

# **Inflation Monitor**

**April 2018**



**State Bank of Pakistan**

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| <b>Contents</b>   |                                                                                         | <b>Page</b> |
|-------------------|-----------------------------------------------------------------------------------------|-------------|
| 1.                | Inflation in Brief .....                                                                | 1           |
| 2.                | City- wise Inflation .....                                                              | 7           |
| 3.                | Income Group- wise Inflation .....                                                      | 8           |
| 4.                | Weighted Contribution .....                                                             | 10          |
| 5.                | Inflation Diffusion Index .....                                                         | 11          |
| 6.                | Domestic Commodity Prices .....                                                         | 12          |
| 7.                | Global Commodity Prices .....                                                           | 12          |
| 8.                | Seasonal Adjustment in CPI .....                                                        | 13          |
| <b>Annexure A</b> |                                                                                         |             |
| Table A1          | CPI Inflation by Groups                                                                 | 17          |
| Table A2          | Distribution of Price Changes (YoY) of CPI Basket                                       | 17          |
| Table A3          | Top and Bottom 15 Contributors to CPI Inflation (YoY)                                   | 18          |
| Table A3.1        | Top and Bottom 15 Contributors to CPI Inflation (MoM)                                   | 19          |
| Table A3.2        | Top Fifteen Contributors to CPI Inflation (YoY)                                         | 20          |
| Table A3.3        | Top Ten Contributors to CPI Food Inflation (YoY)                                        | 21          |
| Table A3.4        | Top Ten Contributors to CPI Non-Food Inflation (YoY)                                    | 22          |
| Table A4          | Distribution of Price Changes (YoY) - Selected CPI Items                                | 23          |
| Table A5          | City-wise CPI Inflation by Income Groups                                                | 24          |
| Table A6          | City- wise CPI Inflation (YoY)                                                          | 25          |
| Table A7          | Income Group-wise Inflation                                                             | 26          |
| Table A8          | SPI Item-wise Price Movements                                                           | 27          |
| Table A9          | Distribution of Price Changes (YoY)-WPI Items                                           | 28          |
| Table A10         | Consumer Price Index Numbers by Major Groups and Composite<br>Commodities               | 29-30       |
| Table A11         | Wholesale Price Index Numbers by Major Groups and Composite Commodities                 | 31-32       |
| Table A12         | Price Indices                                                                           | 33          |
| Table A13         | International Commodity Prices/ Indices                                                 | 34          |
| Table A14         | CPI Data Series- Original and Seasonally Adjusted                                       | 35          |
| Table A15         | CPI Food Data Series- Original and Seasonally Adjusted                                  | 36          |
| Table A16         | CPI Monthly & Average Seasonal Factors                                                  | 37          |
| Table A17         | CPI Food Monthly & Average Seasonal Factors                                             | 37          |
| Table A18         | CPI Month-on-Month % Change- Original & Seasonally Adjusted                             | 38          |
| Table A19         | CPI Food Month-on-Month % Change- Original & Seasonally Adjusted                        | 39          |
| Figure A1         | CPI Non-food Inflation                                                                  | 40          |
| Figure A2         | Frequency Distribution of Price Changes of CPI Items                                    | 41          |
| Figure A3         | Frequency Distribution of Price Changes of WPI Commodities                              | 42          |
| Figure A4         | Group- wise/ overall Inflation Diffusion Index and Respective/ Overall YoY<br>Inflation | 43          |
| Annexure B        | Technical Notes                                                                         | 44-47       |

**Team**

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

## **Review**

### **Inflation in Brief**

1. Headline CPI inflation (2007-08=100) is recorded at level of 3.7 percent on year-on-year basis in April 2018 as compared to 3.2 percent in the previous month and 4.8 percent during corresponding month of last year.
2. CPI inflation on month-on-month basis is recorded at level of 1.8 percent in April 2018 as compared to 0.3 percent in the previous month and 1.4 percent during corresponding month of last year. Seasonally adjusted month-on-month CPI inflation is recorded at 0.68 percent in April 2018 compared to 0.25 percent in the previous month.
3. Core inflation (trimmed) on year-on-year basis is recorded at 5.0 percent in April 2018 as compared to 4.1 percent in the previous month and 4.5 percent during corresponding month of last year.
4. On month-on-month basis, the Core inflation (trimmed) is recorded at 1.7 percent in April 2018 as compared to 0.2 percent in the previous month and 0.8 percent during corresponding month of last year.
5. Non-food, non-energy inflation measured by CPI Core (NFNE) on year-on-year basis is recorded at 6.9 percent in April 2018 and 5.8 percent in the previous month and 5.5 percent during corresponding month of last year.
6. Core NFNE inflation on month-on-month basis recorded at 2.4 percent in April 2018 as compared to 0.7 percent in the previous month. Core NFNE inflation was 1.3 percent in the corresponding month of last year.
7. WPI inflation on year-on-year basis recorded at 4.0 percent in April 2018 as compared to 3.6 percent in the previous month and 6.0 percent during the corresponding month of last year.

8. WPI inflation on month-on-month basis recorded at 1.3 percent in April 2018 as compared to 0.2 percent in the previous month. It was 0.9 percent in the corresponding month of last year.
9. SPI inflation on year-on-year basis recorded at 0.5 percent in April 2018 as compared to -0.9 percent in the previous month. It was 2.9 percent in the corresponding month of last year.
10. SPI inflation on month-on-month basis recorded at 0.7 percent in April 2018 as compared to -0.2 percent in the previous month. It was -0.7 percent in the corresponding month of last year.

### **1.1 A New Measure of Core Inflation**

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

11. Core RSC inflation on year-on-year basis is recorded at 5.3 percent in April 2018 compared to 4.4 percent in the previous month and remained at level in the corresponding month of last year.
12. Core RSC inflation on month-on-month basis is recorded at 1.1 percent in April 2018 compared to 0.6 percent in the previous month and in the corresponding month of last year.

Monthly CPI, WPI and SPI data is summarized in the following table.

| Table 1.1 Inflation Trends (percent) (Base 2007- 08 = 100)                                                           |               |      |      |      |          |     |                |     |         |     |       |      |               |                  |      |      |
|----------------------------------------------------------------------------------------------------------------------|---------------|------|------|------|----------|-----|----------------|-----|---------|-----|-------|------|---------------|------------------|------|------|
| Period                                                                                                               | CPI Inflation |      |      |      |          |     | Core Inflation |     |         |     |       |      | WPI Inflation | SPI*** Inflation |      |      |
|                                                                                                                      | General       |      | Food |      | Non-food |     | NFNE*          |     | Trimmed |     | RSC** |      |               |                  |      |      |
|                                                                                                                      | YoY           | MoM  | YoY  | MoM  | YoY      | MoM | YoY            | MoM | YoY     | MoM | YoY   | MoM  | YoY           | MoM              | YoY  | MoM  |
| Apr-17                                                                                                               | 4.8           | 1.4  | 4.4  | 1.7  | 5.1      | 1.2 | 5.5            | 1.3 | 4.8     | 0.8 | 5.3   | 1.1  | 6.0           | 0.9              | 2.9  | -0.7 |
| May-17                                                                                                               | 5.0           | 0.0  | 4.9  | -0.2 | 5.1      | 0.2 | 5.5            | 0.2 | 4.8     | 0.2 | 5.3   | 0.3  | 5.2           | -0.2             | 2.9  | -0.7 |
| Jun-17                                                                                                               | 3.9           | -0.4 | 2.4  | -1.1 | 5.0      | 0.1 | 5.5            | 0.1 | 4.2     | 0.0 | 4.5   | -0.4 | 3.3           | -0.5             | 1.9  | 0.1  |
| Jul-17                                                                                                               | 2.9           | 0.3  | -0.1 | 0.0  | 5.1      | 0.6 | 5.6            | 0.7 | 4.0     | 0.4 | 4.4   | 0.4  | 0.7           | -0.2             | 0.2  | -0.6 |
| Aug-17                                                                                                               | 3.4           | 0.2  | 1.2  | 0.4  | 5.0      | 0.1 | 5.5            | 0.1 | 4.2     | 0.1 | 4.3   | 0.2  | 1.0           | 0.3              | 0.5  | 0.2  |
| Sep-17                                                                                                               | 3.9           | 0.6  | 2.4  | 1.3  | 4.9      | 0.2 | 5.4            | 0.1 | 4.1     | 0.1 | 4.2   | 0.1  | 1.6           | 0.1              | 2.2  | 1.6  |
| Oct-17                                                                                                               | 3.8           | 0.7  | 2.2  | 0.6  | 4.9      | 0.8 | 5.3            | 0.9 | 4.0     | 0.6 | 4.3   | 0.8  | 2.3           | 0.6              | 2.3  | 0.8  |
| Nov-17                                                                                                               | 4.0           | 0.4  | 2.4  | 0.4  | 5.1      | 0.4 | 5.4            | 0.3 | 4.2     | 0.3 | 4.3   | 0.2  | 2.9           | 0.4              | 2.5  | 0.5  |
| Dec-17                                                                                                               | 4.6           | -0.1 | 3.8  | -0.6 | 5.1      | 0.2 | 5.5            | 0.2 | 4.7     | 0.2 | 4.3   | 0.1  | 3.4           | 0.4              | 2.7  | -0.3 |
| Jan-18                                                                                                               | 4.4           | 0.0  | 3.7  | -1.0 | 4.9      | 0.8 | 5.2            | 0.8 | 4.6     | 0.6 | 4.0   | 0.6  | 4.7           | 1.8              | 2.6  | -0.7 |
| Feb-18                                                                                                               | 3.8           | -0.3 | 2.2  | -1.1 | 4.9      | 0.2 | 5.2            | 0.2 | 4.3     | 0.1 | 4.1   | 0.2  | 4.1           | -0.1             | 1.3  | -0.9 |
| Mar-18                                                                                                               | 3.2           | 0.3  | 0.1  | -0.3 | 5.4      | 0.7 | 5.8            | 0.7 | 4.1     | 0.2 | 4.4   | 0.6  | 3.6           | 0.2              | -0.9 | -0.2 |
| Apr-18                                                                                                               | 3.7           | 1.8  | -0.2 | 1.5  | 6.4      | 2.1 | 6.9            | 2.4 | 5.0     | 1.7 | 5.3   | 2.0  | 4.0           | 1.3              | 0.5  | 0.7  |
| * NFNE is Non-food non-energy      ** Relatively Stable Component of CPI      *** SPI for all income groups combined |               |      |      |      |          |     |                |     |         |     |       |      |               |                  |      |      |

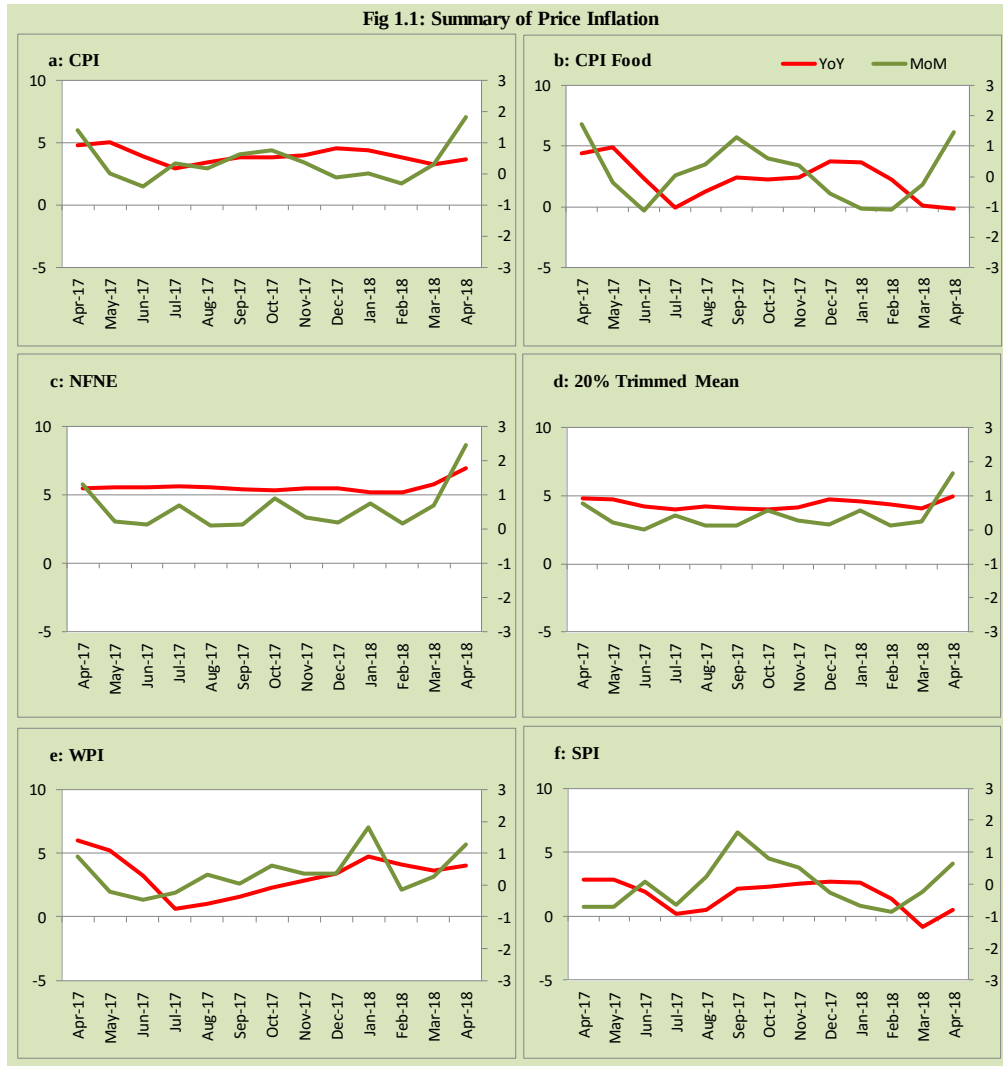


Fig 1.2: Movements in Price Indices (percent)

