11	Pan Prepared	0.04	0.50	4.93	1.43
12	Ice Cream	0.06	0.32	6.72	1.67
13	Beans	0.09	3.57	2.88	1.70
14	Milk powder	0.11	3.28	4.47	2.01
15	Fish	0.26	0.00	1.87	2.05
Total		7.68			-65.19

Table A15: Top and Bottom Fifteen Contributors to MoM Rural CPI Non-Food Inflation in September 2022

Items/Contributors	Weights	MoM Change		Weighted Contribution (%)	
		Aug-22	Sep-22		
A. Ranked by Weighted Contribution					
1	Liquefied Hydrocarbons	1.00	6.97	11.40	84.68
2	Motor Fuels	2.49	-3.16	2.86	65.34
3	Solid Fuel	4.48	1.44	2.27	52.00
4	Personal Effects n.e.c.	1.21	1.37	5.84	48.65
5	Washing Soaps, Detergents and	1.70	2.52	4.26	38.53
6	Personal Grooming Services	1.54	3.10	4.12	37.05
7	Drugs and Medicines	1.58	0.48	4.15	34.65
8	Transport Services	1.80	3.68	2.74	28.93
9	Doctor Clinic Fee	0.51	2.02	5.91	19.32
10	Appliances/Articles/Products for	2.27	1.26	1.49	15.25
11	Readymade Garments	1.13	2.40	2.03	11.48
12	Construction Input Items	0.63	1.63	2.13	7.25
13	Household Equipments	1.28	2.64	0.93	6.54
14	Stationery	0.37	2.97	2.71	5.56
15	Recreation and Culture	0.48	6.75	2.11	5.11
Total		22.46			460.35
Bottom 15 Contributors					
1	Electricity Charges	3.44	19.73	-65.33	-1,945.05
2	Postal Services	0.01	0.00	0.00	0.00
3	Woolen Readymade Garments	0.54	0.00	0.00	0.00
4	Newspapers	0.02	0.00	0.00	0.00
5	Garbage Collection	0.01	0.00	0.00	0.00
6	Communication Services	1.65	0.00	0.00	0.00
7	House Rent	8.61	0.00	0.00	0.00
8	Accommodation Services	0.14	3.31	0.00	0.00
9	Motor Vehicle Tax	0.02	24.88	0.00	0.00
10	Education	2.13	2.81	0.00	0.00
11	Cleaning and Laundering	0.02	3.42	1.22	0.12
12	Footware	1.92	3.30	0.02	0.17
13	Household Textiles	0.44	0.75	0.11	0.23
14	Motor Vehicles	0.73	2.69	0.11	0.37
15	Water Supply	0.06	0.00	0.90	0.37
Total		19.74			-1,943.79

Table A16: Distribution of Price Changes (YoY) - Selected Urban CPI Items: September 2022

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	Chilies Powder National 200 Gm Packet, Sugar Refined, Ginger (Adrak), Cardamom Small (Average Quality), Kinnu (Average Quality), Peach (Average Quality), Grapes (Angoor)	Coriander Seed Powder National 200 Gm Packet, Gur (Average Quality), Jam-E-Shireen Standard Size (800 MI),	Wheat Flour Bag, Turmeric Powder National 50 Gm Packet,	Bananas (Kela) Local, Fish Rahu (Medium Size), Cumin Seed (Zeera) White National 50 Gm Packet, Almonds (Badam) Kaghazi With Shell (Average Quality), Cardamom Large (Loose) (Average Quality), Tomato
Alcoholic Beverages & Tobacco				Pan Prepared (Sweet With Beetle Nuts), Cigarettes Capstan 20'S Packet, Cigarettes Gold Leaf 20'S Packet,
Clothing & Footwear	Cheetah 50 Size 3-5 Servis, Gents Shoes Servis, Children Shoes Power Lite Bata,		Pullover Gents Oxford/Bonanza, Linen, Ladies (Average Quality), Dopatta Cotton (Average Quality), Dopatta Georgette (Average Quality), Shirt Boy Length 24"/26",	Women Shalwar Kameez (Average Quality), Tailoring Charges Pant (Men), Vest "Baniyan" For Men Average Quality, Brassier (Average Quality), Pullover Ladies Oxford/Bonanza, Awami Suit Gents Wash & Wear (Average Quality), Full Pant Boy Length 24"/26", Pant Cloth Wash & Wear (Average Quality), Heavy Weight Suiting Lawrance Pur (Average Quality), Pullover
Housing, Water, Elec, Gas & other Fuels	Electricity Charges 51-100 Units, Electricity Charges 101-300 Units, Electricity Charges Upto 50 Units, Electricity Charges 301-700 Units, Electricity Charges Combined, Gas Charges Upto 3.3719 Mmbtu , Gas Charges 3.3719 - 6.7438 Mmbtu	Water Charges Per House,	House Rent Combined,	Bricks New 1st Class, Painter Wage Rate, Mason Wage Rate, Charges For Refuse/Waste Collection, Electrician Charges, Plumber Wage Rate, Firewood Whole, Unskilled Labor Wage Rate, Cement Blocks (6"X8"X12"), Iron Bars (M.S. Bar) 1/2 " 40 Grade, Sand (Black Pit),
Furnishing & Household Equip. Maintenance etc		Bed Sheet Double With Two Pillow Covers (Superior Quality),	Water Set (Omroc) 6 Glasses + Jug, Blanket Single (Sn), Dining Table Wit Glass Top And Six Chairs (Average Quality), Bed Sheet Single (Superior Quality), Towel Medium Size (3' X 2'), Sewing Machine (Sn) Without Cover, Central Table Set	Cot Iron (Charpai), Readymade Quilt (3 Kg), Bucket (Bali) Plastic Medium Size, Dinner Set Plastic 72 Pieces Super Quality, Boot Polish Cherry/Kiwi 42 Ml, Plain Carpet, Cleanser Powder Vim 900 Gm Polybag, Chair Plastic (Chairman) (Average Quality), Sofa Set Five Seater, Household
Health		Sugar Test (Random/Fasting) Charges Of Both, Ventolin Tablets 2 Mg, Blood Test (Cp) Charges, Cost Of Surgery (C-Section), Gynecologist Fee Per Visit,	Hydrillin Syrup 120 Ml Bottle, Electronic Bp Checking Apparatus, Glucometer, Septran Tablets, Lederplex Syrup Bottle, Amoxil Capsule 250 Mg, Phenergan Syrup 120 Ml Bottle, Cac 1000 Tablets Sandoz Bottle, Physiotherapist Fee	Daonil Tablets 5 Mg, Calpol Syrup 100 Ml Bottle, Dental Surgeon Fee Per Visit, Inderal Tablets 10 Mg, Entox Tablets, Glaxose-D 400 Gm Packet, Dental Extraction Fee, Betnovate-N Ointment 10 Gm Tube, Urine Test (Dr) Charges, Ultrasound Abdominal, Doctor (Mbbs)
Transport	Car Suzuki 800 Cc Without Ac,		Car Tax 800 Cc To 1500 Cc,	Motorcycle Service Charges, Train Fare Business Class Per Person, Car Service Charges, Tire Car Puncture Charges, Car Toyota 1300 Cc Xli, Train Fare Ac Sleeper Per Person, Train Fare Ac Lower Per Person, Tire Motorcycle Cd 70 (Back Wheel), Suzuki Fare Minimum Within City,
Communication	Mobile Call Charges, Telephone Call Charges,	Internet Charges (Dsl) 1 Mb (Unlimited), Mobile Set With Rear Camera And Without Touch Screen,		Courier Charges Minimum Within Zone Outside City (Tcs),
Recreation & Culture	Newspaper Daily Jang, Mag The Weekly (Magazine),	English Book Ba/B.Sc, Urdu Book Ba/B.Sc, Cable Charges,	Akhbar-E-Jehan Weekly,	Led Sony/Samsung 32" Colored, Mathematics Book Class Xi (Text Book Board), Personal Computer With Led Monitor (17") Dell/Hp/Acer Core I5, Laptop Dell/Hp/Acer Core I5, Display (14'-15'), Urdu Book Class Xi/Inter, Urdu Book Class Ix And X (Text Book Board), English
Education		Government College Fee First Year, Government University Fee M.S.C / M.A., Coaching Fee For Class Xi/Xii Science Group, Coaching Fee For Class Xi/Xii Commerce Group, Coaching Fee	Tuition Fee Private University M.Sc./M.A, Government Medical College/University Tuition Fee For Mbbs (1St Year),	Private School Fee English Medium Average Standard (Class Vi), Private School Fee English Medium Average Standard (Class I), Private School Fee English Medium Average Standard (Class
Restaurant & Hotels		Government Hostel Accommodation Fee For Intermediate College Per Student,		Private Hostel Accommodation Fee For Intermediate College Per Student, Marriage Hall Charges With Furniture, Seekh Kabab (Beef) (Average Quality), Burger With Shami Kabab (Average Quality), Marriage Hall Service Charges With Food (Average
Miscellaneous		Purse Ladies Medium Size (Average Quality),	Wall Clock Quartz (Average Quality), Shampoo Sun Silk/Pantene 90 Ml Bottle, Nail Polish Swiss Miss/Medora (Medium), Lipstick Swiss Miss/Medora (Medium), Tissue Paper Perfumed Box 100 Napkins, Artificial Jewelry (Locket	Silver Tezabi 24 Caratt, Hair Style Charges (At Average Beauty Parlor), Tooth Brush (Shield), Talcum Powder Viceroy/Black Cat Large Size, Perfume Medium Size Broche/Medora, Electric Hair Straightener (Philips), Shaving Cream (Touchme Large/Admiral), Face Cream Ponds