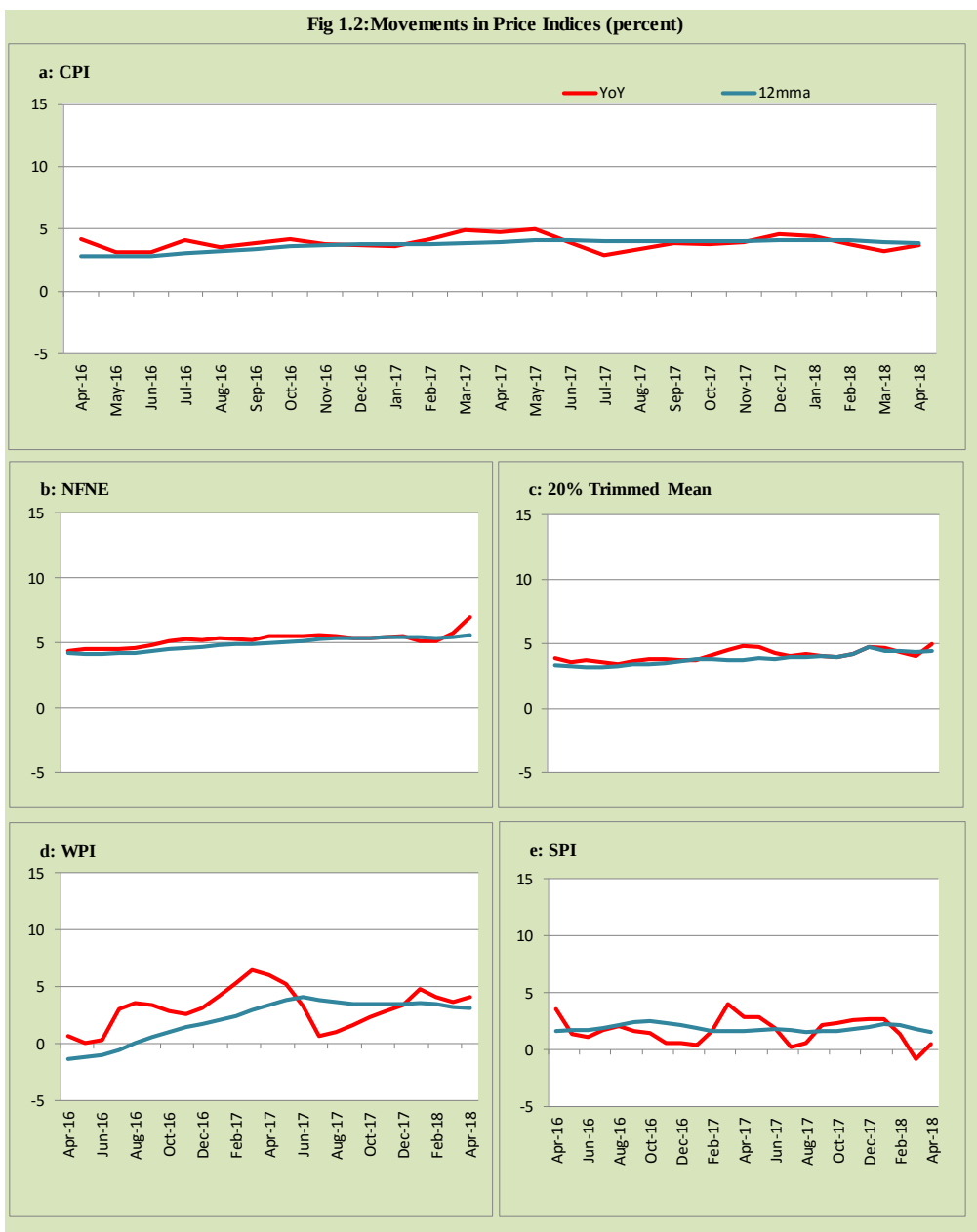
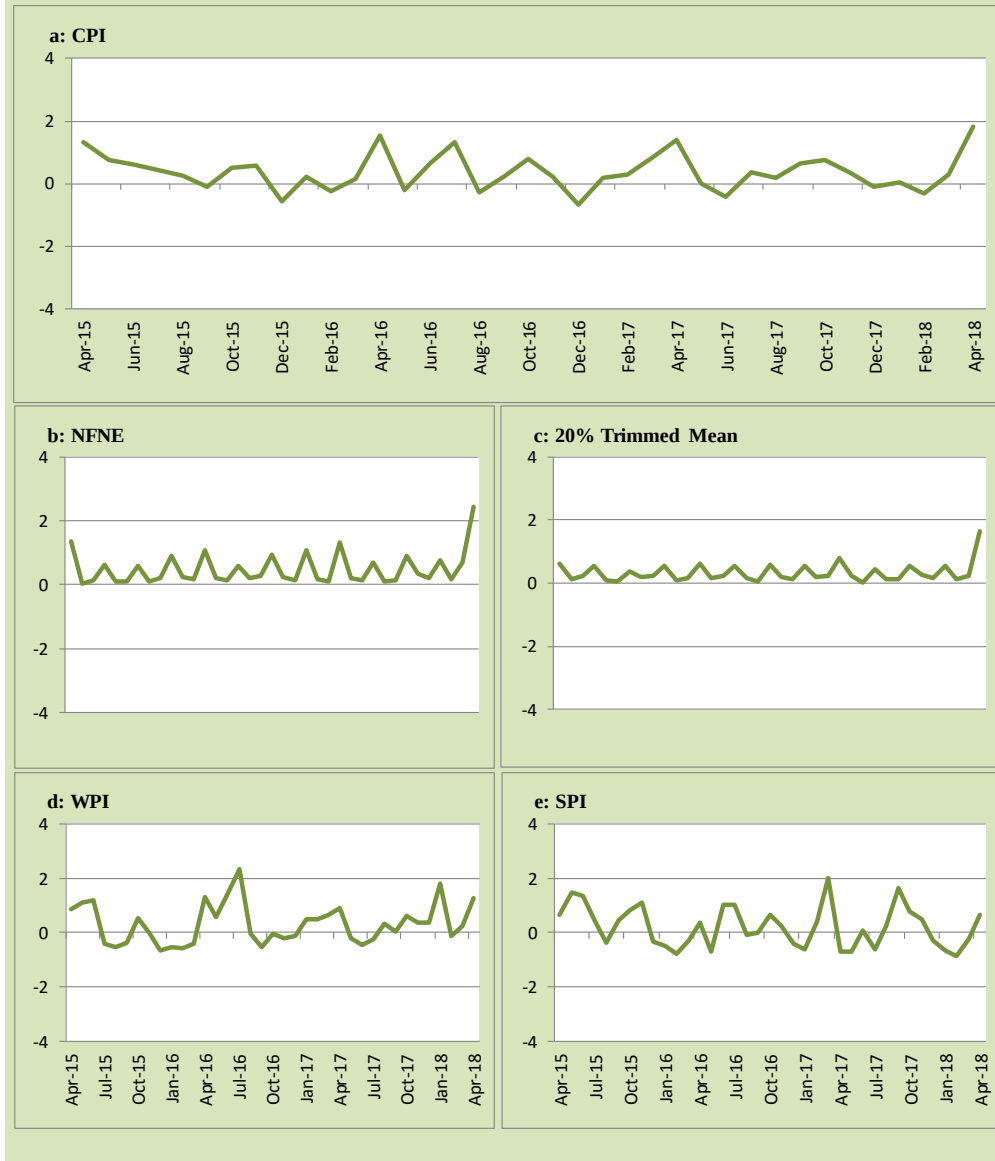
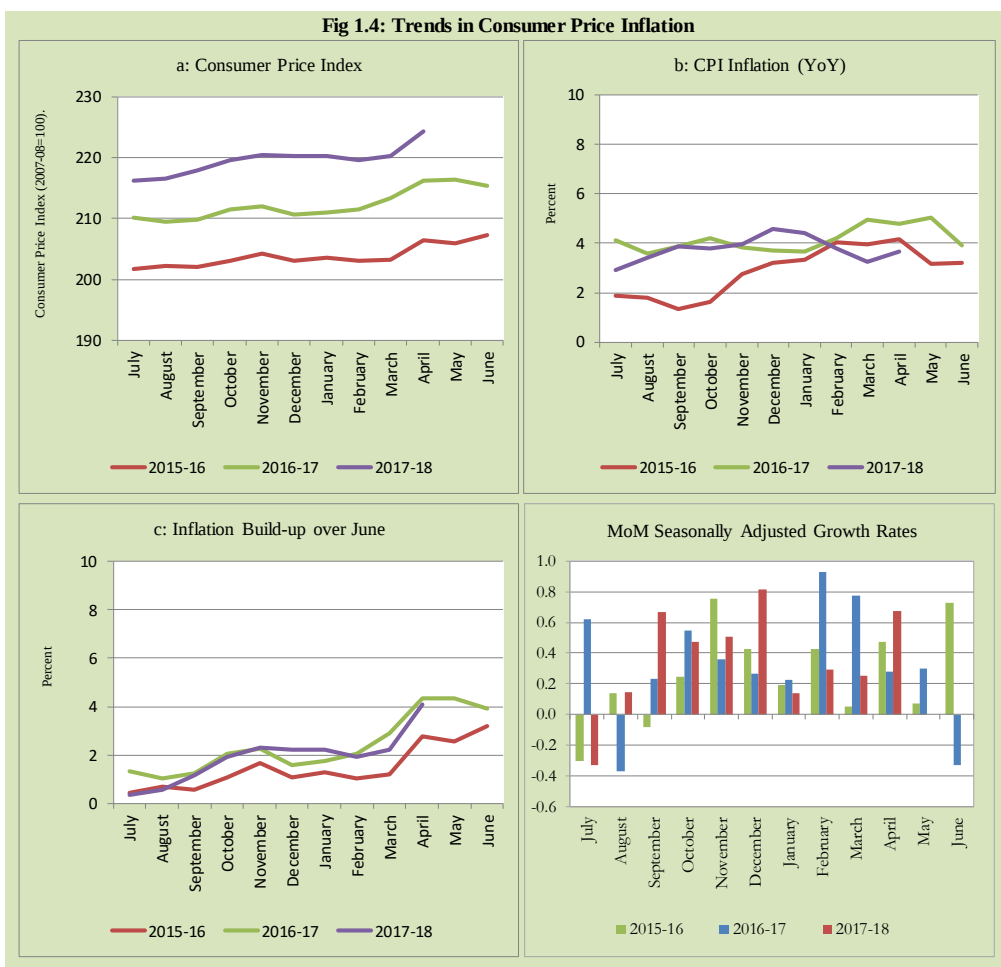


Fig 1.3: Movements in Price Indices -MoM ( percent)



**Fig 1.4: Trends in Consumer Price Inflation**



## 2. City wise Inflation

CPI Inflation on year-on-year basis in federal and provincial capitals of Pakistan showed mixed trend during April 2018. Among these five cities, the lowest inflation was observed in Lahore at 2.6 percent while the highest inflation was observed in Quetta at 6.2 percent (Table A6 of annexure-A).

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

|                    | Apr-17 |     | Mar-18 |     | Apr-18 |     |
|--------------------|--------|-----|--------|-----|--------|-----|
|                    | MoM    | YoY | MoM    | YoY | MoM    | YoY |
| <b>Overall CPI</b> | 1.4    | 4.8 | 0.3    | 3.2 | 1.8    | 3.7 |
| Islamabad          | 0.9    | 5.6 | 0.0    | 3.8 | 1.0    | 3.9 |
| Karachi            | 0.4    | 3.9 | 0.0    | 1.9 | 2.5    | 4.0 |
| Lahore             | 2.4    | 6.0 | 0.7    | 3.7 | 1.4    | 2.6 |
| Peshawar           | 0.8    | 2.8 | -0.1   | 2.6 | 1.8    | 3.6 |
| Quetta             | 1.1    | 3.3 | -0.3   | 3.7 | 3.5    | 6.2 |

### 3. Income Group wise Inflation

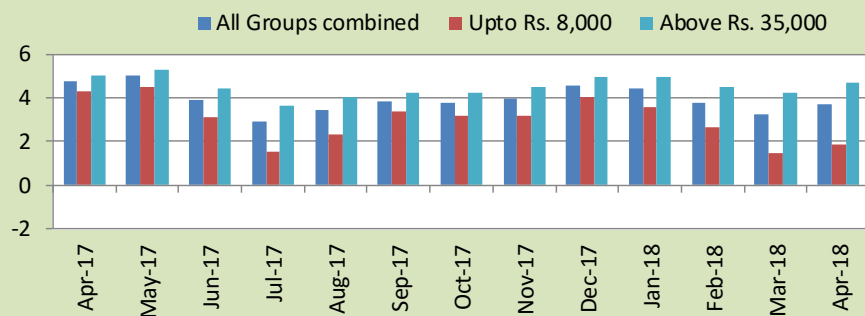
Income group-wise data shows that income group above Rs. 35,000 witnessed higher inflation as compared to other quintiles as well as overall CPI during April 2018 in General, Food and Non-food groups. The income groups (Up to Rs. 8, 000) observed lowest inflation in general CPI, food groups; and income groups (Rs. 8,001- 12,000) observed lowest inflation in non-food groups among income groups during the month of April 2018 (Table A7 of annexure-A).

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

| Income Groups              | General |        |        | Food   |        |        | Non-food |        |        |
|----------------------------|---------|--------|--------|--------|--------|--------|----------|--------|--------|
|                            | Apr-17  | Mar-18 | Apr-18 | Apr-17 | Mar-18 | Apr-18 | Apr-17   | Mar-18 | Apr-18 |
| <b>All Groups Combined</b> | 4.8     | 3.2    | 3.7    | 4.4    | 0.1    | -0.2   | 5.1      | 5.4    | 6.4    |
| Up to Rs. 8,000            | 4.3     | 1.5    | 1.9    | 3.8    | -1.1   | -1.4   | 4.9      | 4.6    | 5.9    |
| Rs. 8,001- 12,000          | 4.4     | 1.9    | 2.3    | 4.0    | -0.7   | -1.0   | 4.8      | 4.7    | 5.8    |
| Rs. 12,001- 18,000         | 4.5     | 2.2    | 2.6    | 4.2    | -0.6   | -0.9   | 4.9      | 4.8    | 5.9    |
| Rs. 18,001- 35,000         | 4.7     | 2.6    | 3.0    | 4.4    | -0.3   | -0.6   | 4.9      | 5.1    | 6.0    |
| Above Rs. 35,000           | 5.0     | 4.3    | 4.7    | 4.6    | 1.1    | 0.8    | 5.2      | 5.9    | 6.7    |

**Fig 3.1: Income Group- wise Inflation**

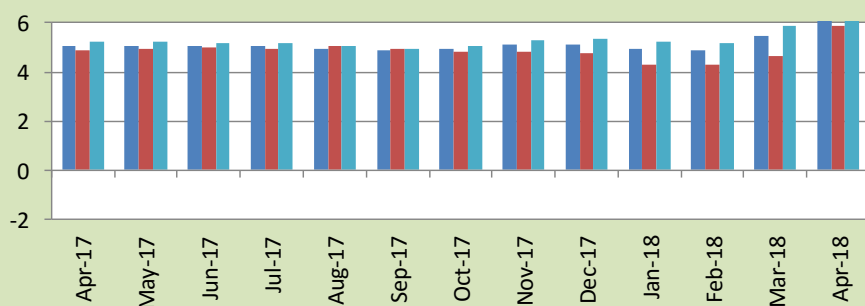
**a: CPI Overall Inflation (YoY)**



**b: CPI Food Inflation (YoY)**



**c: CPI Non-Food Inflation (YoY)**



#### 4. Weighted Contribution

The weighted contribution of food group in the overall inflation decreased to -2.00 percent during April 2018 from 1.07 percent in previous month. It was 37.84 percent in April 2017.

The weighted contribution of non-food group increased to 102.00 percent in April 2018 from 98.93 percent in previous month.

| Table 4.1 Weighted Contribution to CPI Inflation (YoY) |       |                     |                                         |           |           |        |
|--------------------------------------------------------|-------|---------------------|-----------------------------------------|-----------|-----------|--------|
| Period                                                 | Food  | Clothing & Footwear | Housing, Water, Elect, Gas & Other Fuel | Transport | Education | Others |
| Apr-17                                                 | 37.84 | 5.94                | 28.43                                   | 5.11      | 11.07     | 11.60  |
| May-17                                                 | 40.46 | 6.15                | 27.25                                   | 4.96      | 9.55      | 11.63  |
| Jun-17                                                 | 24.92 | 8.04                | 34.43                                   | 5.77      | 11.93     | 14.92  |
| Jul-17                                                 | -1.32 | 11.08               | 48.14                                   | 6.37      | 16.42     | 19.31  |
| Aug-17                                                 | 15.23 | 9.58                | 41.22                                   | 4.54      | 13.48     | 15.94  |
| Sep-17                                                 | 26.02 | 8.46                | 36.50                                   | 4.83      | 9.28      | 14.91  |
| Oct-17                                                 | 24.31 | 8.25                | 34.17                                   | 5.96      | 13.05     | 14.27  |
| Nov-17                                                 | 25.04 | 7.95                | 32.53                                   | 6.73      | 13.57     | 14.18  |
| Dec-17                                                 | 34.01 | 6.68                | 28.47                                   | 5.73      | 11.85     | 13.26  |
| Jan-18                                                 | 34.02 | 8.17                | 25.57                                   | 7.58      | 12.23     | 12.43  |
| Feb-18                                                 | 23.85 | 10.07               | 29.89                                   | 8.71      | 13.92     | 13.56  |
| Mar-18                                                 | 1.07  | 12.39               | 35.10                                   | 11.73     | 23.44     | 16.27  |
| Apr-18                                                 | -2.00 | 15.67               | 39.70                                   | 10.10     | 16.06     | 20.47  |

## 5. Inflation Diffusion Index

**Table 5.1 Inflation Diffusion Index - based on MoM change**

|                                               | Apr-17 | May-17 | Jun-17 | Jul-17 | Aug-17 | Sep-17 | Oct-17 | Nov-17 | Dec-17 | Jan-18 | Feb-18 | Mar-18 | Apr-18 |
|-----------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| General                                       | 41.6   | 35.3   | 22.4   | 36.8   | 26.8   | 33.1   | 44.6   | 37.7   | 39.2   | 48.9   | 32.5   | 40.2   | 63.8   |
| Food & Non-Alcoholic Beverages                | 40.4   | 27.1   | 5.3    | 28.7   | 17.5   | 17.4   | 46.1   | 17.1   | 25.0   | 42.1   | 19.3   | 20.4   | 50.0   |
| Alcoholic Beverages & Tobacco                 | 100.0  | 33.3   | 0.0    | 0.0    | -50.0  | 0.0    | 50.0   | 33.3   | 50.0   | 33.3   | 33.3   | 66.7   | 100.0  |
| Clothing & Footwear                           | 45.8   | 54.2   | 47.5   | 52.5   | 49.2   | 42.4   | 44.1   | 59.3   | 78.0   | 78.0   | 44.1   | 47.5   | 84.7   |
| Housing, Water, Elect, Gas & other Fuels      | 41.7   | 19.4   | 13.9   | 55.6   | 27.8   | 19.4   | 41.7   | 30.6   | 41.7   | 44.4   | 30.6   | 41.7   | 52.8   |
| Furnishing & Household Equip. Maintenance etc | 56.5   | 73.9   | 42.0   | 63.8   | 47.8   | 62.3   | 60.9   | 66.7   | 43.5   | 75.4   | 62.3   | 69.6   | 100.0  |
| Health                                        | 38.5   | 17.9   | 7.7    | 30.8   | 20.5   | 33.3   | 25.6   | 33.3   | 35.9   | 43.6   | 33.3   | 30.8   | 48.7   |
| Transport                                     | 11.6   | 11.6   | 16.3   | 16.3   | 16.3   | 20.9   | 34.9   | 25.6   | 20.9   | 32.6   | 23.3   | 27.9   | 25.6   |
| Communication                                 | 50.0   | 16.7   | 33.3   | 16.7   | 0.0    | 16.7   | 25.0   | 25.0   | 8.3    | 41.7   | 41.7   | 25.0   | 33.3   |
| Recreation & Culture                          | 17.9   | 12.8   | 10.3   | 20.5   | 23.1   | 30.8   | 17.9   | 20.5   | 20.5   | 23.1   | 23.1   | 30.8   | 64.1   |
| Education                                     | 37.5   | 6.3    | 12.5   | 18.8   | 6.3    | 0.0    | 50.0   | 50.0   | 0.0    | 0.0    | 0.0    | 25.0   | 37.5   |
| Restaurant & Hotels                           | 83.3   | 66.7   | 66.7   | 33.3   | 0.0    | 83.3   | 100.0  | 33.3   | 66.7   | 66.7   | 33.3   | 50.0   | 100.0  |
| Miscellaneous                                 | 57.1   | 57.1   | 40.0   | 37.1   | 37.1   | 60.0   | 68.6   | 60.0   | 77.1   | 54.3   | 31.4   | 74.3   | 85.7   |
| NFNE                                          | 40.2   | 38.5   | 28.4   | 42.3   | 33.4   | 38.2   | 43.2   | 45.0   | 43.2   | 51.5   | 36.7   | 46.2   | 69.2   |

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

## 6. Domestic Commodity Prices

**Table 6.1 Inflation in Domestic CPI Food Commodities (percent)**

| Sr. No | Item                        | Unit  | Apr-17 |        | Mar-18 |        | Apr-18 |        |
|--------|-----------------------------|-------|--------|--------|--------|--------|--------|--------|
|        |                             |       | YoY    | MoM    | YoY    | MoM    | YoY    | MoM    |
| 1      | Wheat                       | 10 Kg | 1.81   | -2.64  | -2.08  | -0.50  | -2.23  | -2.79  |
| 2      | Wheat Flour Bag             | 10 Kg | -0.99  | -0.93  | -1.66  | -0.74  | -1.37  | -0.63  |
| 3      | Rice Basmati Sup. Qlty.     | Kg    | 9.18   | 2.33   | 14.91  | 0.89   | 12.68  | 0.35   |
| 4      | Pulse Masoor (Washed)       | Kg.   | -11.29 | -1.69  | -13.28 | -0.24  | -12.97 | -1.34  |
| 5      | Pulse Moong (Washed)        | Kg.   | -18.61 | -0.93  | -11.42 | -0.92  | -10.76 | -0.18  |
| 6      | Pulse Mash (Washed)         | Kg.   | -22.67 | 0.13   | -22.08 | -1.80  | -23.26 | -1.37  |
| 7      | Pulse Gram                  | Kg.   | 4.02   | -2.05  | -11.86 | -2.11  | -10.02 | -0.01  |
| 8      | Vegetable Ghee (Loose)      | Kg.   | 5.37   | 0.99   | 1.10   | -0.22  | 0.70   | 0.60   |
| 9      | Sugar Refined               | Kg.   | -4.53  | -0.12  | -14.91 | -1.03  | -12.01 | 3.29   |
| 10     | Milk Fresh (Unboiled)       | Ltr   | 4.38   | 0.82   | 3.71   | 0.00   | 3.72   | 0.83   |
| 11     | Tapal Danedar Tea 200 Gm    | Pkt   | 8.70   | 1.05   | 9.62   | 4.94   | 10.46  | 1.83   |
| 12     | Beef With Bone Av.Qlty.     | Kg    | 3.55   | 0.20   | 6.83   | 0.73   | 8.59   | 1.85   |
| 13     | Mutton Av.Qlty.             | Kg    | 6.28   | 0.88   | 11.34  | 1.29   | 12.19  | 1.65   |
| 14     | Chicken Farm Broiler (Live) | Kg    | -6.01  | 3.34   | 3.14   | 4.39   | 4.14   | 4.34   |
| 15     | Eggs Farm                   | Doz   | 13.87  | -0.38  | 9.66   | -7.26  | 4.50   | -5.07  |
| 16     | Potatoes                    | Kg    | 55.05  | 2.81   | -14.86 | -8.53  | -23.14 | -7.19  |
| 17     | Onion                       | Kg    | -15.01 | -2.77  | -0.39  | -19.16 | -8.48  | -10.66 |
| 18     | Tomatoes                    | Kg    | 34.31  | -5.58  | -54.33 | -20.06 | -47.53 | 8.47   |
| 19     | Ginger                      | Kg    | -0.06  | 3.24   | 19.57  | -1.08  | 24.00  | 7.07   |
| 20     | Garlic                      | Kg    | 10.03  | -14.96 | -40.42 | 4.55   | -37.65 | -11.00 |

## 7. Global Commodity Prices

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

| Item/ Group  | Apr-17 |      | Mar-18 |      | Apr-18 |     |
|--------------|--------|------|--------|------|--------|-----|
|              | YoY    | MoM  | YoY    | MoM  | YoY    | MoM |
| Food         | 0.7    | -2.0 | 3.4    | 1.1  | 7.9    | 2.2 |
| Metals       | 20.0   | -1.6 | 14.2   | -4.1 | 20.0   | 3.4 |
| Energy       | 31.4   | 2.7  | 23.9   | 0.6  | 30.6   | 8.2 |
| Agricultural | -0.2   | -1.5 | 2.4    | 1.6  | 5.8    | 1.7 |
| Cotton       | 25.6   | 0.3  | 6.2    | 4.4  | 6.0    | 0.1 |

Source: World Bank

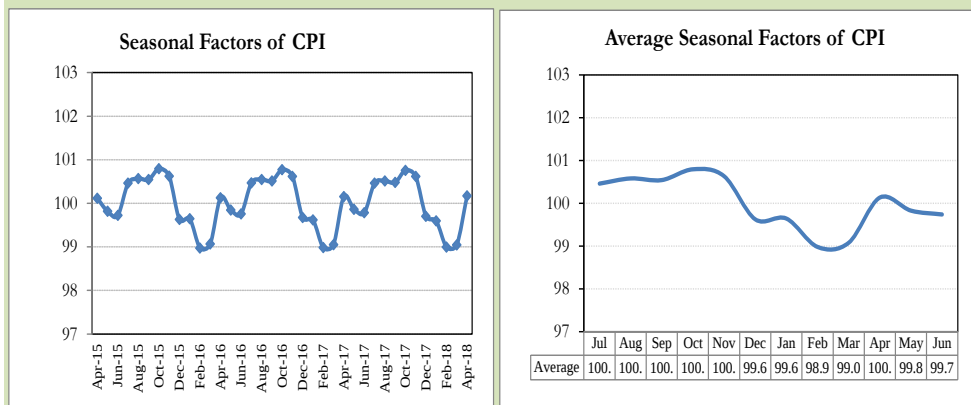
## **8. Seasonal Adjustment in CPI**

Seasonal adjustment is the process of estimating and removing the seasonal effects from a time series after decomposing it into seasonal, trend, cycle and irregular components. The purpose is to identify the different components of the time series and thus provide a better understanding of its underlying behavior. Seasonally adjusted changes are usually preferred for analyzing general price trends in the economy because they eliminate the effect of changes that normally occur at the same time and in about the same magnitude every year. Various statistical methods can be used to decompose a time series into its constituent components. The State Bank of Pakistan uses X-12- ARIMA Seasonal Adjustment Method for this purpose.

The changes in consumer prices are normally reported in terms of year-on-year and month-on-month basis. Seasonal adjustment is particularly useful for analyzing month-on-month changes. The monthly data series of Consumer Price Index (CPI) from July 2008 to April 2018 has been used for seasonal adjustment analysis. The seasonal analysis is carried out without taking trading-day or Islamic calendar month's effects.

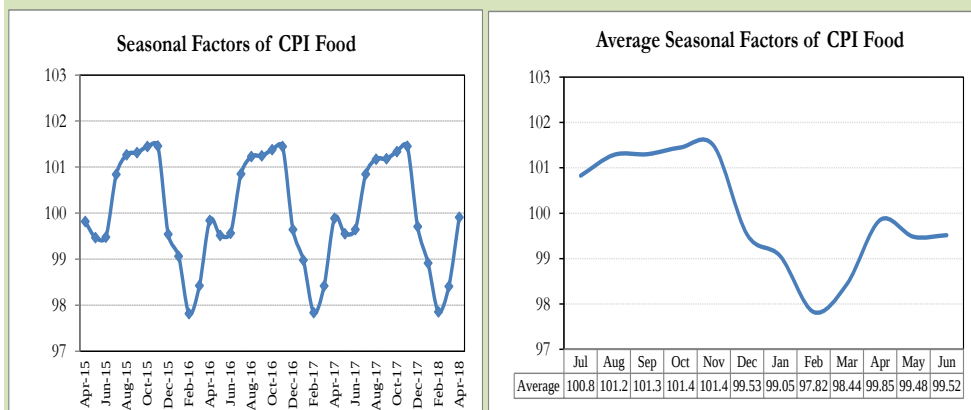
Figure 8.1 reveals that seasonality in CPI has been increasing over the period of last four years. Average seasonal factors reveal strong seasonality during the calendar year. There is an upward seasonality during the months from July to November and downward seasonality in the remaining months of the year. Upward and downward seasonality is above and below the trend line respectively. It is important to note that seasonal factors are estimates based on present and past experience and that future data may not necessarily show the same pattern of seasonal factors.

**Fig. 8.1 Seasonal Factors of CPI**



Note: Data Available in Annex Table 16.

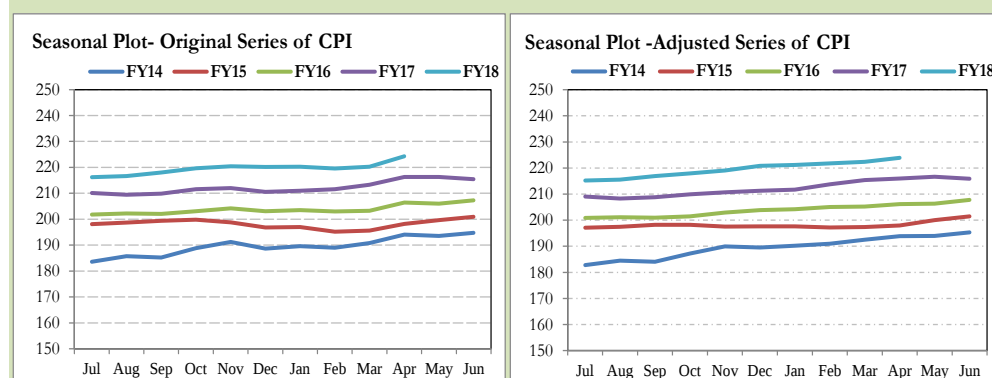
**Fig. 8.2 Seasonal Factors of CPI Food**



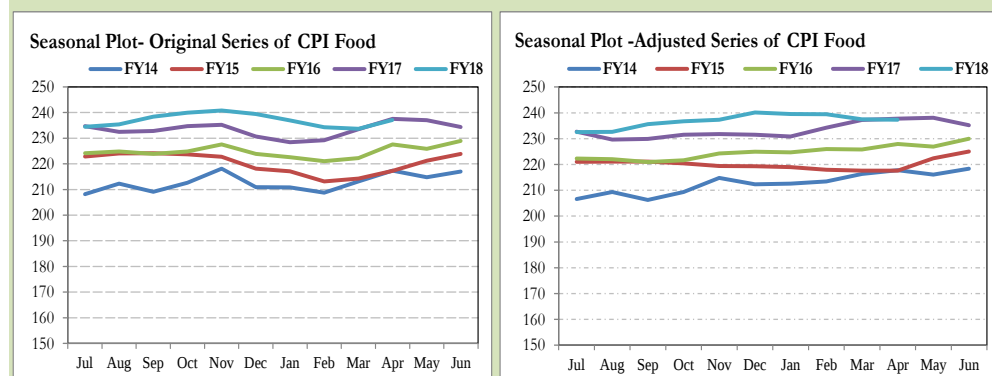
Note: Data Available in Annex Table 17.

Figures 8.3 & 8.4 show that seasonally adjusted series are relatively smoother than the original series due to the removal of the seasonal variations. The trend follows the long-term movement in original series, and is smoother than the original series because some irregular fluctuations have been removed.

**Fig. 8.3 Seasonal Plots of CPI**



**Fig. 8.4 Seasonal Plots of CPI (Food)**



Seasonally adjusted CPI for April 2018 stood at 223.87 against 224.25 in original series showing a decrease of -0.38 on account of adjustment of upward seasonality in April 2018.

Seasonally adjusted CPI food group for April 2018 stood at 237.08 against 237.29 in original series showing an increase of 0.22 on account of adjustment of downward seasonality in April 2018.

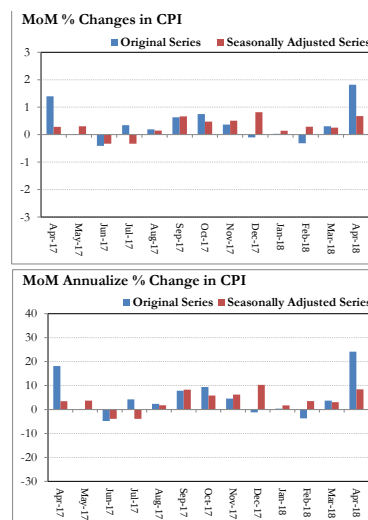
Month-on-month change of seasonally adjusted CPI series stood at 0.68% reflecting an increase during April 2018 over previous month and an increase of 1.82% in original series.

Month-on-month change of seasonally adjusted CPI food group series stood at -0.07% reflecting a decrease during April 2018 over previous month and an increase of 1.46% in original series.

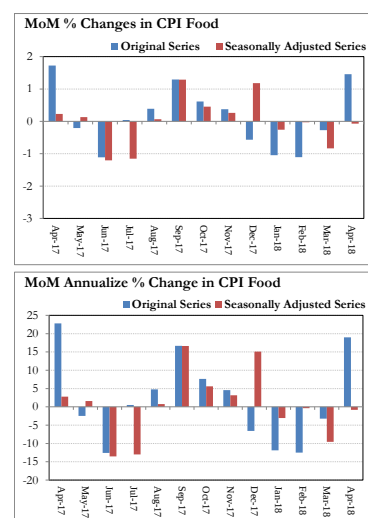
It is important to note that inflation rates should be analyzed on the basis of seasonally adjusted rates. This is especially needed for inflation rates on month-on-month basis.

The most recent annual rate of inflation is usually indicated by annualizing the seasonally adjusted month-on-month rate. Annualized rate of CPI inflation in April 2018 (corresponding to the seasonally adjusted month-on-month rate) is 8.43 percent.

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



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



**Annexure A**

| <b>Table A1: CPI Inflation by Groups (percent)</b> |              |            |             |            |            |            |             |
|----------------------------------------------------|--------------|------------|-------------|------------|------------|------------|-------------|
|                                                    | Weights      | MoM change |             |            | YoY change |            |             |
|                                                    |              | Apr-17     | Mar-18      | Apr-18     | Apr-17     | Mar-18     | Apr-18      |
| <b>I. Food Group</b>                               | <b>37.5</b>  | <b>1.7</b> | <b>-0.3</b> | <b>1.5</b> | <b>4.4</b> | <b>0.1</b> | <b>-0.2</b> |
| Food & Non-Alcoholic Beverages                     | 34.8         | 1.8        | -0.4        | 1.5        | 3.9        | 1.0        | 0.7         |
| Alcoholic Beverages & Tobacco                      | 1.4          | 0.5        | 1.0         | 0.3        | 11.2       | -16.9      | -17.0       |
| Restaurant & Hotels                                | 1.2          | 1.8        | 0.2         | 1.1        | 5.3        | 6.2        | 5.5         |
| <b>II. Non-Food Group</b>                          | <b>62.5</b>  | <b>1.2</b> | <b>0.7</b>  | <b>2.1</b> | <b>5.1</b> | <b>5.4</b> | <b>6.4</b>  |
| Clothing & Footwear                                | 7.6          | 0.5        | 0.3         | 2.5        | 3.4        | 4.8        | 7.0         |
| Housing, Water, Elect, Gas &                       | 29.4         | 1.1        | 0.0         | 2.3        | 5.1        | 4.3        | 5.5         |
| Furnishing & Household Equip. Maintenance etc      | 4.2          | 0.2        | 0.5         | 2.0        | 2.2        | 4.5        | 6.4         |
| Health                                             | 2.2          | 0.6        | 0.3         | 0.8        | 13.4       | 4.8        | 5.0         |
| Transport                                          | 7.2          | 0.4        | 1.4         | 0.3        | 4.1        | 6.4        | 6.3         |
| Communication                                      | 3.2          | 0.1        | 0.1         | 0.2        | 1.6        | 0.5        | 0.6         |
| Recreation & Culture                               | 2.0          | -0.6       | 0.9         | 3.8        | 0.2        | 1.6        | 6.1         |
| Education                                          | 3.9          | 6.5        | 4.9         | 2.3        | 12.5       | 17.6       | 13.0        |
| Miscellaneous                                      | 2.8          | 1.0        | 0.4         | 2.8        | 5.0        | 5.8        | 7.7         |
| <b>Headline</b>                                    | <b>100.0</b> | <b>1.4</b> | <b>0.3</b>  | <b>1.8</b> | <b>4.8</b> | <b>3.2</b> | <b>3.7</b>  |