Table A17: Distribution of Price Changes (YoY) - Selected Rural CPI Items: September 2022

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	Sugar Refined, Ginger (Adrak), Gur (Average Quality), Chilies Powder Loose,	Jam-E-Shireen Standard Size (800 ML),		Apple (Average Quality), Ice Cream Walls Cup (Large Size), Radish (Mooli), Powdered Milk Nido 390 Gm Polybag, Fish Fresh, Cold Drink (Pepsi/Coca-Cola) 1.5 Liter Bottle, Almonds (Badam) Kaghazi With Shell (Average Quality), Wheat Flour Bag, Groundnuts (Moong Phali) With Shell,
Alcoholic Beverages & Tobacco				Tobacco Hukka Twisted, Cigarettes Gold Leaf 20'S Packet, Chewing Tobacco (Niswar), Cigarettes Capstan 20'S Packet, Pan Prepared (Sweet With Beetle Nuts),
Clothing & Footwear			Footware Gents Local (Average Quality),	Chaddar (Wash-N-Wear) (2X2.5 Meter), Pullover Gents (Average Quality), Footware Children Local (Average Quality), Lawn Printed (Average Quality), Dopatta Georgette (Average Quality), Shoe Repair Full Sole, Shirting (Average Quality), Footware Ladies Local (Average Quality), Linen, Ladies (Average Quality), Long Cloth, School Uniform Boys (Pant &
Housing, Water, Elec, Gas & other Fuels	Electricity Charges 51-100 Units, Electricity Charges 101-300 Units, Electricity Charges Upto 50 Units, Electricity Charges 301-1000 Units, Electricity Charges Combined,	Water Charges Per House,	House Rent Combined, Charges For Refuse/Waste Collection,	Painter Wage Rate, Plumber Wage Rate, Carpenter Wage Rate, Mason Wage Rate, Unskilled Labor Wage Rate, Electrician Charges, Bricks New 1st Class, Firewood Whole, Electricity Charges Above 1000 Units, Coal, Sand (Black Pit), Bajri, Cement
Furnishing & Household Equip. Maintenance etc			Cleanser Powder Vim 900 Gm Polybag, Finis 400 MI Bottle,	Boot Polish Cherry/Kiwi 42 MI, Water Set (Omroc) 6 Glass, Blanket Single (Sn), Refrigerator Dawlance/Pel 10 Cubic Feet Double Door, Bucket (Balti) Plastic Medium Size, Dinner Set Plastic 72 Pieces Super Quality, Washing Machine With
Health		Hydryllin Syrup 120 MI Bottle, Blood Test (Cp) Charges,	Cost Of Surgery (C-Section), Daonil Tablets 5 Mg, Physiotherapist Fee Per Visit, Inderal Tablets 10 Mg, Cac 1000 Tablets Sandoz Bottle,	Amoxil Capsule 250 Mg, X-Ray (Chest) Charges, Johar Joshanda Instant (Sachet) Packet, Doctor (Mbbs) Clinic Fee, Dental Surgeon Fee Per Visit, Dettol Medium Bottle, Panadol Tablets Plain,
Transport	Car Suzuki 800 Cc Without Ac,			Motorcycle Service Charges, Tire Cycle, Car Tax 800 Cc To 1500 Cc, Tire Motorcycle Cd 70 (Back Wheel), Cng, Motorcycle Honda Cd 70, Tire Car Mehran Tubeless (General), Train Fare Economy Per Person, Bicycle, Mobil Oil (Havoline)
Communication	Postal Registration Charges, Mobile Call Charges, Telephone Call Charges,	Internet Charges (Dsl) 1 Mb (Unlimited),	Mobile Set With Rear Camera And Without Touch Screen,	
Recreation & Culture		Newspaper Daily Jang,	Cable Charges, Led Sony/Samsung 32" Colored, Personal Computer With Led Monitor (17") Dell/Hp/Acer Core I5,	Urdu Books Class Ix And X (Text Book Board), English Books Class Xi Complete Set, English Books Class Vi, English Books Class Ix And X, Exercise Book (With Lines) 80 To 100 Pages, Urdu Books Class V (Text Book Board), Ballpoint Pen Local, Lead Pencil Col/Lf/Wh. Bats Food
Education			Private School Fee English Medium Average Standard (Class I), Private School Fee English Medium Average Standard (Class Vi), Private School Fee English Medium Average Standard (Class V), Vocational Training Basic Computer	Coaching Fee For Class Ix/X Science Group,
Restaurant & Hotels	Government Hostel Accommodation Fee For Intermediate College Per Student,			Marriage Hall Charges With Furniture, Marriage Hall Service Charges With Food (Average Meal), Chicken Roast (Full) (Average Quality), Chicken Biryani Full/Double, Private Hostel Accommodation Fee For Intermediate
Miscellaneous			Tooth Paste Colgate 75 Gm,	Blade Treet Ordinary (10 No. Packet), Shampoo Sun Silk/Pantene 90 MI Bottle, Purse Ladies Medium Size (Average Quality), Talcum Powder Viceroy/Black Cat, Tooth Brush (Shield), Shaving Cream (Touchme Large/Admiral), Hair Color (Kala Kola), Disposable Razor Gillette Blue

Table A18: Distribution of Price Changes (YoY) - WPI Items: September 2022

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 & Fisher Product	Millet / Bajra, Stimulant & Spice Crops,	Raw Animal Materials / Wool, Fish Live Fresh or Chilled,	Fuel Wood in Logs,	Sorghum / Jowar, Unmanufactured Tobacco, Dry Fruits, Cotton Seeds, Poultry, Fresh Fruits, Rice, Sugar Crops, Raw Milk from Bovine Animals, Eggs, Hides, Skins & Fur Skins, Raw, Other Oil Seeds, Maize
Ores/Minerals, Elec., Gas & Water		Natural Gas Liquefied,		Salt & Pure Sodium Chloride, Electrical Energy, Coal not Agglomerated,
Food, Beverages, Tobacco, Textile, Apparel and Leather Product	Spices, Sugar Refined, Nylon Yarn,	Blankets, Bed Sheets, Blended Yarn,	Cotton Yarn, Woolen Carpets, Sugar Confectionary, Chocolate, Quilts,	Towels, Synthetic Carpets, Dried Fruits & Nuts, Ice Cream, Woven Fabrics, Hosiery Products, Meat of Animals, Other Food Products, Cotton Fabrics, Beverages, Leather Without Hair, Fruit Juices, Mineral Water,
Other Transportable Goods except Metal Products, Machinery and Equipments	Hard Board, Dyeing Material, Insecticides,	Other Glass Articles,	Pesticides, Plastic Products,	Medicines, Matches, Bricks, Blocks & Tiles, Ceramics & Sanitary Fixture, Timber, Soaps & Detergents, Printing Paper, Paints & Varnishes, Mobil Oil, Auto Tyres, Cement, Furnace Oil, Glass sheets,
Metal Product, Machinery & Equipments	Vacuum Pumps,		Steel Products, Engines & Motors,	Fridge, WashM, SewM, Fans, Iron, Radio & Television, Steel Bar & Sheets, Electric Wires, Motor Vehicles, Motorcycles, Bicycles, Air Conditioners, Lathe Machines, Tractors, Pipe Fittings, Cultivators, Lighting Equipments,