| <b>Table A2: Distribution of Price changes (YoY) of CPI basket</b>    |             |                                      |            |                                    |           |                                |            |                                          |            |                                     |           |
|-----------------------------------------------------------------------|-------------|--------------------------------------|------------|------------------------------------|-----------|--------------------------------|------------|------------------------------------------|------------|-------------------------------------|-----------|
| Groups                                                                | % changes   | No. of items in each inflation range |            |                                    |           |                                |            |                                          |            |                                     |           |
|                                                                       |             | Total number of items                |            | Decrease or no change (0% or less) |           | Subdued increase (>0% but <5%) |            | Moderate increase (5% but less than 10%) |            | Double digit increase (10% or more) |           |
|                                                                       |             | Apr-17                               | Apr-18     | Apr-17                             | Apr-18    | Apr-17                         | Apr-18     | Apr-17                                   | Apr-18     | Apr-17                              | Apr-18    |
| <b>I. Food Group</b>                                                  | <b>-0.2</b> | <b>125</b>                           | <b>125</b> | <b>26</b>                          | <b>36</b> | <b>51</b>                      | <b>49</b>  | <b>26</b>                                | <b>21</b>  | <b>22</b>                           | <b>19</b> |
| Food & Non-Alcoholic Beverages                                        | 0.7         | 113                                  | 113        | 26                                 | 33        | 48                             | 44         | 21                                       | 21         | 18                                  | 15        |
| Alcoholic Beverages & Tobacco                                         | -17.0       | 6                                    | 6          | 0                                  | 3         | 1                              | 1          | 1                                        | 0          | 4                                   | 2         |
| Restaurant & Hotels                                                   | 5.5         | 6                                    | 6          | 0                                  | 0         | 2                              | 4          | 4                                        | 0          | 0                                   | 2         |
| <b>II. Non-Food Group</b>                                             | <b>6.4</b>  | <b>348</b>                           | <b>348</b> | <b>79</b>                          | <b>51</b> | <b>182</b>                     | <b>120</b> | <b>64</b>                                | <b>114</b> | <b>23</b>                           | <b>63</b> |
| Clothing & Footwear                                                   | 7.0         | 59                                   | 59         | 8                                  | 5         | 35                             | 16         | 16                                       | 28         | 0                                   | 10        |
| Housing, Water, Elect, Gas & other Fuels                              | 5.5         | 36                                   | 36         | 11                                 | 12        | 13                             | 6          | 11                                       | 11         | 1                                   | 7         |
| Furnishing & Household Equip. Maintenance etc                         | 6.4         | 69                                   | 69         | 5                                  | 1         | 56                             | 27         | 8                                        | 32         | 0                                   | 9         |
| Health                                                                | 5.0         | 39                                   | 39         | 4                                  | 8         | 22                             | 21         | 7                                        | 6          | 6                                   | 4         |
| Transport                                                             | 6.3         | 43                                   | 43         | 27                                 | 14        | 10                             | 14         | 2                                        | 7          | 4                                   | 8         |
| Communication                                                         | 0.6         | 12                                   | 12         | 3                                  | 6         | 4                              | 4          | 3                                        | 0          | 2                                   | 2         |
| Recreation & Culture                                                  | 6.1         | 39                                   | 39         | 18                                 | 4         | 16                             | 17         | 4                                        | 8          | 1                                   | 10        |
| Education                                                             | 13.0        | 16                                   | 16         | 1                                  | 0         | 5                              | 3          | 3                                        | 3          | 7                                   | 10        |
| Miscellaneous                                                         | 7.7         | 35                                   | 35         | 2                                  | 1         | 21                             | 12         | 10                                       | 19         | 2                                   | 3         |
| <b>Overall</b>                                                        | <b>3.7</b>  | <b>473</b>                           | <b>473</b> | <b>105</b>                         | <b>87</b> | <b>233</b>                     | <b>169</b> | <b>90</b>                                | <b>135</b> | <b>45</b>                           | <b>82</b> |
| Note: Prices of 14 seasonal items were not reported during the month. |             |                                      |            |                                    |           |                                |            |                                          |            |                                     |           |

| Table A3: Top and Bottom 15 Contributors to CPI Inflation (YoY) in April, 2018 |                     |         |            |         |                       |
|--------------------------------------------------------------------------------|---------------------|---------|------------|---------|-----------------------|
| Top 15 Contributors                                                            |                     | Weights | YoY Change |         | Weighted Contribution |
| Items/ Contributors                                                            |                     |         | Apr -17    | Apr -18 |                       |
| Ranked by Weighted Contribution                                                |                     |         |            |         |                       |
| 1                                                                              | House Rent          | 21.81   | 6.94       | 7.04    | 36.44                 |
| 2                                                                              | Education           | 3.94    | 12.52      | 12.99   | 16.06                 |
| 3                                                                              | Milk Fresh          | 6.68    | 4.28       | 3.78    | 8.62                  |
| 4                                                                              | Meat                | 2.43    | 4.48       | 9.84    | 8.18                  |
| 5                                                                              | Motor Fuel          | 3.03    | 10.29      | 10.56   | 6.00                  |
| 6                                                                              | Rice                | 1.58    | 12.01      | 11.18   | 3.87                  |
| 7                                                                              | Tailoring           | 0.88    | 6.99       | 9.72    | 3.39                  |
| 8                                                                              | Personal Equipments | 0.84    | 5.53       | 10.49   | 3.34                  |
| 9                                                                              | Cotton Cloth        | 1.73    | 2.42       | 6.67    | 3.32                  |
| 10                                                                             | Household Servent   | 1.04    | 1.55       | 8.14    | 2.67                  |
| 11                                                                             | Ready Made Garments | 0.97    | 3.61       | 8.00    | 2.38                  |
| 12                                                                             | Ready Made Food     | 1.23    | 5.34       | 5.50    | 2.34                  |
| 13                                                                             | Personal Care       | 1.49    | 5.38       | 5.39    | 2.28                  |
| 14                                                                             | Transport Services  | 2.70    | 0.21       | 3.19    | 2.10                  |
| 15                                                                             | Footware            | 1.55    | 0.53       | 6.17    | 2.01                  |
| Total                                                                          |                     | 51.93   |            |         | 103.01                |
| Bottom 15 Contributors                                                         |                     |         |            |         |                       |
| 1                                                                              | Cigarettes          | 1.39    | 11.32      | -20.15  | -13.57                |
| 2                                                                              | Fresh Vegetables    | 1.71    | 17.18      | -14.30  | -8.38                 |
| 3                                                                              | Tomatoes            | 0.43    | 34.31      | -47.53  | -5.20                 |
| 4                                                                              | Sugar               | 1.04    | -4.53      | -12.01  | -3.42                 |
| 5                                                                              | Potatoes            | 0.46    | 55.05      | -23.14  | -2.59                 |
| 6                                                                              | Pulse Mash (Washed) | 0.21    | -22.67     | -23.25  | -1.72                 |
| 7                                                                              | Onion               | 0.52    | -15.01     | -8.47   | -1.11                 |
| 8                                                                              | Pulse Gram          | 0.24    | 4.02       | -10.02  | -0.86                 |
| 9                                                                              | Pulse Masoor        | 0.27    | -11.16     | -13.07  | -0.81                 |
| 10                                                                             | Pulse Moong         | 0.23    | -18.61     | -10.76  | -0.77                 |
| 11                                                                             | Besan               | 0.15    | 11.49      | -11.09  | -0.62                 |
| 12                                                                             | Wheat Flour         | 4.16    | -1.28      | -0.47   | -0.52                 |
| 13                                                                             | Wheat               | 0.35    | 1.81       | -2.23   | -0.20                 |
| 14                                                                             | Gram Whole          | 0.16    | 20.76      | -2.31   | -0.13                 |
| 15                                                                             | Gur                 | 0.02    | -2.25      | -7.11   | -0.05                 |
| Total                                                                          |                     | 11.36   |            |         | -39.96                |

**Table A3.1: Top and Bottom 15 Contributors to CPI Inflation (MoM) in April, 2018**

| <u>Top 15 Contributors</u>      |                     | <u>MoM Change</u> |        | Weighted Contribution |
|---------------------------------|---------------------|-------------------|--------|-----------------------|
| Items/ Contributors             | Weights             | Mar-18            | Apr-18 |                       |
| Ranked by Weighted Contribution |                     |                   |        |                       |
| 1                               | House Rent          | 21.81             | 0.00   | 32.72                 |
| 2                               | Fresh Vegetables    | 1.71              | -7.33  | 13.24                 |
| 3                               | Fresh Fruits        | 1.86              | 6.65   | 7.16                  |
| 4                               | Education           | 3.94              | 4.89   | 6.31                  |
| 5                               | Milk Fresh          | 6.68              | 0.01   | 3.79                  |
| 6                               | Footware            | 1.55              | 0.08   | 3.65                  |
| 7                               | Meat                | 2.43              | 0.92   | 3.18                  |
| 8                               | Chicken             | 1.36              | 4.39   | 3.07                  |
| 9                               | Cotton Cloth        | 1.73              | 0.65   | 2.48                  |
| 10                              | Personal Equipments | 0.84              | 0.47   | 2.47                  |
| 11                              | Text Books          | 0.57              | 0.00   | 2.27                  |
| 12                              | Transport Services  | 2.70              | 0.46   | 2.01                  |
| 13                              | Sugar               | 1.04              | -1.04  | 1.59                  |
| 14                              | Tailoring           | 0.88              | 0.04   | 1.55                  |
| 15                              | Ready Made Garments | 0.97              | 0.58   | 1.54                  |
| Total                           |                     | 50.10             |        | 87.02                 |
| <u>Bottom 15 Contributors</u>   |                     |                   |        |                       |
| 1                               | Onion               | 0.52              | -19.16 | -2.85                 |
| 2                               | Motor Fuel          | 3.03              | 2.26   | -1.86                 |
| 3                               | Wheat Flour         | 4.16              | -0.62  | -1.51                 |
| 4                               | Potatoes            | 0.46              | -8.53  | -1.32                 |
| 5                               | Eggs                | 0.46              | -7.26  | -1.14                 |
| 6                               | Wheat               | 0.35              | -0.50  | -0.20                 |
| 7                               | Pulse Mash (Washed) | 0.21              | -1.80  | -0.16                 |
| 8                               | Gram Whole          | 0.16              | -2.46  | -0.15                 |
| 9                               | Besan               | 0.15              | -1.49  | -0.14                 |
| 10                              | Pulse Masoor        | 0.27              | -0.71  | -0.12                 |
| 11                              | Fire Wood Whole     | 0.23              | 0.10   | -0.05                 |
| 12                              | Wheat Product       | 0.10              | -0.07  | -0.03                 |
| 13                              | Pulse Moong         | 0.23              | -0.91  | -0.02                 |
| 14                              | Beans               | 0.03              | 0.73   | 0.00                  |
| 15                              | Pulse Gram          | 0.24              | -2.11  | 0.00                  |
| Total                           |                     | 10.59             |        | -9.56                 |

| Table A3.2: Top Fifteen Contributors to CPI Inflation (YoY) in April, 2018                                                                                                                      |                           |         |            |         |                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------|------------|---------|-----------------------|
| Items/ Contributors                                                                                                                                                                             |                           | Weights | YoY Change |         | Weighted Contribution |
|                                                                                                                                                                                                 |                           |         | Apr -17    | Apr -18 |                       |
| A. Ranked by Percentage Change                                                                                                                                                                  |                           |         |            |         |                       |
| 1                                                                                                                                                                                               | Betel Leaves & Nuts       | 0.02    | 4.47       | 281.64  | 2.00                  |
| 2                                                                                                                                                                                               | Kerosene Oil              | 0.01    | 2.72       | 30.66   | 0.04                  |
| 3                                                                                                                                                                                               | Education                 | 3.94    | 12.52      | 12.99   | 16.06                 |
| 4                                                                                                                                                                                               | News Papers               | 0.19    | 3.15       | 12.12   | 0.53                  |
| 5                                                                                                                                                                                               | Rice                      | 1.58    | 12.01      | 11.18   | 3.87                  |
| 6                                                                                                                                                                                               | Construction Wage Rate    | 0.33    | 5.11       | 10.57   | 1.05                  |
| 7                                                                                                                                                                                               | Motor Fuel                | 3.03    | 10.29      | 10.56   | 6.00                  |
| 8                                                                                                                                                                                               | Personal Equipments       | 0.84    | 5.53       | 10.49   | 3.34                  |
| 9                                                                                                                                                                                               | Meat                      | 2.43    | 4.48       | 9.84    | 8.18                  |
| 10                                                                                                                                                                                              | Tailoring                 | 0.88    | 6.99       | 9.72    | 3.39                  |
| 11                                                                                                                                                                                              | Cleaning & Laundering     | 0.21    | 5.38       | 9.25    | 0.65                  |
| 12                                                                                                                                                                                              | Postal Services           | 0.07    | 4.26       | 9.24    | 0.19                  |
| 13                                                                                                                                                                                              | Medical Test              | 0.32    | 4.22       | 9.15    | 0.72                  |
| 14                                                                                                                                                                                              | Cosmetics                 | 0.39    | 2.45       | 9.02    | 0.89                  |
| 15                                                                                                                                                                                              | Stationery                | 0.40    | 1.86       | 8.32    | 0.89                  |
| Total                                                                                                                                                                                           |                           | 14.65   |            |         | 47.83                 |
| B. Ranked by Weights                                                                                                                                                                            |                           |         |            |         |                       |
| 1                                                                                                                                                                                               | House Rent                | 21.81   | 6.94       | 7.04    | 36.44                 |
| 2                                                                                                                                                                                               | Milk Fresh                | 6.68    | 4.28       | 3.78    | 8.62                  |
| 3                                                                                                                                                                                               | Electricity               | 4.40    | 0.00       | 0.00    | 0.00                  |
| 4                                                                                                                                                                                               | Wheat Flour               | 4.16    | -1.28      | -0.47   | -0.52                 |
| 5                                                                                                                                                                                               | Education                 | 3.94    | 12.52      | 12.99   | 16.06                 |
| 6                                                                                                                                                                                               | Communication & Apparatus | 3.15    | 1.50       | 0.26    | 0.13                  |
| 7                                                                                                                                                                                               | Motor Fuel                | 3.03    | 10.29      | 10.56   | 6.00                  |
| 8                                                                                                                                                                                               | Transport Services        | 2.70    | 0.21       | 3.19    | 2.10                  |
| 9                                                                                                                                                                                               | Meat                      | 2.43    | 4.48       | 9.84    | 8.18                  |
| 10                                                                                                                                                                                              | Vegetable Ghee            | 2.07    | 4.36       | 1.04    | 0.39                  |
| 11                                                                                                                                                                                              | Fresh Fruits              | 1.86    | 9.75       | 2.12    | 1.37                  |
| 12                                                                                                                                                                                              | Cooking Oil               | 1.75    | 4.09       | 2.03    | 0.62                  |
| 13                                                                                                                                                                                              | Cotton Cloth              | 1.73    | 2.42       | 6.67    | 3.32                  |
| 14                                                                                                                                                                                              | Fresh Vegetables          | 1.71    | 17.18      | -14.30  | -8.38                 |
| 15                                                                                                                                                                                              | Rice                      | 1.58    | 12.01      | 11.18   | 3.87                  |
| Total                                                                                                                                                                                           |                           | 63.03   |            |         | 78.20                 |
| Note: Weighted contribution is estimated by multiplying the weights by the price change of an item; this is then reported as a share in YoY change in CPI, which is 3.7 percent in April, 2018. |                           |         |            |         |                       |

**Table A3.3: Top Ten Contributors to CPI Food Inflation (YoY) in April, 2018**

| Table 1: Top 10 Contributors to GDP Contribution (2017, Apr 17, 2018) |                              |         |            |         |                       |
|-----------------------------------------------------------------------|------------------------------|---------|------------|---------|-----------------------|
| Items/ Contributors                                                   |                              | Weights | YoY Change |         | Weighted Contribution |
|                                                                       |                              |         | Apr -17    | Apr -18 |                       |
| A. Ranked by Weighted Contribution                                    |                              |         |            |         |                       |
| 1                                                                     | Milk Fresh                   | 6.68    | 4.28       | 3.78    | 8.62                  |
| 2                                                                     | Meat                         | 2.43    | 4.48       | 9.84    | 8.18                  |
| 3                                                                     | Rice                         | 1.58    | 12.01      | 11.18   | 3.87                  |
| 4                                                                     | Ready Made Food              | 1.23    | 5.34       | 5.50    | 2.34                  |
| 5                                                                     | Betel Leaves & Nuts          | 0.02    | 4.47       | 281.64  | 2.00                  |
| 6                                                                     | Beverages                    | 1.20    | 1.29       | 4.54    | 1.51                  |
| 7                                                                     | Chicken                      | 1.36    | -6.01      | 4.14    | 1.47                  |
| 8                                                                     | Tea                          | 0.84    | 11.56      | 4.80    | 1.45                  |
| 9                                                                     | Fresh Fruits                 | 1.86    | 9.75       | 2.12    | 1.37                  |
| 10                                                                    | Milk Product                 | 0.63    | 3.60       | 5.56    | 1.16                  |
| Total                                                                 |                              | 17.84   |            |         | 31.99                 |
| B. Ranked by Percentage Change                                        |                              |         |            |         |                       |
| 1                                                                     | Betel Leaves & Nuts          | 0.02    | 4.47       | 281.64  | 2.00                  |
| 2                                                                     | Rice                         | 1.58    | 12.01      | 11.18   | 3.87                  |
| 3                                                                     | Meat                         | 2.43    | 4.48       | 9.84    | 8.18                  |
| 4                                                                     | Sweet Meet                   | 0.25    | 3.32       | 7.86    | 0.61                  |
| 5                                                                     | Dry Fruits                   | 0.25    | 1.41       | 6.51    | 0.56                  |
| 6                                                                     | Condiments                   | 0.27    | 1.78       | 5.77    | 0.52                  |
| 7                                                                     | Beans                        | 0.03    | -0.63      | 5.61    | 0.04                  |
| 8                                                                     | Milk Product                 | 0.63    | 3.60       | 5.56    | 1.16                  |
| 9                                                                     | Ready Made Food              | 1.23    | 5.34       | 5.50    | 2.34                  |
| 10                                                                    | Jam, Tomato Ketchup & Pickle | 0.25    | 1.71       | 5.39    | 0.36                  |
| Total                                                                 |                              | 6.94    |            |         | 19.65                 |
| C. Ranked by Weights                                                  |                              |         |            |         |                       |
| 1                                                                     | Milk Fresh                   | 6.68    | 4.28       | 3.78    | 8.62                  |
| 2                                                                     | Wheat Flour                  | 4.16    | -1.28      | -0.47   | -0.52                 |
| 3                                                                     | Meat                         | 2.43    | 4.48       | 9.84    | 8.18                  |
| 4                                                                     | Vegetable Ghee               | 2.07    | 4.36       | 1.04    | 0.39                  |
| 5                                                                     | Fresh Fruits                 | 1.86    | 9.75       | 2.12    | 1.37                  |
| 6                                                                     | Cooking Oil                  | 1.75    | 4.09       | 2.03    | 0.62                  |
| 7                                                                     | Fresh Vegetables             | 1.71    | 17.18      | -14.30  | -8.38                 |
| 8                                                                     | Rice                         | 1.58    | 12.01      | 11.18   | 3.87                  |
| 9                                                                     | Cigarettes                   | 1.39    | 11.32      | -20.15  | -13.57                |
| 10                                                                    | Chicken                      | 1.36    | -6.01      | 4.14    | 1.47                  |
| Total                                                                 |                              | 25.01   |            |         | 2.05                  |

Note: Weighted contribution is estimated by multiplying the weights by the price change of an item; this is then reported as a share in YoY change in CPI Food, which is -0.2 percent in April, 2018.

| <b>Table A3.4: Top Ten Contributors to CPI Non-food Inflation (YoY) in April, 2018</b>                                                                                                                   |                           |                |                   |                |                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|----------------|-------------------|----------------|------------------------------|
| <b>Items/ Contributors</b>                                                                                                                                                                               |                           | <b>Weights</b> | <b>YoY Change</b> |                | <b>Weighted Contribution</b> |
|                                                                                                                                                                                                          |                           |                | <b>Apr -17</b>    | <b>Apr -18</b> |                              |
| <b>A. Ranked by Weighted Contribution</b>                                                                                                                                                                |                           |                |                   |                |                              |
| 1                                                                                                                                                                                                        | House Rent                | 21.81          | 6.94              | 7.04           | 36.44                        |
| 2                                                                                                                                                                                                        | Education                 | 3.94           | 12.52             | 12.99          | 16.06                        |
| 3                                                                                                                                                                                                        | Motor Fuel                | 3.03           | 10.29             | 10.56          | 6.00                         |
| 4                                                                                                                                                                                                        | Tailoring                 | 0.88           | 6.99              | 9.72           | 3.39                         |
| 5                                                                                                                                                                                                        | Personal Equipments       | 0.84           | 5.53              | 10.49          | 3.34                         |
| 6                                                                                                                                                                                                        | Cotton Cloth              | 1.73           | 2.42              | 6.67           | 3.32                         |
| 7                                                                                                                                                                                                        | Household Servent         | 1.04           | 1.55              | 8.14           | 2.67                         |
| 8                                                                                                                                                                                                        | Ready Made Garments       | 0.97           | 3.61              | 8.00           | 2.38                         |
| 9                                                                                                                                                                                                        | Personal Care             | 1.49           | 5.38              | 5.39           | 2.28                         |
| 10                                                                                                                                                                                                       | Transport Services        | 2.70           | 0.21              | 3.19           | 2.10                         |
| <b>Total</b>                                                                                                                                                                                             |                           | <b>38.46</b>   |                   |                | <b>77.98</b>                 |
| <b>B. Ranked by Percentage Change</b>                                                                                                                                                                    |                           |                |                   |                |                              |
| 1                                                                                                                                                                                                        | Kerosene Oil              | 0.01           | 2.72              | 30.66          | 0.04                         |
| 2                                                                                                                                                                                                        | Education                 | 3.94           | 12.52             | 12.99          | 16.06                        |
| 3                                                                                                                                                                                                        | News Papers               | 0.19           | 3.15              | 12.12          | 0.53                         |
| 4                                                                                                                                                                                                        | Construction Wage Rate    | 0.33           | 5.11              | 10.57          | 1.05                         |
| 5                                                                                                                                                                                                        | Motor Fuel                | 3.03           | 10.29             | 10.56          | 6.00                         |
| 6                                                                                                                                                                                                        | Personal Equipments       | 0.84           | 5.53              | 10.49          | 3.34                         |
| 7                                                                                                                                                                                                        | Tailoring                 | 0.88           | 6.99              | 9.72           | 3.39                         |
| 8                                                                                                                                                                                                        | Cleaning & Laundering     | 0.21           | 5.38              | 9.25           | 0.65                         |
| 9                                                                                                                                                                                                        | Postal Services           | 0.07           | 4.26              | 9.24           | 0.19                         |
| 10                                                                                                                                                                                                       | Medical Test              | 0.32           | 4.22              | 9.15           | 0.72                         |
| <b>Total</b>                                                                                                                                                                                             |                           | <b>9.83</b>    |                   |                | <b>31.99</b>                 |
| <b>C. Ranked by Weights</b>                                                                                                                                                                              |                           |                |                   |                |                              |
| 1                                                                                                                                                                                                        | House Rent                | 21.81          | 6.94              | 7.04           | 36.44                        |
| 2                                                                                                                                                                                                        | Electricity               | 4.40           | 0.00              | 0.00           | 0.00                         |
| 3                                                                                                                                                                                                        | Education                 | 3.94           | 12.52             | 12.99          | 16.06                        |
| 4                                                                                                                                                                                                        | Communication & Apparatus | 3.15           | 1.50              | 0.26           | 0.13                         |
| 5                                                                                                                                                                                                        | Motor Fuel                | 3.03           | 10.29             | 10.56          | 6.00                         |
| 6                                                                                                                                                                                                        | Transport Services        | 2.70           | 0.21              | 3.19           | 2.10                         |
| 7                                                                                                                                                                                                        | Cotton Cloth              | 1.73           | 2.42              | 6.67           | 3.32                         |
| 8                                                                                                                                                                                                        | Gas                       | 1.58           | 0.00              | 0.00           | 0.00                         |
| 9                                                                                                                                                                                                        | Footware                  | 1.55           | 0.53              | 6.17           | 2.01                         |
| 10                                                                                                                                                                                                       | Personal Care             | 1.49           | 5.38              | 5.39           | 2.28                         |
| <b>Total</b>                                                                                                                                                                                             |                           | <b>45.39</b>   |                   |                | <b>68.35</b>                 |
| Note: Weighted contribution is estimated by multiplying the weights by the price change of an item; this is then reported as a share in YoY change in CPI Non-food, which is 6.4 percent in April, 2018. |                           |                |                   |                |                              |

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

| Groups                                        | Decrease or no change                                                                                                                     | Subdued increase (Greater than 0% but less than 5%)                                                                                                                   | Moderate increase (5% but less than 10%)                                                                                                                   | Double digit increase (10% or more)                                                                                                                                                                                                              |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Food & Non-Alcoholic Beverages                | Tomatoes, Garlic, Bottlegourd, Pulse Mash (Washed), Potatoes, Peas, Tinda, Cucumber (Kheera).                                             | Lactogen 400 Grams, Saunf, Fish-Rahu Medium Size, Eggs Farm, Milo 200 Gm., Ice Cream Walls, Mustard Oil                                                               | Chillies Powd.National 200 Gm, Rice Basmati 385/386, Beef With Bone Av.Qlty., Sweetmeat (Mixed), Butter                                                    | Coconut Dry Av.Qlty., Ginger, Cuminseed White National, Lemon, Cinamon Loose Av. Qlty, Rice Basmati Sup. Qlty., Rice Basmati Broken Av.Ql, Mutton Av.Qlty., Rooh Afza, Raisins Av.Qlty.,                                                         |
| Alcoholic Beverages & Tobacco                 | Cigarettes Capstan 20,S, Cigarettes Morven Gold 20,S, Cigarettes K-20,S,                                                                  | Cigarettes Gold Leaf 20,S,                                                                                                                                            | Local Packaged, Salt Powdered                                                                                                                              | Im F. Shimon, Tanal Danadar Tea 200 Gm, Betel Nuts, Betel Leaves,                                                                                                                                                                                |
| Clothing & Footwear                           | Gents Shoe, Art 1109 Servis, Child Shoe Power Lite Bata, Sports Shoes, Gents Sandal Bata, Gents Shoes Paul Bata,                          | Pant Cloth Wash & Wear Av.Qlty, Vest For Men Av.Qlty., Dopatta Georgetown Av.Qlty, Socks Nylon (Pakistani), Handkerchief Avg.Qlty Pak, Pullover Gents                 | Long Cloth 57" Gul Ahmed/Al Karam, Tailoring Suit (Female), Tailoring Awami-Suit (Male), Washing Ch. (Kamiz-Shalwar), Dopatta Cotton Av. Qlty, School Uni. | Ladies Sandal Bata, Frock W/Wear Girls, Tailoring Shirt, Brassier Av.Qlty, Ladies Spounge Chappal Bata, Gloves Av.Qlty, School Uni. Pant,Shirt Boys, Vest/Shameez (Women) Avg.Qlty, Washing Charges Paint & Shirt, Tailoring Charges Pant (Men), |
| Housing, Water, Elect, Gas & other Fuels      | Elect.Charges Upto 50 Units, Elect.Charges 01 - 100 Units, Elect.Charges Above 1000 Units, Elect.Charges 301 - 1000 Units, Elect. Charges | Cement Blocks (6"X8"X12"), Bajree, Firewood Whole, Bricks (New) 1st Class, Sand (Black Pit Sand), Cement (Local),                                                     | Unskilled Labour Wage Rat, Mason (Raj) Wage Rate, Synthetic Enemal Robialac, House Rent For Q-Iv, House Rent For Q-li, House Rent For O-V, House Rent      | Kerosene Oil, Iron Bar (M.S. Bar) 1/2", Carpenter Wage Rate, Plumber Wage Rate, Synthetic Enemal Ici, Electrician Wage Rate(P/Pnt), Electrician Wage Rate(P/Day),                                                                                |
| Furnishing & Household Equip. Maintenance etc | Washing Powder 1000 Gm (Express),                                                                                                         | Cot Iron (With Niwar)Av.Qlty, Tawa Iorn (Medium Size) Avg. Qlty, Harpic, S.Steel Deghchi Medium Size, Chair Plastic                                                   | Water Set Jug+6 Glasses, Elect. Iron Philips, Towel(3'X2') Av. Qlty, Gas Burner Double, Boot Polish Cherry/Kiwi 50 ML,                                     | Single Bed Without Foam, Toilet Paper Roll (R.Petal), Tea Set Pak. China Wear 21 Pcs, Thermos Starvac 1 Ltr, Matress Single(4"Thick), Almirah (Steel), Bed Sheet Single Bed Sup.Qlty, Sewing Machine Needle                                      |
| Health                                        | Calcium Syrup Sandoz, Phenengan Syrup 120 ML, Bmesol Eye Drops, Sancos Syrup (50 ML), Burnol Cream 30 Gm, Vicks                           | Trisil Tab., Sugar Test (Random/Fasting), Jouhar Joshanda, Septtran Tablets, Cotton Bandage 2" - 4", Disprin Tab., Saniplast (1                                       | Glycrine Small Bottle, Gripe-Water Woodward, Doctor (Mbbs) Clinic Fee, Ecg Charges, Thermometer China, Entox Tab.,                                         | Dettol (Medium), Blood Test (Cp) Charges, X-Ray (Chest) Charges, Urine Test (Dr) Charges,                                                                                                                                                        |
| Transport                                     | Train Fare 1st Slp. > 500, Train Fare 1st Slp.101-500, Train Fare A/C Slp > 500K, Train Fare A/C Slp. 1-100, Train Fare Eco. > 500 Km.,   | Motor Cycle Service Charges, Bus Fare Outside City (Non A/C), Tyre Motor Cycle Without Tube, Auto Rickshaw Fare, Suzuki Fare Maximum                                  | Train Fare A/C Slp.101-500, Car Suzuki 800 Cc (W/O. Ac), Gas Cylinder S.Size (L.P.G), Car Honda Civic 1500 Cc, Tyre Puncture Charges, Car                  | Train Fare Eco. 1-100 Km., Train Fare 1st Slp. 1-100, Bus Fare Outside City (A/C), Train Fare Eco. 101-500 K, High Speed Diesel Hsd, Petrol Super, Car Suzuki 1000 Cc, Car Toyota 1300 Cc,                                                       |
| Communication                                 | Postal Envelope Domestic, Telephone Charges Local Call, Telephone Charges Outside City, U.M.S. Reg                                        | Internet Charges, Fax Charges (Local), Mobile Set Nokia/Sony/Ericsson Av.Qlty, Postal Registration Charges,                                                           |                                                                                                                                                            | T.C.S. Ch. Min.Within Zone, Telephone Set Av. Qlty,                                                                                                                                                                                              |
| Recreation & Culture                          | Maths Book Class Ix Or X, Maths Book 1st Year (T.B. Board), V.C.P. Panasonic/Lg/National, Tv Licence Fee Domestic,                        | Computer Cd (Tdk/Imation), Paper Fool Scape (27"X17"), Pen Ink Dollor 57 ML Bottle, Radio With C.Player National, Urdu Book Ba/B.Sc, English Book Class V1, Personnel | Fountain Pen Hero/Wings/China, Weekly "Akhbar-E-Jahan", English Book Class Ix Or X, Exercise Book Lined 80/10, Pencil Goldfish/Deer, Urdu Book Ist         | Cinema Non-A/C High Class, Cinema A/C High Class, English Book Ba/B.Sc, Pakistan Studies Book Ba/B.Sc, Daily "Nawa-E-Waqt", Urdu Book Class Ix/X (T.B.Board), Daily "Jang", Photostate Paper 70 Gm, Daily "Dawn", Weekly "Mag",                  |
| Education                                     |                                                                                                                                           | Mba Tuition Fee, Coaching Charges For Class Xi/ Xii Science Group, I.T. Tuition Fees,                                                                                 | Pvt School Fee Eng.Med (Class-Vi), Pvt School Fee Eng.Med (Class-X), Pvt Eng.Colege Fee (1st Year),                                                        | Govt. University Fee Msc/ Ma, Govt. Engg. Coll. Fee 1st Year, Govt. College Fee 1st Year, Govt. College Fee 4Th. Year, Govt. Med. College Fee Mbbs 1st Year, Pvt Med.College Fee                                                                 |
| Restaurant & Hotels                           |                                                                                                                                           | Tea Prepared (Ordinary), Chicken Biryani Full/Double, Cooked Dal (Av. Hotel),                                                                                         |                                                                                                                                                            | Cooked Mutton (Av. Hotel), Cooked Beef (Av. Hotel),                                                                                                                                                                                              |
| Miscellaneous                                 | Toothpaste Macleans 70 Gms,                                                                                                               | Wall Clock Quartz Av.Qlty, Blade Treet Ordinary (10), Shaving Cream Touch-Me/Admiral, Trunk Medium                                                                    | Beauty Parlour Hair Style Charges, Gel Medium Size, Haircut Charges For Men, Artificial Jewellery Set, Wrist                                               | Perfume Med.Size Medora/Broche, Purse Ladies (Leather) Av. Qlty, Gold Tezabi 24 Ct,                                                                                                                                                              |