Table A19: International Commodity Prices/Indices

Commodity/Indices	Jun-21	Sep-21	Aug-22	Sep-22
Energy				
Crude Oil (US\$ per barrel)*	71.8	72.8	96.0	88.2
Energy Index (2010 = 100)	93.9	107.2	171.1	157.3
Food				
Rice (\$/MT)	466.0	400.0	431.0	439.0
Wheat (\$/MT)##	285.6	337.6	382.9	417.9
Sugar, World (\$/KG)	0.4	0.4	0.4	0.4
Palm Oil (\$/MT)	1,004.4	1,181.4	1,026.0	909.3
Soybean Oil (\$/MT)	1,518.2	1,398.8	1,598.8	1,548.3
Non-Food Non-Energy				
Cotton Outlook 'A' Index (\$/KG)	2.1	2.3	2.7	2.6
Metal Price Index (2010 = 100)	119.0	124.1	110.6	104.7
Copper (\$/MT)	9,631.5	9,324.7	7,981.8	7,749.0
Aluminum (\$/MT)	2,446.7	2,834.6	2,430.8	2,228.1
Iron Ore (\$ cents/dry MT)	214.4	124.5	108.9	99.8
Tin (\$/MT)	32,502.6	34,887.3	24,647.5	21,145.5
Nickel (\$/MT)	17,979.6	19,376.9	22,057.4	22,857.9
Zinc (\$/MT)	2,951.9	3,036.0	3,587.6	3,130.2
Lead (\$/MT)	2,191.0	2,248.3	2,072.7	1,868.1
Uranium (\$/MT)@	32.3	42.6	51.3	48.4
DAP (\$/MT)	604.8	643.8	749.4	752.0
Urea (\$/MT)	393.3	418.8	591.3	678.0

Source: World Bank for all variables / indices except Uranium which is taken from Cameco (World Largest Uranium Producer)

@ Data has been taken from Cameco website, as it is not available in World Bank dataset.

.. Not Available by source

* Crude Oil (Petroleum), simple average of three spot prices; Dated Brent, West Texas Intermediate, and the Dubai fatch

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 Jun 1968 to September 1981 strict middling 1-1/16 inch staple. Prior to 1968, Mexican 1-1/16.2/

Wheat, US HRW (Hard Red Winter) reported by World Bank.

DAP: Di-ammonium Phosphate

Table A20: National CPI Data Series Original and Seasonally Adjusted

Original Series					
Period	FY19	FY20	FY21	FY22	FY23
Jul	114.29	123.86	135.38	146.76	183.35
Aug	113.93	125.89	136.23	147.61	187.84
Sep	113.90	126.86	138.32	150.74	185.68
Oct	116.32	129.16	140.67	153.61	
Nov	116.18	130.90	141.83	158.18	
Dec	115.82	130.45	140.86	158.16	
Jan	116.12	133.04	140.56	158.78	
Feb	117.12	131.64	143.09	160.61	
Mar	119.46	131.69	143.61	161.88	
Apr	120.33	130.59	145.09	164.50	
May	121.05	131.01	145.24	165.23	
Jun	121.63	132.08	144.82	175.71	
Seasonally Adjusted Series					
Jul	114.08	123.69	135.26	146.68	183.33
Aug	113.79	125.82	136.22	147.66	187.93
Sep	113.53	126.50	137.96	150.37	185.24
Oct	115.27	127.99	139.37	152.18	
Nov	114.89	129.35	140.07	156.15	
Dec	115.64	130.18	140.49	157.69	
Jan	116.42	133.38	140.93	159.20	
Feb	117.77	132.28	143.71	161.22	
Mar	120.11	132.35	144.28	162.60	
Apr	120.43	130.72	145.26	164.70	
May	121.80	131.83	146.17	166.29	
Jun	122.56	133.17	146.13	177.42	

Table A21: Urban CPI Data Series Original and Seasonally Adjusted					
Original Series					
Period	FY19	FY20	FY21	FY22	FY23
Jul	114.94	124.95	134.73	146.41	180.97
Aug	114.58	126.77	135.82	147.12	185.72
Sep	114.49	127.72	137.53	150.08	181.90
Oct	117.04	129.75	139.27	152.59	
Nov	116.94	131.05	140.16	156.96	
Dec	116.57	130.57	139.67	157.46	
Jan	117.07	132.77	139.45	157.56	
Feb	118.08	131.32	142.61	159.03	
Mar	120.29	131.49	142.99	160.07	
Apr	121.29	130.60	144.91	162.63	
May	122.11	130.99	145.19	163.13	
Jun	122.52	131.89	144.55	173.23	
Seasonally Adjusted Series					
Jul	114.69	124.76	134.61	146.35	180.99
Aug	114.41	126.70	135.84	147.23	185.92
Sep	114.17	127.40	137.22	149.77	181.54
Oct	116.18	128.78	138.22	151.43	
Nov	115.92	129.84	138.81	155.39	
Dec	116.58	130.51	139.52	157.22	
Jan	117.39	133.14	139.84	158.00	
Feb	118.72	131.93	143.20	159.61	
Mar	120.94	132.13	143.62	160.72	
Apr	121.12	130.43	144.71	162.39	
May	122.54	131.45	145.70	163.69	
Jun	123.30	132.82	145.67	174.70	

Table A22: Rural CPI Data Series Original and Seasonally Adjusted					
Original Series					
Period	FY19	FY20	FY21	FY22	FY23
Jul	113.30	122.22	136.36	147.28	186.94
Aug	112.96	124.56	136.84	148.34	191.04
Sep	113.01	125.55	139.51	151.74	191.38
Oct	115.23	128.28	142.79	155.15	
Nov	115.03	130.67	144.34	160.03	
Dec	114.70	130.28	142.65	159.21	
Jan	114.68	133.44	142.23	160.62	
Feb	115.68	132.13	143.82	162.99	
Mar	118.21	132.00	144.55	164.62	
Apr	118.89	130.58	145.37	167.31	
May	119.45	131.03	145.32	168.39	
Jun	120.29	132.36	145.24	179.45	
Seasonally Adjusted Series					
Jul	113.16	122.08	136.24	147.18	186.86
Aug	112.86	124.50	136.80	148.31	190.98
Sep	112.58	125.12	139.07	151.29	190.83
Oct	113.91	126.78	141.10	153.31	
Nov	113.32	128.62	141.97	157.30	
Dec	114.22	129.69	141.95	158.40	
Jan	114.95	133.74	142.58	161.01	
Feb	116.34	132.80	144.48	163.66	
Mar	118.86	132.68	145.27	165.42	
Apr	119.38	131.17	146.08	168.17	
May	120.67	132.41	146.88	170.23	
Jun	121.43	133.71	146.82	181.51	