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

|              | Up to Rs: 8000 |      |      |      |          |      | Rs 8001- 12000 |      |      |      |          |      |
|--------------|----------------|------|------|------|----------|------|----------------|------|------|------|----------|------|
|              | General        |      | Food |      | Non-Food |      | General        |      | Food |      | Non-Food |      |
|              | MoM            | YoY  | MoM  | YoY  | MoM      | YoY  | MoM            | YoY  | MoM  | YoY  | MoM      | YoY  |
| 1 Rawalpindi | 1.4            | 1.4  | -2.8 | -2.8 | 6.5      | 6.5  | 1.8            | 1.8  | -2.6 | -2.6 | 6.2      | 6.2  |
| 2 Islamabad  | 0.7            | 0.7  | -2.6 | -2.6 | 4.6      | 4.6  | 2.0            | 2.0  | -2.5 | -2.5 | 6.7      | 6.7  |
| 3 Lahore     | 0.7            | 0.7  | -3.3 | -3.3 | 6.4      | 6.4  | 1.0            | 1.0  | -3.2 | -3.2 | 6.1      | 6.1  |
| 4 Gujranwala | 0.7            | 0.7  | -2.8 | -2.8 | 5.0      | 5.0  | 1.1            | 1.1  | -2.6 | -2.6 | 5.1      | 5.1  |
| 5 Sialkot    | 4.9            | 4.9  | 1.5  | 1.5  | 9.2      | 9.2  | 5.4            | 5.4  | 2.1  | 2.1  | 9.0      | 9.0  |
| 6 Faisalabad | 4.4            | 4.4  | -2.1 | -2.1 | 12.5     | 12.5 | 5.0            | 5.0  | -1.9 | -1.9 | 12.7     | 12.7 |
| 7 Multan     | 1.4            | 1.4  | -1.2 | -1.2 | 4.5      | 4.5  | 1.7            | 1.7  | -1.1 | -1.1 | 4.6      | 4.6  |
| 8 Sargodha   | -0.3           | -0.3 | -3.1 | -3.1 | 2.8      | 2.8  | 0.3            | 0.3  | -2.1 | -2.1 | 2.6      | 2.6  |
| 9 Bahawalpur | 0.3            | 0.3  | -2.5 | -2.5 | 3.2      | 3.2  | 1.2            | 1.2  | -1.6 | -1.6 | 3.7      | 3.7  |
| 10 Karachi   | 2.3            | 2.3  | 0.9  | 0.9  | 4.1      | 4.1  | 2.6            | 2.6  | 1.5  | 1.5  | 3.8      | 3.8  |
| 11 Hyderabad | 2.3            | 2.3  | 0.7  | 0.7  | 4.7      | 4.7  | 2.7            | 2.7  | 1.0  | 1.0  | 4.8      | 4.8  |
| 12 Sukkur    | 0.7            | 0.7  | -3.0 | -3.0 | 5.1      | 5.1  | 1.5            | 1.5  | -2.1 | -2.1 | 5.3      | 5.3  |
| 13 Larkana   | 1.1            | 1.1  | -1.6 | -1.6 | 4.1      | 4.1  | 2.0            | 2.0  | -0.5 | -0.5 | 4.5      | 4.5  |
| 14 Peshawar  | 1.3            | 1.3  | -2.1 | -2.1 | 5.2      | 5.2  | 1.6            | 1.6  | -1.7 | -1.7 | 5.0      | 5.0  |
| 15 Bannu     | 1.9            | 1.9  | -0.9 | -0.9 | 5.0      | 5.0  | 2.5            | 2.5  | -0.3 | -0.3 | 5.2      | 5.2  |
| 16 Quetta    | 5.0            | 5.0  | 2.0  | 2.0  | 8.5      | 8.5  | 5.6            | 5.6  | 2.4  | 2.4  | 9.1      | 9.1  |
| 17 Khuzdar   | -2.5           | -2.5 | -7.4 | -7.4 | 3.6      | 3.6  | -2.4           | -2.4 | -7.3 | -7.3 | 2.9      | 2.9  |
|              | Rs 12001-18000 |      |      |      |          |      | Rs 18001-35000 |      |      |      |          |      |
|              | General        |      | Food |      | Non-Food |      | General        |      | Food |      | Non-Food |      |
|              | MoM            | YoY  | MoM  | YoY  | MoM      | YoY  | MoM            | YoY  | MoM  | YoY  | MoM      | YoY  |
| 1 Rawalpindi | 2.0            | 2.0  | -2.4 | -2.4 | 6.0      | 6.0  | 2.4            | 2.4  | -2.2 | -2.2 | 6.0      | 6.0  |
| 2 Islamabad  | 2.1            | 2.1  | -2.2 | -2.2 | 6.2      | 6.2  | 2.3            | 2.3  | -2.2 | -2.2 | 6.1      | 6.1  |
| 3 Lahore     | 1.5            | 1.5  | -3.0 | -3.0 | 6.5      | 6.5  | 2.2            | 2.2  | -2.9 | -2.9 | 7.2      | 7.2  |
| 4 Gujranwala | 1.6            | 1.6  | -2.4 | -2.4 | 5.5      | 5.5  | 1.9            | 1.9  | -2.1 | -2.1 | 5.3      | 5.3  |
| 5 Sialkot    | 6.0            | 6.0  | 3.1  | 3.1  | 8.9      | 8.9  | 5.9            | 5.9  | 3.4  | 3.4  | 8.1      | 8.1  |
| 6 Faisalabad | 5.8            | 5.8  | -1.5 | -1.5 | 13.2     | 13.2 | 6.6            | 6.6  | -1.1 | -1.1 | 13.5     | 13.5 |
| 7 Multan     | 2.0            | 2.0  | -0.9 | -0.9 | 4.9      | 4.9  | 2.2            | 2.2  | -0.8 | -0.8 | 4.7      | 4.7  |
| 8 Sargodha   | 0.6            | 0.6  | -2.2 | -2.2 | 3.1      | 3.1  | 1.5            | 1.5  | -1.8 | -1.8 | 4.0      | 4.0  |
| 9 Bahawalpur | 1.6            | 1.6  | -1.4 | -1.4 | 4.1      | 4.1  | 2.5            | 2.5  | -1.3 | -1.3 | 5.4      | 5.4  |
| 10 Karachi   | 2.8            | 2.8  | 1.5  | 1.5  | 4.0      | 4.0  | 3.0            | 3.0  | 1.6  | 1.6  | 4.2      | 4.2  |
| 11 Hyderabad | 3.2            | 3.2  | 0.7  | 0.7  | 5.9      | 5.9  | 3.6            | 3.6  | 1.3  | 1.3  | 5.8      | 5.8  |
| 12 Sukkur    | 2.8            | 2.8  | -1.2 | -1.2 | 6.6      | 6.6  | 3.5            | 3.5  | -0.8 | -0.8 | 7.0      | 7.0  |
| 13 Larkana   | 2.6            | 2.6  | 0.1  | 0.1  | 4.8      | 4.8  | 3.3            | 3.3  | 1.3  | 1.3  | 4.7      | 4.7  |
| 14 Peshawar  | 2.4            | 2.4  | -1.7 | -1.7 | 6.0      | 6.0  | 2.8            | 2.8  | -1.3 | -1.3 | 6.0      | 6.0  |
| 15 Bannu     | 2.8            | 2.8  | -0.7 | -0.7 | 6.0      | 6.0  | 2.9            | 2.9  | -0.6 | -0.6 | 5.8      | 5.8  |
| 16 Quetta    | 6.1            | 6.1  | 2.3  | 2.3  | 9.8      | 9.8  | 6.2            | 6.2  | 2.4  | 2.4  | 9.3      | 9.3  |
| 17 Khuzdar   | -0.7           | -0.7 | -5.9 | -5.9 | 4.8      | 4.8  | -0.1           | -0.1 | -6.0 | -6.0 | 5.1      | 5.1  |
|              | Above Rs 35000 |      |      |      |          |      | Combined       |      |      |      |          |      |
|              | General        |      | Food |      | Non-Food |      | General        |      | Food |      | Non-Food |      |
|              | MoM            | YoY  | MoM  | YoY  | MoM      | YoY  | MoM            | YoY  | MoM  | YoY  | MoM      | YoY  |
| 1 Rawalpindi | 3.7            | 3.7  | -0.5 | -0.5 | 5.7      | 5.7  | 3.2            | 3.2  | -1.3 | -1.3 | 6.1      | 6.1  |
| 2 Islamabad  | 4.1            | 4.1  | 0.1  | 0.1  | 6.2      | 6.2  | 3.9            | 3.9  | -0.3 | -0.3 | 7.0      | 7.0  |
| 3 Lahore     | 3.5            | 3.5  | -1.5 | -1.5 | 6.4      | 6.4  | 2.6            | 2.6  | -2.4 | -2.4 | 6.7      | 6.7  |
| 4 Gujranwala | 2.5            | 2.5  | -1.1 | -1.1 | 4.4      | 4.4  | 1.8            | 1.8  | -2.0 | -2.0 | 4.5      | 4.5  |
| 5 Sialkot    | 6.9            | 6.9  | 5.4  | 5.4  | 7.6      | 7.6  | 6.2            | 6.2  | 3.8  | 3.8  | 7.9      | 7.9  |
| 6 Faisalabad | 8.7            | 8.7  | 1.4  | 1.4  | 12.5     | 12.5 | 6.6            | 6.6  | -0.8 | -0.8 | 12.0     | 12.0 |
| 7 Multan     | 3.4            | 3.4  | 0.6  | 0.6  | 4.8      | 4.8  | 2.5            | 2.5  | -0.4 | -0.4 | 4.6      | 4.6  |
| 8 Sargodha   | 2.9            | 2.9  | -0.6 | -0.6 | 4.4      | 4.4  | 1.3            | 1.3  | -1.8 | -1.8 | 3.3      | 3.3  |
| 9 Bahawalpur | 4.4            | 4.4  | 2.2  | 2.2  | 5.3      | 5.3  | 2.5            | 2.5  | -0.6 | -0.6 | 4.4      | 4.4  |
| 10 Karachi   | 4.8            | 4.8  | 3.0  | 3.0  | 5.7      | 5.7  | 4.0            | 4.0  | 2.3  | 2.3  | 5.3      | 5.3  |
| 11 Hyderabad | 4.9            | 4.9  | 2.3  | 2.3  | 6.3      | 6.3  | 3.7            | 3.7  | 1.3  | 1.3  | 5.6      | 5.6  |
| 12 Sukkur    | 3.8            | 3.8  | 0.8  | 0.8  | 5.2      | 5.2  | 2.8            | 2.8  | -1.0 | -1.0 | 5.4      | 5.4  |
| 13 Larkana   | 4.1            | 4.1  | 3.1  | 3.1  | 4.6      | 4.6  | 2.6            | 2.6  | 0.2  | 0.2  | 4.1      | 4.1  |
| 14 Peshawar  | 5.4            | 5.4  | 0.4  | 0.4  | 7.8      | 7.8  | 3.6            | 3.6  | -1.1 | -1.1 | 6.7      | 6.7  |
| 15 Bannu     | 3.6            | 3.6  | -0.1 | -0.1 | 5.3      | 5.3  | 2.8            | 2.8  | -0.6 | -0.6 | 5.0      | 5.0  |
| 16 Quetta    | 7.0            | 7.0  | 3.4  | 3.4  | 8.7      | 8.7  | 6.2            | 6.2  | 2.7  | 2.7  | 8.6      | 8.6  |
| 17 Khuzdar   | 1.9            | 1.9  | -4.5 | -4.5 | 5.3      | 5.3  | -1.3           | -1.3 | -6.7 | -6.7 | 2.6      | 2.6  |

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

| City         | High inflation cities |      |          | City         | Low inflation cities |      |          |
|--------------|-----------------------|------|----------|--------------|----------------------|------|----------|
|              | General               | Food | Non-food |              | General              | Food | Non-food |
| Mithi        | 11.9                  | 8.7  | 13.9     | Loralai      | 3.6                  | -2.4 | 7.5      |
| D. I. Khan   | 8.2                   | 2.6  | 12.0     | Peshawar     | 3.6                  | -1.1 | 6.7      |
| Turbat       | 7.3                   | 0.2  | 11.2     | R. Y. Khan   | 3.3                  | -1.0 | 6.2      |
| Faisalabad   | 6.6                   | -0.8 | 12.0     | Mardan       | 3.3                  | 1.1  | 4.4      |
| Quetta       | 6.2                   | 2.7  | 8.6      | Rawalpindi   | 3.2                  | -1.3 | 6.1      |
| Sialkot      | 6.2                   | 3.8  | 7.9      | D. M. Jamali | 3.0                  | 1.6  | 3.9      |
| Dadu         | 4.8                   | -1.3 | 9.2      | Vehari       | 3.0                  | -1.1 | 5.8      |
| Gawadar      | 4.6                   | 1.5  | 6.6      | Sukkur       | 2.8                  | -1.0 | 5.4      |
| Bahawalnagar | 4.4                   | -1.5 | 8.4      | Bannu        | 2.8                  | -0.6 | 5.0      |
| Nawabshah    | 4.1                   | 3.7  | 4.4      | Lahore       | 2.6                  | -2.4 | 6.7      |
| Karachi      | 4.0                   | 2.3  | 5.3      | Larkana      | 2.6                  | 0.2  | 4.1      |
| Islamabad    | 3.9                   | -0.3 | 7.0      | Mirpukhas    | 2.6                  | 0.0  | 4.5      |
| D. G. Khan   | 3.7                   | 0.6  | 5.7      | Attock       | 2.6                  | -1.7 | 5.5      |
| Hyderabad    | 3.7                   | 1.3  | 5.6      | Multan       | 2.5                  | -0.4 | 4.6      |
|              |                       |      |          | Bahawalpur   | 2.5                  | -0.6 | 4.4      |
|              |                       |      |          | Mianwali     | 2.5                  | -2.8 | 5.7      |
|              |                       |      |          | Abbottabad   | 2.3                  | -0.5 | 4.1      |
|              |                       |      |          | Jhelum       | 2.2                  | -1.6 | 4.9      |
|              |                       |      |          | Sahiwal      | 1.9                  | -4.6 | 6.0      |
|              |                       |      |          | Gujranwala   | 1.8                  | -2.0 | 4.5      |
|              |                       |      |          | Sargodha     | 1.3                  | -1.8 | 3.3      |
|              |                       |      |          | Wazirabad    | 1.3                  | -3.8 | 4.9      |
|              |                       |      |          | Jhang        | 0.9                  | -4.6 | 4.5      |
|              |                       |      |          | Mingora      | 0.2                  | -4.5 | 3.0      |
|              |                       |      |          | Muzaffargarh | 0.1                  | -3.7 | 2.9      |
|              |                       |      |          | Khuzdar      | -1.3                 | -6.7 | 2.6      |

Note: High inflation refers to equal or above average inflation, and low inflation refers to below average

| <b>Table A7: Income Group-wise Inflation ( percent)</b> |               |               |               |               |               |               |
|---------------------------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
|                                                         | <b>MoM</b>    |               |               | <b>YoY</b>    |               |               |
|                                                         | <b>Apr-17</b> | <b>Mar-18</b> | <b>Apr-18</b> | <b>Apr-17</b> | <b>Mar-18</b> | <b>Apr-18</b> |
| <b><u>Up to Rs. 8000</u></b>                            |               |               |               |               |               |               |
| General                                                 | 1.3           | -0.2          | 1.6           | 4.3           | 1.5           | 1.9           |
| Food                                                    | 1.5           | -0.7          | 1.2           | 3.8           | -1.1          | -1.4          |
| Non-food                                                | 1.0           | 0.4           | 2.2           | 4.9           | 4.6           | 5.9           |
| <b><u>Rs. 8001- 12000</u></b>                           |               |               |               |               |               |               |
| General                                                 | 1.3           | -0.1          | 1.7           | 4.4           | 1.9           | 2.3           |
| Food                                                    | 1.6           | -0.6          | 1.3           | 4.0           | -0.7          | -1.0          |
| Non-food                                                | 1.0           | 0.5           | 2.1           | 4.8           | 4.7           | 5.8           |
| <b><u>Rs. 12001- 18000</u></b>                          |               |               |               |               |               |               |
| General                                                 | 1.4           | 0.1           | 1.8           | 4.5           | 2.2           | 2.6           |
| Food                                                    | 1.6           | -0.5          | 1.4           | 4.2           | -0.6          | -0.9          |
| Non-food                                                | 1.1           | 0.5           | 2.1           | 4.9           | 4.8           | 5.9           |
| <b><u>Rs. 18001- 35000</u></b>                          |               |               |               |               |               |               |
| General                                                 | 1.4           | 0.2           | 1.8           | 4.7           | 2.6           | 3.0           |
| Food                                                    | 1.7           | -0.3          | 1.5           | 4.4           | -0.3          | -0.6          |
| Non-food                                                | 1.1           | 0.6           | 2.1           | 4.9           | 5.1           | 6.0           |
| <b><u>Above Rs. 35000</u></b>                           |               |               |               |               |               |               |
| General                                                 | 1.4           | 0.5           | 1.9           | 5.0           | 4.3           | 4.7           |
| Food                                                    | 1.8           | 0.0           | 1.6           | 4.6           | 1.1           | 0.8           |
| Non-food                                                | 1.2           | 0.8           | 2.0           | 5.2           | 5.9           | 6.7           |
| <b><u>All income groups</u></b>                         |               |               |               |               |               |               |
| General                                                 | 1.4           | 0.3           | 1.8           | 4.8           | 3.2           | 3.7           |
| Food                                                    | 1.7           | -0.3          | 1.5           | 4.4           | 0.1           | -0.2          |
| Non-food                                                | 1.2           | 0.7           | 2.1           | 5.1           | 5.4           | 6.4           |

Table A8: SPI Item-wise Price Movements

| Sr.No.  | Items                              | Unit   | Prices | Percentage change |       |
|---------|------------------------------------|--------|--------|-------------------|-------|
|         |                                    |        | Apr-18 | YoY               | MoM   |
| 1       | Wheat                              | 10Kg.  | 333.1  | -1.3              | -2.6  |
| 2       | Wheat Flour Bag                    | 10Kg.  | 376.4  | -0.8              | -2.0  |
| 3       | Rice Basmati Broken                | Kg.    | 74.5   | 11.3              | 0.8   |
| 4       | Rice Irri-6/9                      | Kg.    | 52.3   | 5.4               | 0.6   |
| 5       | Bread Plain Med.Size (340-400 Gm.) | Each   | 42.6   | 3.5               | 0.0   |
| 6       | Beef                               | Kg.    | 358.6  | 8.0               | 2.3   |
| 7       | Mutton                             | Kg.    | 760.5  | 11.9              | 2.1   |
| 8       | Chicken Live (Farm)                | Kg.    | 176.1  | 4.9               | 4.3   |
| 9       | Milk Fresh                         | Litr   | 83.8   | 3.2               | 1.6   |
| 10      | Curd                               | Kg.    | 101.1  | 5.6               | 2.0   |
| 11      | Milk Powdered Nido                 | 500G   | 384.3  | 3.3               | 0.0   |
| 12      | Egg Hen (Farm)                     | Doz.   | 90.2   | 7.3               | -4.8  |
| 13      | Mustard Oil                        | Kg.    | 183.6  | 1.1               | 0.0   |
| 14      | Cooking Oil (Tin)                  | 2.5Ltr | 475.0  | 1.7               | 0.9   |
| 15      | Veg. Ghee (Tin)                    | 2.5Kg. | 469.3  | 2.0               | 1.1   |
| 16      | Veg.Ghee Loose                     | Kg.    | 147.1  | 0.8               | 1.0   |
| 17      | Bananas                            | Doz.   | 84.1   | -0.1              | 3.6   |
| 18      | Masoor Pulse Washed                | Kg.    | 113.3  | -11.2             | -1.9  |
| 19      | Moong Pulse Washed                 | Kg.    | 115.2  | -10.3             | -0.9  |
| 20      | Mash Pulse Washed                  | Kg.    | 148.1  | -22.2             | -2.1  |
| 21      | Gram Pulse Washed                  | Kg.    | 114.8  | -10.4             | 0.1   |
| 22      | Potatoes                           | Kg.    | 23.4   | -20.5             | -2.6  |
| 23      | Onions                             | Kg.    | 30.2   | -7.1              | -8.9  |
| 24      | Tomatoes                           | Kg.    | 33.3   | -41.8             | 4.6   |
| 25      | Sugar                              | Kg.    | 52.9   | -11.9             | 3.0   |
| 26      | Gur                                | Kg.    | 75.8   | -9.2              | -0.7  |
| 27      | Salt Powdered Loose (Lahori)       | Kg.    | 11.3   | 5.9               | 2.0   |
| 28      | Red Chillies Powder Loose          | Kg.    | 270.2  | 2.3               | 3.8   |
| 29      | Garlic                             | Kg.    | 144.9  | -42.4             | -16.9 |
| 30      | Tea (Yellow Lable 200 Gm.)         | 200Gm. | 195.1  | -3.2              | 0.9   |
| 31      | Cooked Beef Plate                  | Each   | 109.5  | 17.1              | 5.4   |
| 32      | Cooked Dal Plate                   | Each   | 61.1   | 7.3               | 4.8   |
| 33      | Tea Prepared (Sada)                | Cup    | 21.4   | 3.5               | 1.0   |
| 34      | Cigarettes K-2 (20'S)              | 20'S   | 51.1   | -24.1             | 0.7   |
| 35      | Long Cloth (Coarse Latha)          | Mtr.   | 219.6  | 6.7               | 2.6   |
| 36      | Shirting                           | Mtr.   | 175.2  | 6.3               | 2.4   |
| 37      | Lawn                               | Mtr.   | 268.9  | 6.7               | 3.9   |
| 38      | Georgette (Voil Printed)           | Mtr.   | 130.8  | 5.0               | 1.9   |
| 39      | Sandal Gents Bata                  | Pair   | 699.0  | 0.0               | 0.0   |
| 40      | Chappal Spng.Bata (Gents)          | Pair   | 194.0  | 8.3               | 8.3   |
| 41      | Sandal Ladies Bata                 | Pair   | 574.9  | 14.4              | 14.4  |
| 42      | Electric Charges 1-50              | Unit   | 2.0    | 0.0               | 0.0   |
| 43      | Gas Charges Upto 3.3719            | Mmbtu  | 128.7  | 0.0               | 0.0   |
| 44      | Kerosene                           | Litr   | 115.1  | 45.9              | 0.0   |
| 45      | Firewood                           | 40Kg   | 626.3  | 2.6               | -1.1  |
| 46      | Energy Savor 14 Watt               | Each   | 170.5  | 1.6               | 0.2   |
| 47      | Washing Soap (200-250 Gm.)         | Cake   | 27.7   | 7.1               | 6.1   |
| 48      | Match Box                          | Each   | 2.3    | 3.7               | 0.0   |
| 49      | Petrol                             | Litr   | 87.0   | 16.2              | -2.3  |
| 50      | Diesel                             | Litr   | 97.4   | 15.9              | -2.1  |
| 51      | L.P.G.( 11 Kg Cylander.)           | Each   | 1177.2 | 8.1               | -1.1  |
| 52      | Tele. Local Call                   | Call   | 3.9    | 0.0               | 0.0   |
| 53      | Bath Soap Lifebouy (Standard)      | Cake   | 39.2   | 0.2               | -0.6  |
| Maximum |                                    |        |        | 45.9              | 14.4  |
| Median  |                                    |        |        | 2.6               | 0.6   |
| Minimum |                                    |        |        | -42.4             | -16.9 |

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

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

| Items and specification                    | Weights       | Index         |               |               |
|--------------------------------------------|---------------|---------------|---------------|---------------|
|                                            |               | Apr-17        | Mar-18        | Apr-18        |
| <b>General</b>                             | <b>100.00</b> | <b>216.30</b> | <b>220.25</b> | <b>224.25</b> |
| <b>Food &amp; Non-Alcoholic Beverages.</b> | <b>34.83</b>  | <b>230.25</b> | <b>228.39</b> | <b>231.90</b> |
| 1 Wheat                                    | 0.35          | 203.46        | 204.63        | 198.93        |
| 2 Wheat Flour                              | 4.16          | 211.07        | 211.52        | 210.07        |
| 3 Wheat Product                            | 0.10          | 216.66        | 214.16        | 213.09        |
| 4 Besan                                    | 0.15          | 296.79        | 267.57        | 263.89        |
| 5 Rice                                     | 1.58          | 174.21        | 192.45        | 193.68        |
| 6 Cereals                                  | 0.16          | 254.41        | 259.04        | 261.81        |
| 7 Bakery & Confectionary                   | 1.16          | 217.62        | 224.66        | 225.07        |
| 8 Nimco                                    | 0.46          | 253.75        | 258.14        | 258.88        |
| 9 Meat                                     | 2.43          | 271.99        | 293.53        | 298.76        |
| 10 Chicken                                 | 1.36          | 208.20        | 207.80        | 216.82        |
| 11 Fish                                    | 0.30          | 217.64        | 224.31        | 227.59        |
| 12 Milk Fresh                              | 6.68          | 271.51        | 279.50        | 281.77        |
| 13 Milk Product                            | 0.63          | 260.42        | 272.17        | 274.91        |
| 14 Milk Powder                             | 0.11          | 234.56        | 239.08        | 241.94        |
| 15 Eggs                                    | 0.46          | 179.91        | 198.03        | 188.00        |
| 16 Mustard Oil                             | 0.10          | 157.82        | 162.97        | 164.66        |
| 17 Cooking Oil                             | 1.75          | 137.69        | 139.23        | 140.48        |
| 18 Vegetable Ghee                          | 2.07          | 143.12        | 143.79        | 144.61        |
| 19 Dry Fruits                              | 0.25          | 266.78        | 279.84        | 284.15        |
| 20 Fresh Fruits                            | 1.86          | 275.79        | 266.29        | 281.64        |
| 21 Pulse Masoor                            | 0.27          | 181.99        | 160.02        | 158.21        |
| 22 Pulse Moong                             | 0.23          | 244.75        | 218.82        | 218.42        |
| 23 Pulse Mash (Washed)                     | 0.21          | 279.70        | 217.65        | 214.66        |
| 24 Pulse Gram                              | 0.24          | 288.13        | 259.27        | 259.25        |
| 25 Gram Whole                              | 0.16          | 283.71        | 280.90        | 277.17        |
| 26 Beans                                   | 0.03          | 231.55        | 245.21        | 244.53        |
| 27 Potatoes                                | 0.46          | 193.29        | 160.07        | 148.56        |
| 28 Onion                                   | 0.52          | 199.32        | 204.19        | 182.43        |
| 29 Tomatoes                                | 0.43          | 201.46        | 97.45         | 105.70        |
| 30 Fresh Vegetables                        | 1.71          | 272.52        | 202.58        | 233.55        |
| 31 Sugar                                   | 1.04          | 216.60        | 184.51        | 190.58        |
| 32 Gur                                     | 0.02          | 258.74        | 238.44        | 240.34        |
| 33 Honey                                   | 0.04          | 331.39        | 341.03        | 341.92        |
| 34 Sweet Meet                              | 0.25          | 247.92        | 257.09        | 267.41        |
| 35 Beverages                               | 1.20          | 220.59        | 227.38        | 230.60        |
| 36 Jam, Tomato Ketchup & Pickle            | 0.25          | 217.10        | 225.48        | 228.80        |
| 37 Condiments                              | 0.27          | 267.70        | 278.51        | 283.14        |
| 38 Spices                                  | 0.54          | 236.82        | 239.75        | 243.77        |
| 39 Tea                                     | 0.84          | 286.87        | 296.63        | 300.65        |
| <b>Alcoholic Beverages, Tobacco</b>        | <b>1.41</b>   | <b>382.78</b> | <b>316.60</b> | <b>317.70</b> |
| 40 Cigarettes                              | 1.39          | 385.02        | 306.62        | 307.42        |
| 41 Betel Leaves & Nuts                     | 0.02          | 246.79        | 922.46        | 941.86        |
| <b>Clothing &amp; Footwear</b>             | <b>7.57</b>   | <b>235.61</b> | <b>245.80</b> | <b>252.06</b> |
| 42 Cotton Cloth                            | 1.73          | 228.50        | 238.01        | 243.75        |
| 43 Woolen Cloth                            | 0.88          | 255.67        | 264.09        | 268.30        |
| 44 Ready Made Garments                     | 0.97          | 243.07        | 256.20        | 262.52        |
| 45 Woolen Readymade Garments               | 0.40          | 258.64        | 266.38        | 266.50        |
| 46 Hosiery                                 | 0.51          | 246.51        | 259.22        | 264.90        |
| 47 Dopatta                                 | 0.44          | 244.46        | 255.58        | 261.67        |
| 48 Cleaning & Laundering                   | 0.21          | 265.87        | 284.44        | 290.46        |

| <b>Table A10: Consumer Price Index Numbers by Major Groups and Composite Commodities</b> |                           |              |               |               |               |
|------------------------------------------------------------------------------------------|---------------------------|--------------|---------------|---------------|---------------|
| Items and specification                                                                  |                           | Weights      | Index         |               |               |
|                                                                                          |                           |              | Apr-17        | Mar-18        | Apr-18        |
| 49                                                                                       | Tailoring                 | 0.88         | 313.43        | 336.91        | 343.91        |
| 50                                                                                       | Footware                  | 1.55         | 167.05        | 167.95        | 177.36        |
| <b>Housing, Water, Elect, Gas &amp; Other Fuel</b>                                       |                           | <b>29.41</b> | <b>196.62</b> | <b>202.71</b> | <b>207.35</b> |
| 51                                                                                       | House Rent                | 21.81        | 188.68        | 195.96        | 201.96        |
| 52                                                                                       | Construction Input Item   | 0.56         | 250.55        | 264.40        | 269.11        |
| 53                                                                                       | Construction Wage Rate    | 0.33         | 237.79        | 257.14        | 262.93        |
| 54                                                                                       | Water Supply              | 0.50         | 168.16        | 174.83        | 177.11        |
| 55                                                                                       | Electricity               | 4.40         | 238.10        | 238.10        | 238.10        |
| 56                                                                                       | Gas                       | 1.58         | 158.08        | 158.08        | 158.08        |
| 57                                                                                       | Kerosene Oil              | 0.01         | 199.32        | 259.58        | 260.44        |
| 58                                                                                       | Fire Wood Whole           | 0.23         | 290.56        | 302.24        | 301.32        |
| <b>Furnished H.Hold Equip.&amp; Maint. Etc</b>                                           |                           | <b>4.21</b>  | <b>224.95</b> | <b>234.67</b> | <b>239.29</b> |
| 59                                                                                       | Furniture                 | 0.33         | 217.24        | 228.22        | 235.27        |
| 60                                                                                       | Household Textile         | 0.65         | 226.57        | 236.78        | 242.24        |
| 61                                                                                       | Household Equipment       | 0.59         | 180.69        | 185.70        | 188.50        |
| 62                                                                                       | Utensils                  | 0.32         | 230.57        | 242.89        | 248.73        |
| 63                                                                                       | Plastic Products          | 0.25         | 210.32        | 218.99        | 224.20        |
| 64                                                                                       | Washing Soap & Detergent  | 0.79         | 231.03        | 235.67        | 238.88        |
| 65                                                                                       | Sewing Needle & Dry Cell  | 0.15         | 206.22        | 211.92        | 217.51        |
| 66                                                                                       | Household Servant         | 1.04         | 249.98        | 265.40        | 270.32        |
| 67                                                                                       | Marriage Hall Charges     | 0.08         | 245.66        | 257.76        | 260.28        |
| <b>Health</b>                                                                            |                           | <b>2.19</b>  | <b>212.43</b> | <b>221.26</b> | <b>223.08</b> |
| 68                                                                                       | Drug Medicine             | 1.27         | 184.57        | 187.99        | 188.62        |
| 69                                                                                       | Medical Equipment         | 0.01         | 251.01        | 256.26        | 259.89        |
| 70                                                                                       | Doctor (MBBS) Clinic Fee  | 0.59         | 280.95        | 300.06        | 301.80        |
| 71                                                                                       | Medical Test              | 0.32         | 195.45        | 206.75        | 213.34        |
| <b>Transport</b>                                                                         |                           | <b>7.20</b>  | <b>176.33</b> | <b>186.98</b> | <b>187.48</b> |
| 72                                                                                       | Motor Vehicle             | 0.66         | 173.26        | 185.84        | 187.45        |
| 73                                                                                       | Motor Vehicle Accessories | 0.24         | 212.27        | 216.02        | 216.78        |
| 74                                                                                       | Motor Fuel                | 3.03         | 149.40        | 167.63        | 165.17        |
| 75                                                                                       | Mechanical Service        | 0.46         | 230.12        | 238.14        | 241.91        |
| 76                                                                                       | Motor Vehicle Tax         | 0.11         | 210.18        | 210.18        | 210.18        |
| 77                                                                                       | Transport Services        | 2.70         | 193.56        | 196.76        | 199.74        |
| <b>Communication</b>                                                                     |                           | <b>3.22</b>  | <b>132.87</b> | <b>133.37</b> | <b>133.67</b> |
| 78                                                                                       | Postal Services           | 0.07         | 249.16        | 259.00        | 272.18        |
| 79                                                                                       | Communication & Apparatus | 3.15         | 130.43        | 130.73        | 130.77        |
| <b>Recreation &amp; Culture</b>                                                          |                           | <b>2.02</b>  | <b>196.02</b> | <b>200.38</b> | <b>207.96</b> |
| 80                                                                                       | Recreation & Culture      | 0.86         | 129.72        | 132.03        | 134.05        |
| 81                                                                                       | Text Books                | 0.57         | 287.98        | 287.98        | 303.91        |
| 82                                                                                       | News Papers               | 0.19         | 181.01        | 202.81        | 202.94        |
| 83                                                                                       | Stationery                | 0.40         | 215.42        | 222.02        | 233.34        |
| <b>Education</b>                                                                         |                           | <b>3.94</b>  | <b>249.20</b> | <b>275.17</b> | <b>281.57</b> |
| 84                                                                                       | Education                 | 3.94         | 249.20        | 275.17        | 281.57        |
| <b>Restaurants And Hotels</b>                                                            |                           | <b>1.23</b>  | <b>275.88</b> | <b>287.84</b> | <b>291.05</b> |
| 85                                                                                       | Ready Made Food           | 1.23         | 275.88        | 287.84        | 291.05        |
| <b>Miscellaneous Goods And Services</b>                                                  |                           | <b>2.76</b>  | <b>244.71</b> | <b>256.35</b> | <b>263.59</b> |
| 86                                                                                       | Personal Care             | 1.49         | 225.21        | 234.18        | 237.36        |
| 87                                                                                       | Cosmetics                 | 0.39         | 203.88        | 208.65        | 222.28        |
| 88                                                                                       | Blades                    | 0.03         | 195.78        | 201.85        | 203.39        |
| 89                                                                                       | Personal Equipments       | 0.84         | 299.71        | 319.45        | 331.15        |

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

| Items and Specifications                  | Index         |               |               |
|-------------------------------------------|---------------|---------------|---------------|
|                                           | Apr-17        | Mar-18        | Apr-18        |
| <b>General</b>                            | <b>219.22</b> | <b>225.22</b> | <b>228.07</b> |
| <b>Agriculture Forestry &amp; Fishery</b> | <b>254.52</b> | <b>254.55</b> | <b>260.48</b> |
| 1 Wheat                                   | 208.27        | 209.00        | 203.30        |
| 2 Maize                                   | 196.14        | 205.11        | 210.71        |
| 3 Rice                                    | 161.46        | 173.85        | 174.07        |
| 4 Sorghum/Jowar                           | 237.62        | 256.85        | 261.38        |
| 5 Millet/Bajra                            | 168.81        | 188.77        | 197.62        |
| 6 Vegetables                              | 309.16        | 195.23        | 237.20        |
| 7 Fresh Fruits                            | 302.55        | 291.61        | 308.39        |
| 8 Dry Fruits                              | 237.07        | 269.25        | 275.26        |
| 9 Cotton Seeds                            | 274.20        | 257.18        | 255.66        |
| 10 Other Oil Seeds                        | 182.29        | 177.04        | 182.04        |
| 11 Edible Roots/ Potatoes                 | 196.74        | 148.10        | 133.10        |
| 12 Stimulant And Spice Crops              | 211.77        | 266.39        | 279.19        |
| 13 Pulses                                 | 266.68        | 240.45        | 239.71        |
| 14 Sugar Crops                            | 268.94        | 257.62        | 257.62        |
| 15 Fibre Crops                            | 219.01        | 234.67        | 242.34        |
| 16 Unmanufactured Tobacco                 | 279.24        | 308.03        | 308.03        |
| 17 Poultry                                | 223.38        | 219.05        | 230.37        |
| 18 Milk From Bovine Animals               | 268.56        | 275.47        | 280.72        |
| 19 Eggs                                   | 169.58        | 201.84        | 188.73        |
| 20 Raw Animal Material/Wool               | 177.28        | 173.81        | 176.13        |
| 21 Hides And Fur Skins, Raw               | 107.72        | 101.97        | 98.66         |
| 22 Fuel Wood In Logs                      | 279.63        | 283.56        | 283.56        |
| 23 Fishes Live Fresh Or Chilled           | 467.04        | 476.70        | 476.70        |
| <b>Ores/Minerals, Gas &amp; Elect.</b>    | <b>242.28</b> | <b>242.92</b> | <b>242.84</b> |
| 24 Coal Not Agglomerated                  | 155.29        | 155.29        | 155.29        |
| 25 Natural Gas Liquefied                  | 209.92        | 211.00        | 210.84        |
| 26 Salt & Pure Sodium Chloride            | 242.00        | 266.38        | 266.38        |
| 27 Electrical Energy                      | 288.00        | 288.00        | 288.00        |
| <b>Food, Beverages, Tobacco, Textiles</b> | <b>227.31</b> | <b>231.06</b> | <b>233.13</b> |
| 28 Meat Of Animals                        | 287.03        | 314.84        | 317.46        |
| 29 Vegetables & Fruit Juices              | 223.21        | 224.97        | 226.66        |
| 30 Dried Fruits & Nuts                    | 263.49        | 291.20        | 290.88        |
| 31 Fruit Juices                           | 180.42        | 183.21        | 184.96        |
| 32 Vegetable Oil Refined                  | 155.05        | 156.57        | 157.40        |
| 33 Vegetable Ghee                         | 126.45        | 127.28        | 128.77        |
| 34 Oil Cakes                              | 229.75        | 226.67        | 227.97        |
| 35 Processed Liquid Milk                  | 262.24        | 288.23        | 288.23        |
| 36 Milk And Cream In Solid Form           | 218.15        | 223.34        | 223.34        |
| 37 Ice Cream                              | 245.21        | 266.02        | 266.02        |
| 38 Dairy Products N.E.C                   | 254.71        | 272.54        | 273.79        |
| 39 Wheat Flour                            | 194.97        | 194.41        | 190.87        |
| 40 Other Cereal Flour                     | 242.58        | 210.20        | 213.24        |
| 41 Sugar Refined                          | 221.44        | 189.93        | 196.05        |
| 42 Chocolate                              | 100.00        | 100.00        | 100.00        |
| 43 Sugar Confectionary                    | 128.44        | 127.85        | 127.55        |
| 44 Coffee And Tea                         | 256.18        | 267.98        | 272.46        |
| 45 Spices                                 | 190.30        | 202.23        | 202.24        |
| 46 Other Food Products                    | 293.85        | 294.50        | 294.50        |
| 47 Mineral Water                          | 198.57        | 211.50        | 211.50        |
| 48 Beverages                              | 172.33        | 173.00        | 173.00        |
| 49 Tobacco Products                       | 445.85        | 318.37        | 318.37        |
| 50 Cotton Yarn                            | 203.06        | 222.05        | 229.04        |
| 51 Nylon Yarn                             | 143.99        | 143.99        | 143.99        |
| 52 Blended Yarn                           | 182.78        | 189.19        | 192.56        |
| 53 Woven Fabrics                          | 310.72        | 321.49        | 321.49        |
| 54 Cotton Fabrics                         | 209.95        | 214.23        | 214.23        |
| 55 Other Fabrics                          | 224.40        | 227.16        | 227.16        |