Table A23: National CPI Monthly & Average Seasonal Factors						
Period	FY19	FY20	FY21	FY22	FY23	Average
Jul	100.18	100.13	100.09	100.05	100.01	100.09
Aug	100.12	100.05	100.01	99.97	99.95	100.02
Sep	100.32	100.29	100.26	100.24	100.24	100.27
Oct	100.91	100.92	100.93	100.94		100.92
Nov	101.12	101.20	101.26	101.30		101.22
Dec	100.15	100.21	100.26	100.30		100.23
Jan	99.74	99.74	99.74	99.74		99.74
Feb	99.45	99.52	99.57	99.62		99.54
Mar	99.46	99.50	99.54	99.56		99.51
Apr	99.92	99.90	99.89	99.88		99.90
May	99.39	99.38	99.36	99.36		99.37
Jun	99.25	99.18	99.10	99.04		99.14

Table A24: Urban CPI Monthly & Average Seasonal Factors						
Period	FY19	FY20	FY21	FY22	FY23	Average
Jul	100.22	100.15	100.09	100.04	99.99	100.10
Aug	100.15	100.06	99.99	99.93	99.89	100.00
Sep	100.28	100.25	100.23	100.21	100.20	100.23
Oct	100.74	100.75	100.76	100.76		100.75
Nov	100.88	100.93	100.97	101.01		100.95
Dec	99.99	100.05	100.11	100.15		100.07
Jan	99.73	99.72	99.72	99.72		99.72
Feb	99.46	99.53	99.59	99.64		99.56
Mar	99.46	99.52	99.56	99.59		99.53
Apr	100.14	100.13	100.14	100.15		100.14
May	99.65	99.65	99.65	99.66		99.65
Jun	99.37	99.30	99.23	99.16		99.26

Table A25: Rural CPI Monthly & Average Seasonal Factors						
Period	FY19	FY20	FY21	FY22	FY23	Average
Jul	100.13	100.11	100.09	100.07	100.04	100.09
Aug	100.09	100.05	100.03	100.02	100.03	100.04
Sep	100.38	100.34	100.32	100.30	100.29	100.33
Oct	101.16	101.18	101.20	101.20		101.19
Nov	101.51	101.60	101.67	101.73		101.63
Dec	100.42	100.46	100.49	100.51		100.47
Jan	99.77	99.76	99.75	99.76		99.76
Feb	99.44	99.50	99.55	99.59		99.52
Mar	99.46	99.49	99.50	99.51		99.49
Apr	99.59	99.55	99.52	99.49		99.54
May	98.99	98.96	98.94	98.92		98.95
Jun	99.06	98.99	98.93	98.86		98.96

Table A26: National CPI (Month-on-Month) Original & Seasonally Adjusted					
Original Series					
Period	FY19	FY20	FY21	FY22	FY23
Jul	1.51	1.83	2.50	1.34	4.35
Aug	-0.31	1.64	0.63	0.58	2.45
Sep	-0.03	0.77	1.53	2.12	-1.15
Oct	2.12	1.81	1.70	1.90	
Nov	-0.12	1.35	0.82	2.98	
Dec	-0.31	-0.34	-0.68	-0.02	
Jan	0.26	1.99	-0.21	0.39	
Feb	0.86	-1.05	1.80	1.15	
Mar	2.00	0.04	0.36	0.79	
Apr	0.73	-0.84	1.03	1.62	
May	0.60	0.32	0.10	0.44	
Jun	0.48	0.82	-0.29	6.34	
Seasonally Adjusted Series					
Jul	0.62	0.93	1.57	0.38	3.33
Aug	-0.25	1.72	0.71	0.67	2.51
Sep	-0.23	0.53	1.27	1.84	-1.43
Oct	1.53	1.18	1.02	1.20	
Nov	-0.33	1.07	0.50	2.61	
Dec	0.66	0.64	0.30	0.98	
Jan	0.67	2.46	0.31	0.96	
Feb	1.16	-0.83	1.97	1.27	
Mar	1.99	0.05	0.40	0.85	
Apr	0.26	-1.23	0.68	1.29	
May	1.14	0.85	0.63	0.97	
Jun	0.62	1.02	-0.03	6.69	

Table A27: Urban CPI (Month-on-Month) Original & Seasonally Adjusted Series					
Original Series					
Period	FY19	FY20	FY21	FY22	FY23
Jul	1.41	1.98	2.15	1.29	4.47
Aug	-0.31	1.46	0.81	0.48	2.62
Sep	-0.08	0.75	1.26	2.01	-2.06
Oct	2.23	1.59	1.27	1.67	
Nov	-0.09	1.00	0.64	2.86	
Dec	-0.32	-0.37	-0.35	0.32	
Jan	0.43	1.68	-0.16	0.06	
Feb	0.86	-1.09	2.27	0.93	
Mar	1.87	0.13	0.27	0.65	
Apr	0.83	-0.68	1.34	1.60	
May	0.68	0.30	0.19	0.31	
Jun	0.34	0.69	-0.44	6.19	
Seasonally Adjusted Series					
Jul	0.61	1.19	1.35	0.47	3.60
Aug	-0.24	1.55	0.91	0.60	2.73
Sep	-0.21	0.56	1.02	1.73	-2.36
Oct	1.76	1.08	0.73	1.11	
Nov	-0.22	0.82	0.42	2.61	
Dec	0.57	0.51	0.51	1.18	
Jan	0.69	2.02	0.23	0.49	
Feb	1.14	-0.91	2.40	1.02	
Mar	1.87	0.15	0.30	0.70	
Apr	0.15	-1.29	0.76	1.04	
May	1.17	0.78	0.68	0.80	
Jun	0.62	1.04	-0.02	6.73	

Table A28: Rural CPI (Month-on-Month) Original & Seasonally Adjusted Series					
Original Series					
Period	FY19	FY20	FY21	FY22	FY23
Jul	1.67	1.60	3.02	1.40	4.17
Aug	-0.30	1.91	0.35	0.72	2.19
Sep	0.04	0.79	1.95	2.29	0.18
Oct	1.96	2.17	2.35	2.25	
Nov	-0.17	1.86	1.09	3.15	
Dec	-0.29	-0.30	-1.17	-0.51	
Jan	-0.02	2.43	-0.29	0.89	
Feb	0.87	-0.98	1.12	1.48	
Mar	2.19	-0.10	0.51	1.00	
Apr	0.58	-1.08	0.57	1.63	
May	0.47	0.34	-0.03	0.65	
Jun	0.70	1.02	-0.06	6.57	
Seasonally Adjusted Series					
Jul	0.65	0.53	1.89	0.25	2.95
Aug	-0.26	1.98	0.41	0.77	2.20
Sep	-0.25	0.50	1.66	2.01	-0.08
Oct	1.18	1.33	1.46	1.33	
Nov	-0.51	1.45	0.61	2.61	
Dec	0.80	0.83	-0.01	0.70	
Jan	0.63	3.13	0.44	1.65	
Feb	1.21	-0.71	1.33	1.65	
Mar	2.17	-0.09	0.55	1.08	
Apr	0.44	-1.14	0.56	1.66	
May	1.08	0.95	0.55	1.22	
Jun	0.63	0.98	-0.04	6.63	

List of Figures

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

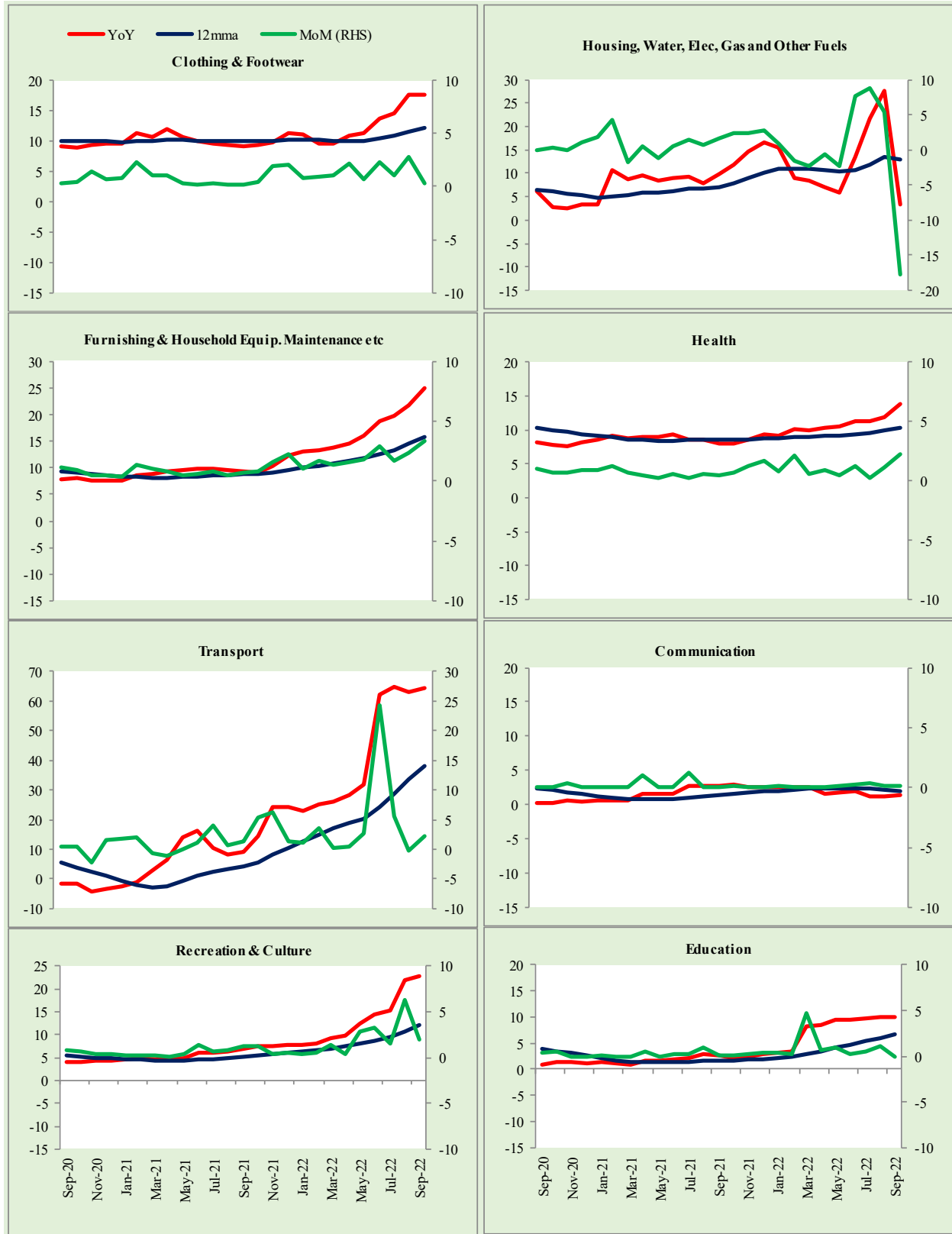


Figure A2: Urban CPI Non-food Inflation (YoY, 12MMA, MoM in percent)

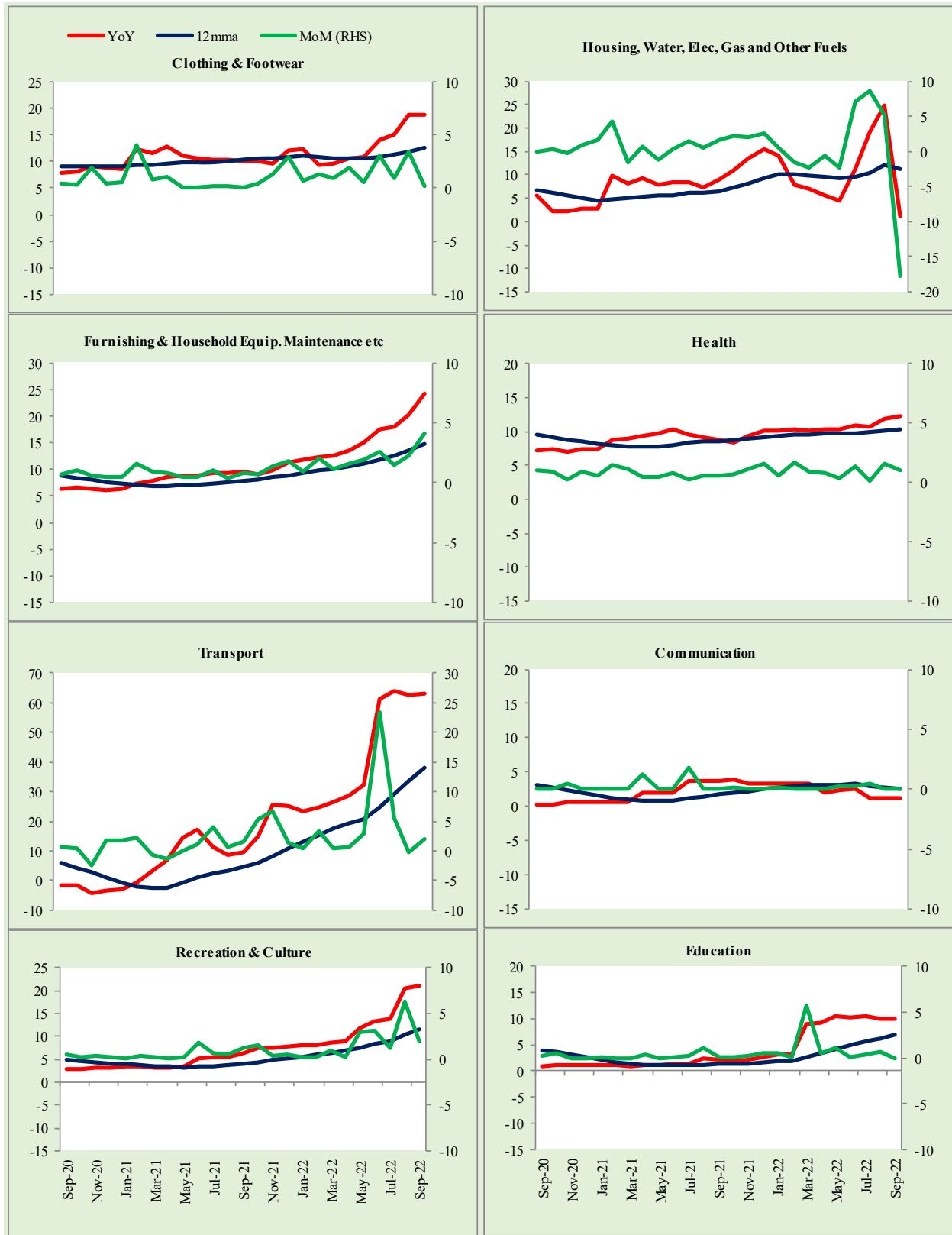


Figure A3: Rural CPI Non-food Inflation (YoY, 12MMA, MoM in percent)

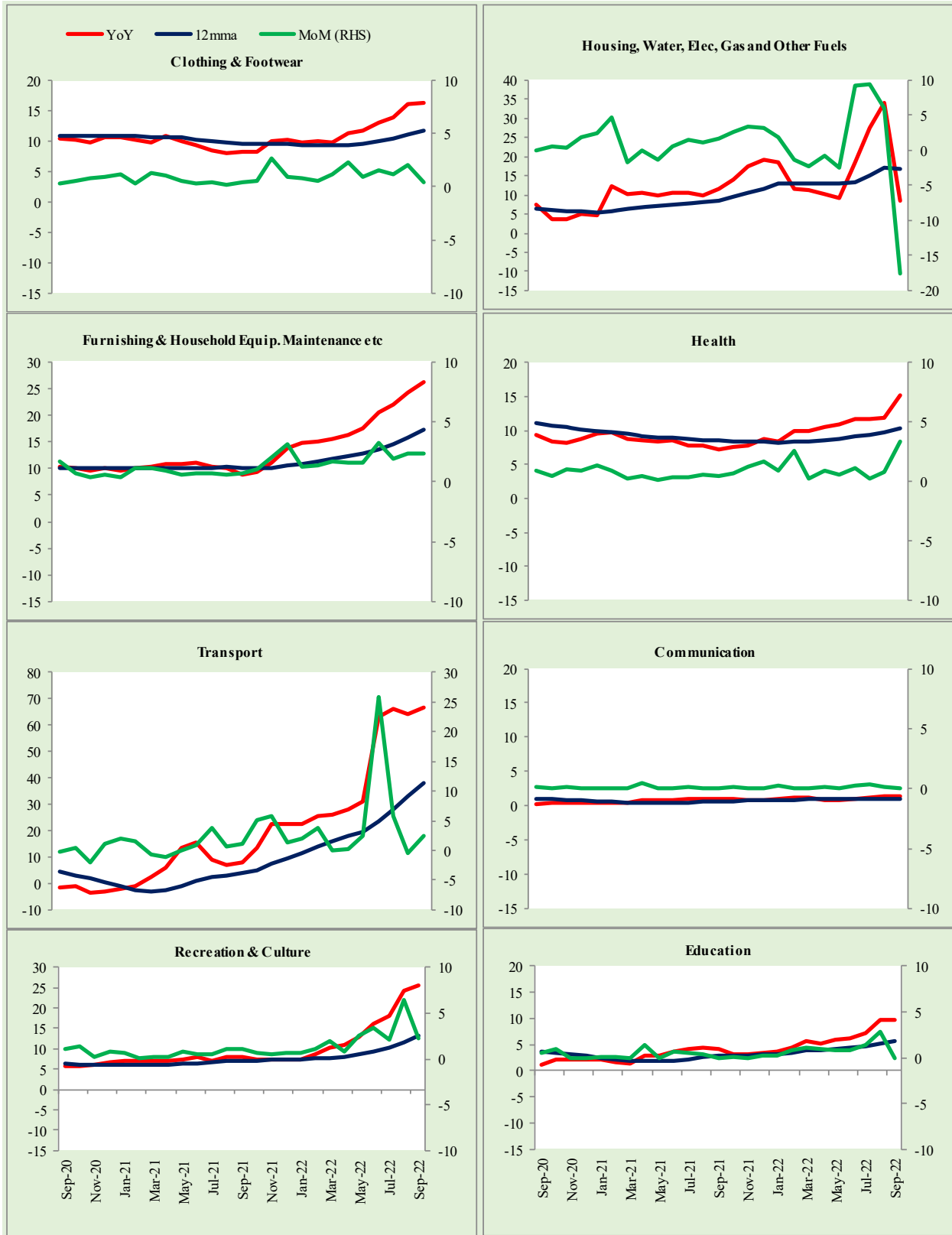
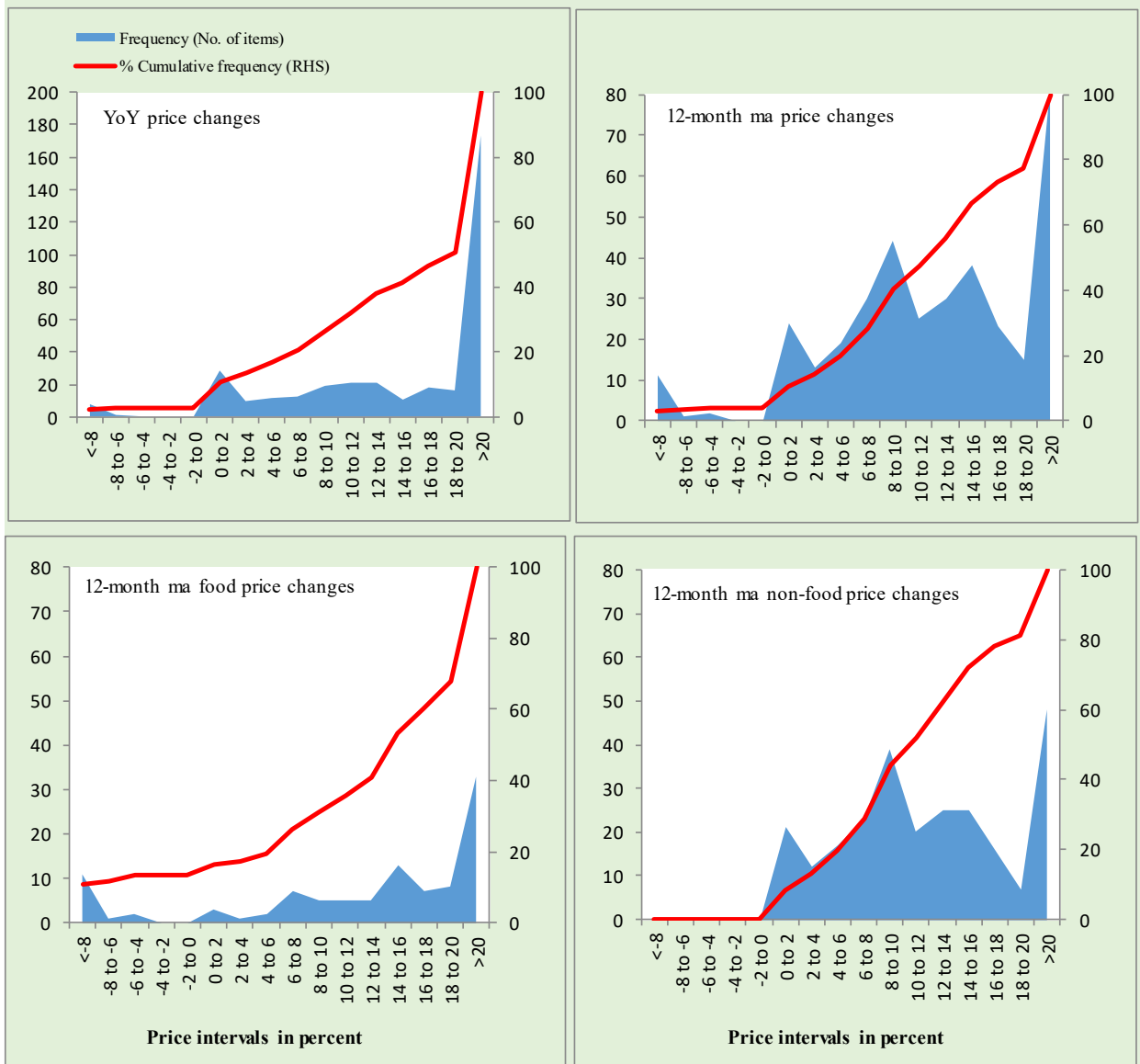
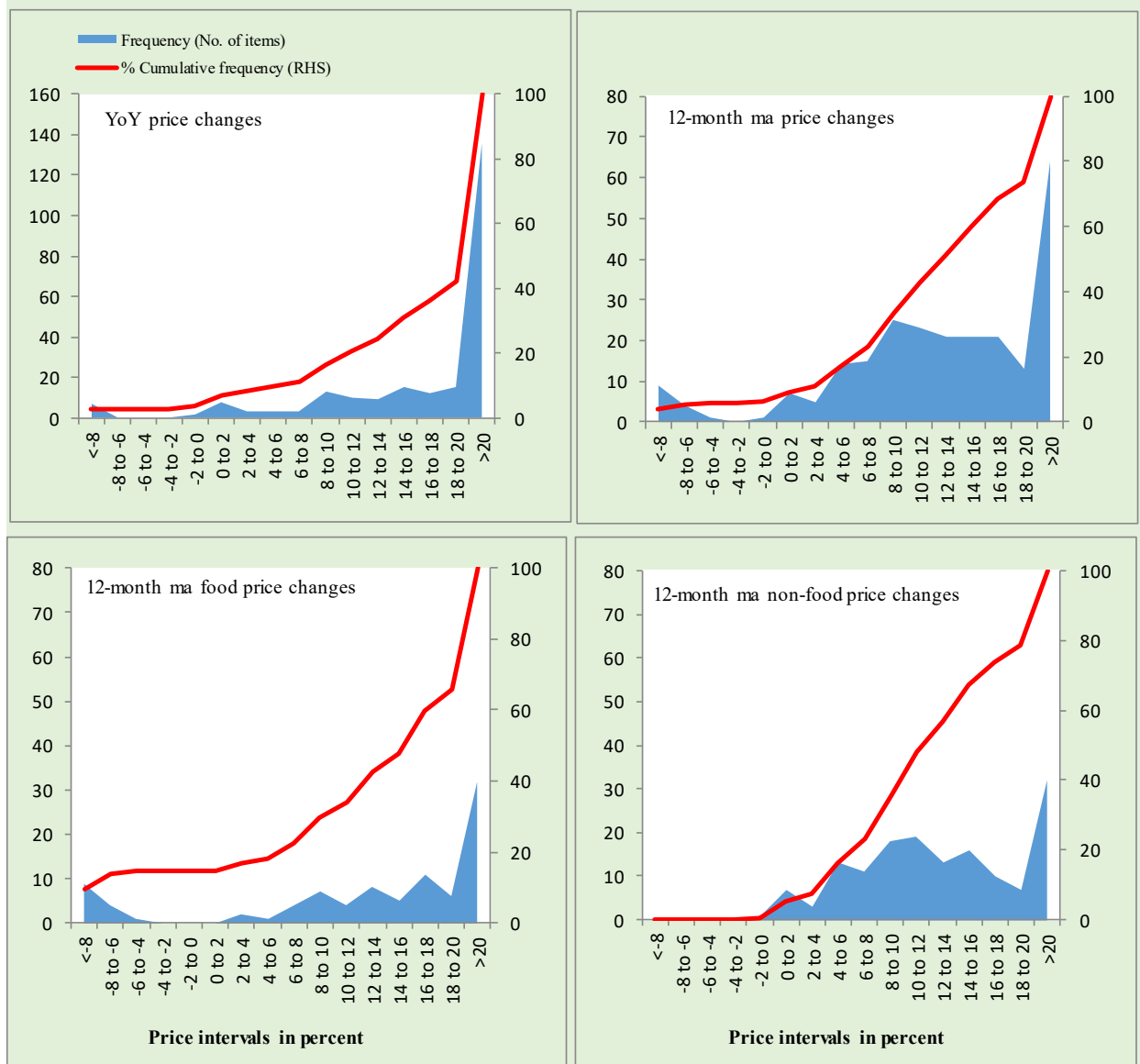


Figure A4: Frequency Distribution of Price Changes of Urban CPI Items (YoY)



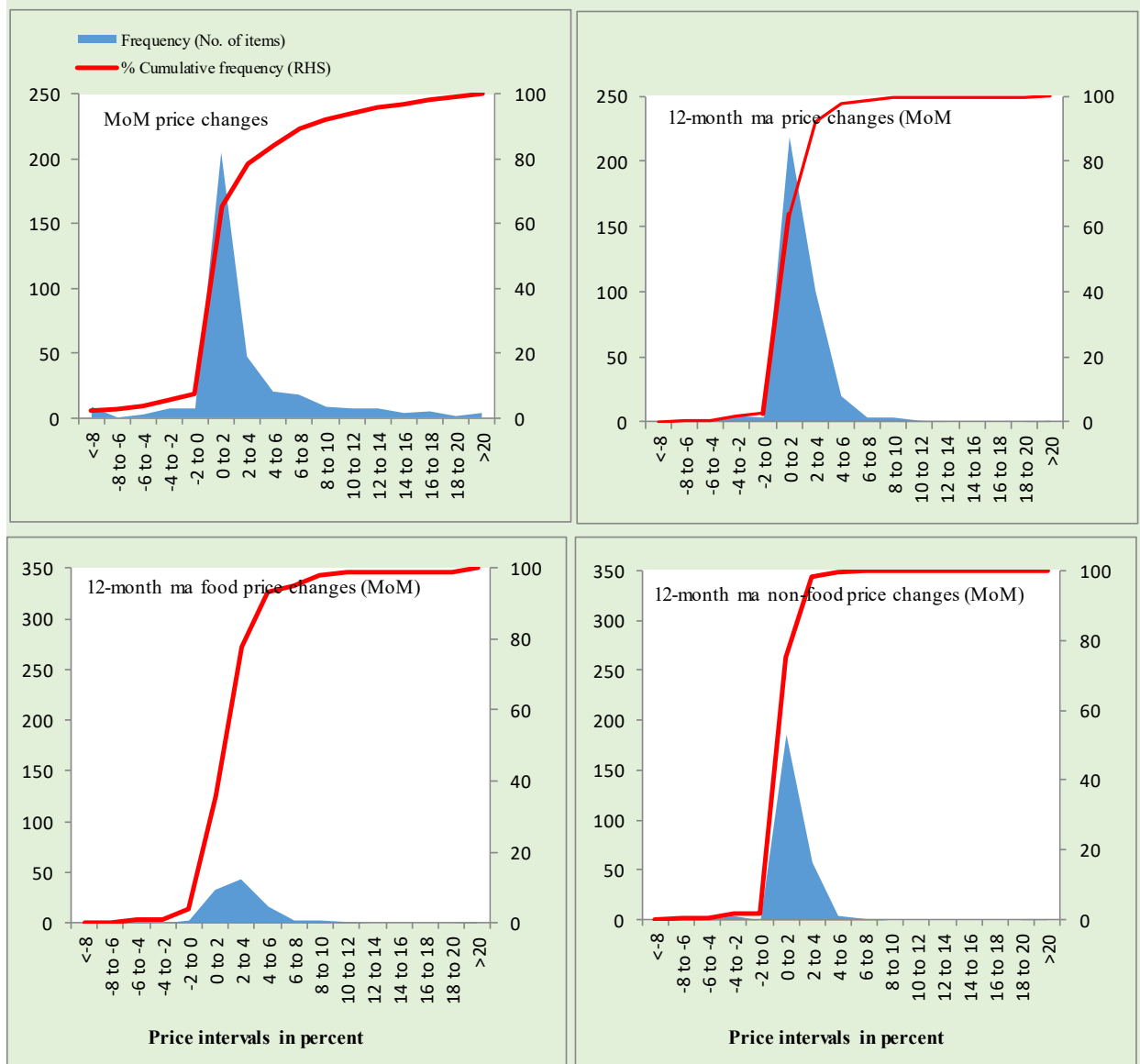
Total Items in CPI Basket (356), Food Items (103) and non-Food Items (253).

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



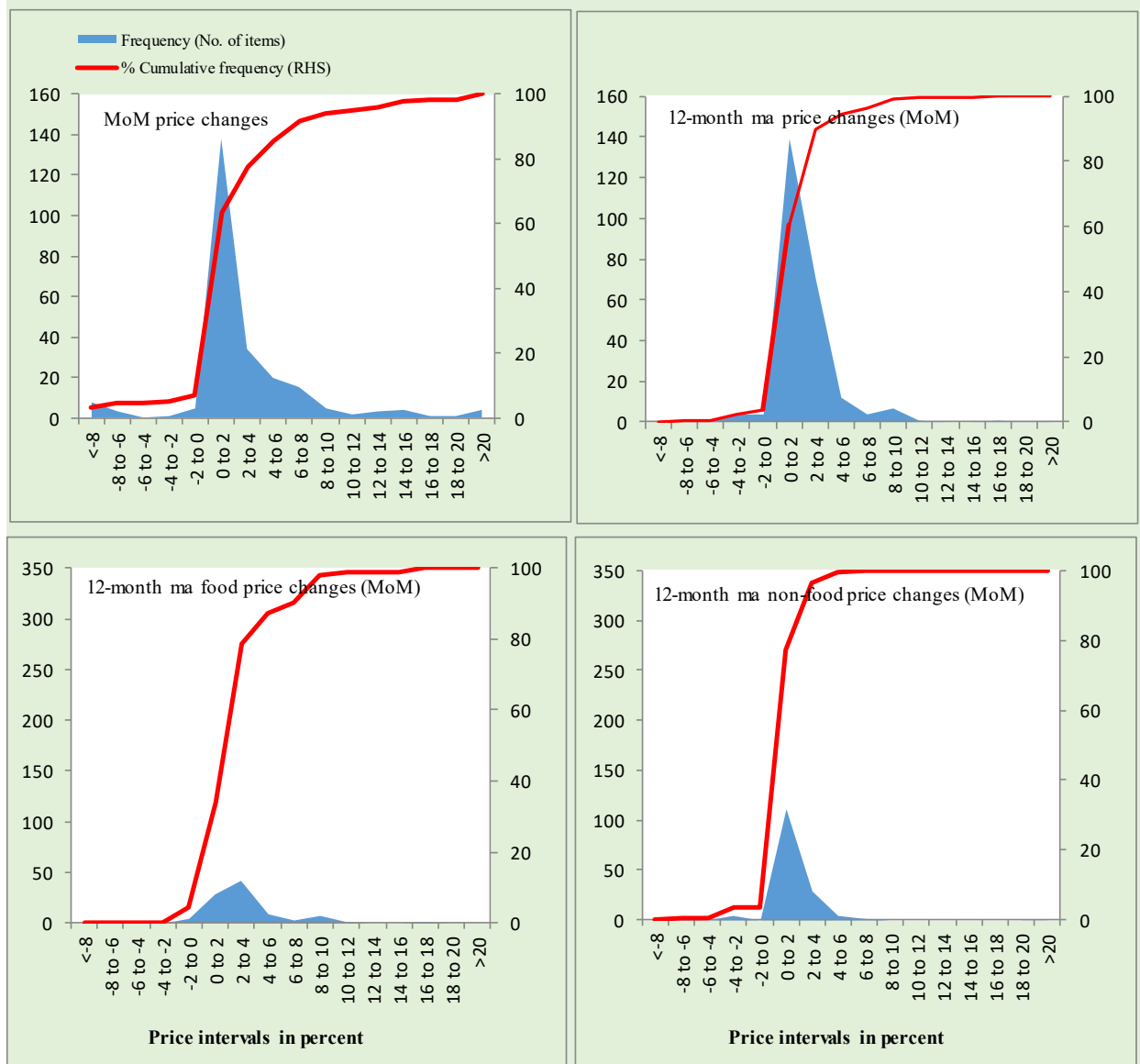
Total Items in CPI Basket (244), Food Items (94) and non-Food Items (150).

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



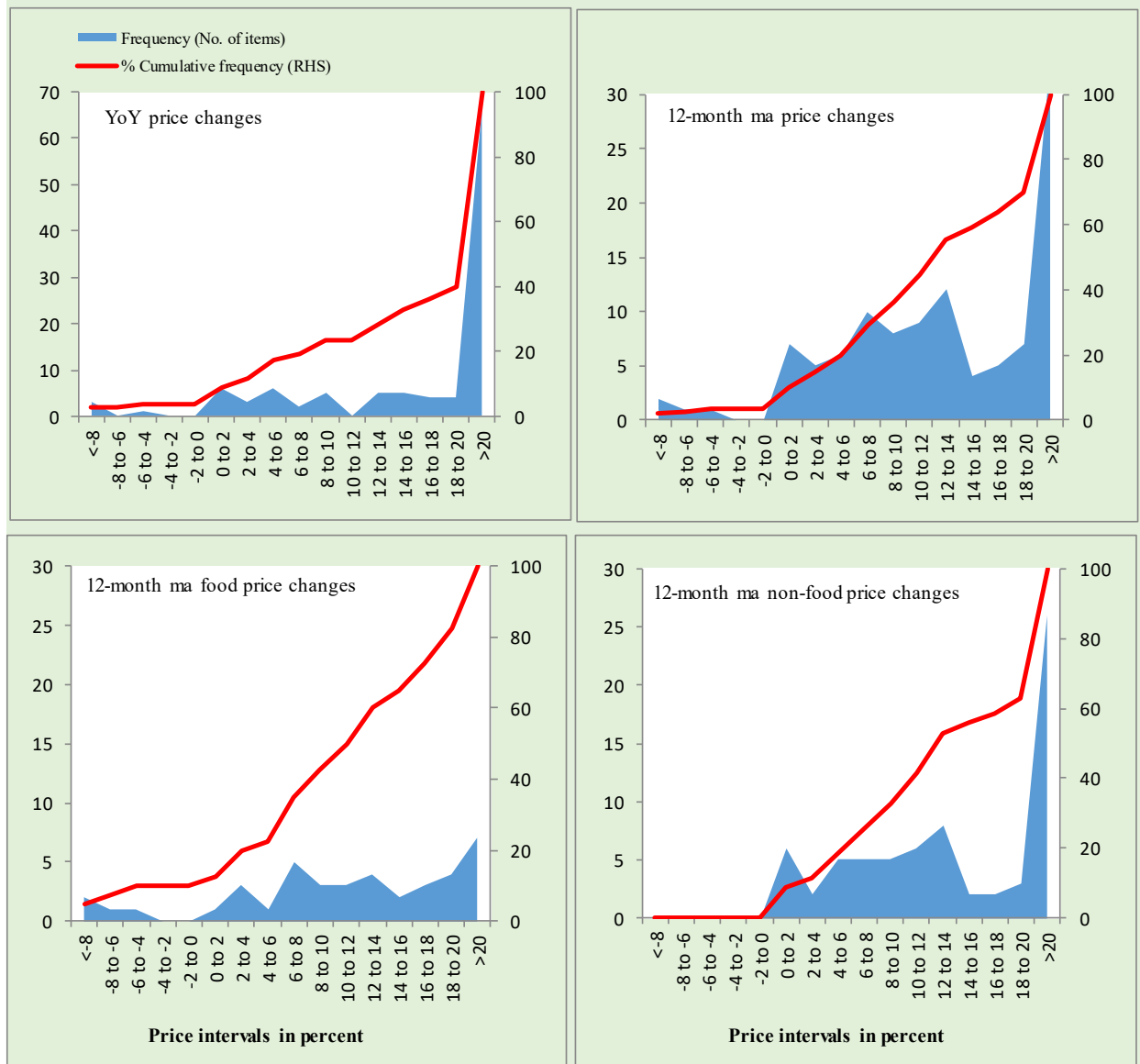
Total Items in CPI Basket (356), Food Items (103) and non-Food Items (253).

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



Total Items in CPI Basket (244), Food Items (94) and non-Food Items (150).

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



Total Items in WPI Basket (110), Food Items (40) and non-Food Items (70).

Technical Notes, Definitions and Methodologies

Technical Notes

1. All the three measures of inflation, viz. CPI (National, Urban and Rural), 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 2015-16.
3. CPI baskets for urban and rural areas contains 356 and 244 consumers' items respectively; WPI basket contains 419 items; SPI contains 51 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 September 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:

$$\bar{\pi}_t = \left(\frac{\sum_{i=0}^{t-v} I_{t-i}}{t-12-v} - 1 \right) \times 100$$

Where v is the serial number of the month of September 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:

$$\tilde{\pi}_t = \left(\frac{\sum_{i=0}^{11} I_{t-i}}{11} - 1 \right) \times 100$$

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 two methods i.e. NFNE inflation and trimmed inflation:

- 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.
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 indices 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

Methodology for Estimating Inflation Diffusion Index for Pakistan

We constructed an index to measure the spread of inflation in the 356 and 244 items of CPI urban and rural baskets respectively. It is based on month-on-month (MoM) change in the prices of these items and can be obtained by estimating what is known as an ‘inflation diffusion index’ (IDI) as below:

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

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 constant².

Based upon item level prices data from September 2001 to Jun 2011, inflation diffusion indices for overall (general) CPI basket and for all groups in CPI basket (except House Rent Index being single item) were computed. A simple analysis³ suggests that IDI was a leading indicator for Pakistan’s YoY inflation.

² Prices of certain items (like the seasonal items) during certain period may not be observed/available. To calculate the inflation diffusion index, the items for which prices have been reported (irrespective of changed or not) during the month under review are considered.

³ Formal test shows one way ‘Granger’ causality from IDI to YoY inflation.