| Table A11: Wholesale Price Index Numbers by Major Groups and Composite Commodities |                                  |               |               |               |
|------------------------------------------------------------------------------------|----------------------------------|---------------|---------------|---------------|
| Items and Specifications                                                           |                                  | Index         |               |               |
|                                                                                    |                                  | Apr-17        | Mar-18        | Apr-18        |
| 56                                                                                 | Silk And Rayon Fabrics           | 186.55        | 188.14        | 188.14        |
| 57                                                                                 | Towels                           | 276.14        | 276.14        | 276.14        |
| 58                                                                                 | Blankets                         | 247.52        | 265.03        | 265.03        |
| 59                                                                                 | Bed Sheets                       | 256.07        | 256.87        | 256.87        |
| 60                                                                                 | Quilts                           | 203.79        | 222.32        | 222.32        |
| 61                                                                                 | Woolen Carpets                   | 196.43        | 196.43        | 196.43        |
| 62                                                                                 | Synthetic Carpets                | 130.95        | 130.95        | 130.95        |
| 63                                                                                 | Hosiery Products                 | 241.83        | 244.42        | 248.01        |
| 64                                                                                 | Ready Made Garments              | 197.19        | 201.37        | 201.16        |
| 65                                                                                 | Leather With Out Hairs           | 221.97        | 212.68        | 212.68        |
| 66                                                                                 | Other Leather N.E.C              | 207.31        | 207.02        | 207.02        |
| 67                                                                                 | Footwear's                       | 145.51        | 145.51        | 164.15        |
| <b>Other Transportable Goods</b>                                                   |                                  | <b>171.61</b> | <b>191.75</b> | <b>193.68</b> |
| 68                                                                                 | Timber                           | 231.53        | 237.00        | 237.00        |
| 69                                                                                 | Printing Paper                   | 173.54        | 168.59        | 170.48        |
| 70                                                                                 | Hard Board                       | 220.83        | 225.00        | 260.42        |
| 71                                                                                 | Coke                             | 163.45        | 163.45        | 163.45        |
| 72                                                                                 | Motor Sprit                      | 124.98        | 148.77        | 145.27        |
| 73                                                                                 | Diesel Oil                       | 156.91        | 205.65        | 203.45        |
| 74                                                                                 | Kerosene Oil                     | 117.12        | 203.79        | 203.79        |
| 75                                                                                 | Furnace Oil                      | 98.59         | 125.91        | 131.92        |
| 76                                                                                 | Mobil Oil                        | 200.49        | 200.85        | 201.08        |
| 77                                                                                 | Chemicals                        | 170.99        | 188.57        | 191.56        |
| 78                                                                                 | Dying Materials                  | 146.55        | 146.55        | 146.55        |
| 79                                                                                 | Fertilizers                      | 218.31        | 226.19        | 226.05        |
| 80                                                                                 | Pesticides                       | 304.43        | 310.16        | 310.16        |
| 81                                                                                 | Insecticides                     | 142.02        | 140.61        | 141.00        |
| 82                                                                                 | Paints & Varnishes               | 294.51        | 301.12        | 301.12        |
| 83                                                                                 | Medicines                        | 174.00        | 177.01        | 177.04        |
| 84                                                                                 | Soaps & Detergent                | 191.21        | 191.35        | 190.72        |
| 85                                                                                 | Auto Tyres                       | 177.07        | 177.11        | 177.11        |
| 86                                                                                 | Plastic Products                 | 225.88        | 226.00        | 239.27        |
| 87                                                                                 | Glass Sheets                     | 298.97        | 302.27        | 302.27        |
| 88                                                                                 | Other Glass Articles             | 317.24        | 318.10        | 318.10        |
| 89                                                                                 | Ceramics And Sanitary            | 233.92        | 234.76        | 236.41        |
| 90                                                                                 | Bricks Blocks And Tiles          | 220.73        | 223.30        | 223.30        |
| 91                                                                                 | Cement                           | 216.55        | 210.55        | 223.43        |
| 92                                                                                 | Bed Foams                        | 170.00        | 173.00        | 175.33        |
| 93                                                                                 | Matches                          | 171.36        | 171.36        | 171.36        |
| <b>Metal Product Machinery &amp; Equip</b>                                         |                                  | <b>176.25</b> | <b>179.07</b> | <b>182.01</b> |
| 94                                                                                 | Pig Iron                         | 128.97        | 128.97        | 128.97        |
| 95                                                                                 | Steel Bars & Sheets              | 134.87        | 147.50        | 158.63        |
| 96                                                                                 | Pipe Fittings                    | 215.29        | 215.66        | 215.66        |
| 97                                                                                 | Steel Products                   | 177.56        | 176.70        | 176.76        |
| 98                                                                                 | Engines And Motors               | 116.98        | 116.98        | 116.98        |
| 99                                                                                 | Vacuum Pumps                     | 123.69        | 123.69        | 123.69        |
| 100                                                                                | Air Conditioners                 | 200.10        | 200.10        | 200.10        |
| 101                                                                                | Cultivators                      | 190.66        | 190.66        | 190.66        |
| 102                                                                                | Chuff Cutter                     | 153.46        | 153.46        | 153.46        |
| 103                                                                                | Tractors                         | 201.75        | 201.75        | 201.75        |
| 104                                                                                | Lathe Machines                   | 241.06        | 241.06        | 241.06        |
| 105                                                                                | Concrete Mixer                   | 138.83        | 138.83        | 138.83        |
| 106                                                                                | Refrige,Wash& Sew Mach, Iron,Fan | 213.78        | 218.55        | 222.10        |
| 107                                                                                | Electrical Wires                 | 204.51        | 205.92        | 208.22        |
| 108                                                                                | Lighting Equipments              | 170.73        | 171.39        | 174.04        |
| 109                                                                                | Radio And Television             | 140.42        | 140.42        | 140.42        |
| 110                                                                                | Motor Vehicles                   | 191.39        | 211.00        | 211.00        |
| 111                                                                                | Motor Cycles                     | 125.89        | 126.05        | 133.32        |
| 112                                                                                | Bicycles                         | 187.65        | 187.65        | 187.65        |

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

| Period  |     | CPI     |        |          | WPI     |        |          | SPI *  |
|---------|-----|---------|--------|----------|---------|--------|----------|--------|
|         |     | Overall | Food   | Non-food | Overall | Food   | Non-Food |        |
| 2008-09 |     | 117.03  | 123.11 | 113.37   | 118.93  | 119.68 | 118.45   | 123.26 |
| 2009-10 |     | 128.85  | 139.05 | 122.73   | 135.40  | 136.85 | 134.48   | 139.84 |
| 2010-11 |     | 146.45  | 164.10 | 135.87   | 164.17  | 159.26 | 167.27   | 164.02 |
| 2011-12 |     | 162.57  | 182.20 | 150.80   | 181.28  | 181.32 | 181.26   | 178.67 |
| 2012-13 |     | 174.53  | 195.18 | 162.16   | 194.61  | 197.21 | 192.95   | 189.64 |
| 2013-14 |     | 189.58  | 212.74 | 175.69   | 210.48  | 213.04 | 208.85   | 208.66 |
| 2014-15 |     | 198.16  | 220.20 | 184.95   | 209.85  | 226.22 | 199.47   | 212.61 |
| 2015-16 |     | 203.82  | 224.78 | 191.25   | 207.64  | 234.69 | 190.47   | 216.23 |
| 2016-17 |     | 212.29  | 233.37 | 199.65   | 216.02  | 248.74 | 195.27   | 220.10 |
| 2015    | Dec | 203.06  | 223.90 | 190.57   | 207.37  | 230.72 | 192.55   | 218.60 |
| 2016    | Jan | 203.49  | 222.58 | 192.05   | 206.27  | 231.14 | 190.48   | 217.47 |
|         | Feb | 202.98  | 221.07 | 192.14   | 205.05  | 231.26 | 188.42   | 215.73 |
|         | Mar | 203.28  | 222.25 | 191.91   | 204.22  | 231.43 | 186.95   | 215.13 |
|         | Apr | 206.43  | 227.53 | 193.78   | 206.87  | 237.05 | 187.72   | 215.88 |
|         | May | 205.99  | 225.84 | 194.09   | 208.01  | 238.62 | 188.59   | 214.35 |
|         | Jun | 207.30  | 228.95 | 194.32   | 210.88  | 244.68 | 189.44   | 216.58 |
|         | Jul | 210.08  | 234.69 | 195.33   | 215.81  | 251.76 | 192.99   | 218.81 |
|         | Aug | 209.46  | 232.48 | 195.66   | 215.75  | 250.12 | 193.95   | 218.66 |
|         | Sep | 209.88  | 232.80 | 196.14   | 214.61  | 250.41 | 191.89   | 218.67 |
|         | Oct | 211.57  | 234.68 | 197.72   | 214.53  | 250.63 | 191.64   | 220.11 |
|         | Nov | 212.01  | 235.17 | 198.13   | 214.07  | 247.89 | 192.62   | 220.68 |
|         | Dec | 210.57  | 230.69 | 198.51   | 213.76  | 244.40 | 194.32   | 219.73 |
| 2017    | Jan | 210.94  | 228.45 | 200.44   | 214.84  | 244.73 | 195.87   | 218.35 |
|         | Feb | 211.54  | 229.19 | 200.96   | 215.86  | 244.91 | 197.42   | 219.25 |
|         | Mar | 213.32  | 233.47 | 201.24   | 217.29  | 247.53 | 198.10   | 223.62 |
|         | Apr | 216.30  | 237.50 | 203.59   | 219.22  | 252.45 | 198.13   | 222.07 |
|         | May | 216.33  | 237.01 | 203.94   | 218.78  | 251.10 | 198.26   | 220.51 |
|         | Jun | 215.45  | 234.37 | 204.11   | 217.77  | 248.90 | 198.02   | 220.68 |
|         | Jul | 216.19  | 234.47 | 205.23   | 217.24  | 249.95 | 196.63   | 219.28 |
|         | Aug | 216.61  | 235.38 | 205.36   | 217.96  | 251.05 | 196.96   | 219.82 |
|         | Sep | 217.98  | 238.43 | 205.72   | 218.08  | 252.27 | 196.39   | 223.38 |
|         | Oct | 219.61  | 239.89 | 207.45   | 219.41  | 254.40 | 197.22   | 225.15 |
|         | Nov | 220.42  | 240.79 | 208.21   | 220.20  | 252.83 | 199.49   | 226.29 |
|         | Dec | 220.20  | 239.43 | 208.67   | 221.00  | 253.31 | 200.49   | 225.66 |
| 2018    | Jan | 220.27  | 236.92 | 210.29   | 224.99  | 252.74 | 207.38   | 224.13 |
|         | Feb | 219.58  | 234.31 | 210.75   | 224.66  | 250.56 | 208.23   | 222.19 |
|         | Mar | 220.25  | 233.67 | 212.21   | 225.22  | 251.00 | 208.52   | 221.67 |
|         | Apr | 224.25  | 237.08 | 216.56   | 228.07  | 254.52 | 211.28   | 223.13 |

\*: all groups combined

| <b>Table A13: International Commodity Prices/Indices</b>                                                                                                                                                                                                                       |               |               |               |               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|---------------|---------------|
|                                                                                                                                                                                                                                                                                | <b>Jan-18</b> | <b>Feb-18</b> | <b>Mar-18</b> | <b>Apr-18</b> |
| <b>Energy</b>                                                                                                                                                                                                                                                                  |               |               |               |               |
| Crude Oil (US\$ per barrel) *                                                                                                                                                                                                                                                  | 66.2          | 63.5          | 64.2          | 68.8          |
| Energy Index (2010 = 100)                                                                                                                                                                                                                                                      | 85.5          | 80.5          | 81.0          | 87.6          |
| <b>Food</b>                                                                                                                                                                                                                                                                    |               |               |               |               |
| Rice (\$/MT)                                                                                                                                                                                                                                                                   | 442.0         | 425.0         | 430.0         | 451.0         |
| Wheat (\$/MT)                                                                                                                                                                                                                                                                  | 192.2         | 192.2         | 192.2         | 213.8         |
| Sugar (US cent/ pound)^                                                                                                                                                                                                                                                        | 0.3           | 0.3           | 0.3           | 0.3           |
| Palm Oil (\$/MT)                                                                                                                                                                                                                                                               | 677.0         | 663.0         | 681.0         | 666.0         |
| Soybean Oil (\$/MT)                                                                                                                                                                                                                                                            | 864.0         | 842.0         | 834.0         | 830.0         |
| <b>Non-Food Non-Energy</b>                                                                                                                                                                                                                                                     |               |               |               |               |
| Cotton Outlook 'A' Index #^                                                                                                                                                                                                                                                    | 2.0           | 1.9           | 2.0           | 2.0           |
| Metal Price Index (2010 = 100)                                                                                                                                                                                                                                                 | 97.0          | 96.9          | 92.9          | 96.1          |
| Copper (\$/MT)                                                                                                                                                                                                                                                                 | 7,065.9       | 7,006.5       | 6,799.2       | 6,851.5       |
| Aluminum (\$/MT)                                                                                                                                                                                                                                                               | 2,209.7       | 2,181.8       | 2,069.2       | 2,254.7       |
| Iron Ore (\$ cents/dry MT)                                                                                                                                                                                                                                                     | 76.3          | 77.5          | 70.4          | 65.8          |
| Tin (\$/MT)                                                                                                                                                                                                                                                                    | 20,696.9      | 21,651.6      | 21,211.9      | 21,291.1      |
| Nickel (\$/MT)                                                                                                                                                                                                                                                                 | 12,864.9      | 13,595.9      | 13,392.5      | 13,938.1      |
| Zinc (\$/MT)                                                                                                                                                                                                                                                                   | 3,441.5       | 3,532.9       | 3,269.2       | 3,188.1       |
| Lead (\$/MT)                                                                                                                                                                                                                                                                   | 2,584.1       | 2,581.1       | 2,390.0       | 2,352.4       |
| Uranium (\$/MT)@                                                                                                                                                                                                                                                               | 21.9          | 21.4          | 21.1          | 21.0          |
| DAP (\$/MT)                                                                                                                                                                                                                                                                    | 395.0         | 405.0         | 413.0         | 411.0         |
| Urea (\$/MT)                                                                                                                                                                                                                                                                   | 225.6         | 229.8         | 235.9         | 224.0         |
| Source: World Bank for all variables / indices except Uranium which is taken from Cameco (World Largest Uranium Producer)                                                                                                                                                      |               |               |               |               |
| @ Data has been taken from Cameco website as it is not available in World Bank dataset.                                                                                                                                                                                        |               |               |               |               |
| ^ The measurement unit for sugar and Cotton is US cent/ pound in IMF data source, whereas it is US dollar / kg in World bank dataset. The result of two datasets can be reconciled using conversion formula: 1US \$ / kilogram = 45.359237 U.S. \$/MT = US\$ per metric tonne. |               |               |               |               |
| * Crude Oil (Petroleum), simple average of three spot prices; Dated Brent, West Texas Intermediate, and the Dubai fateh                                                                                                                                                        |               |               |               |               |
| # Middling 1-3/32 inch staple, liverpool Index "A", average of the cheapest Cts/lb five of fourteen styles, CIF Liverpool (Cotton Outlook, Liverpool). From January 1968 to May 1981 strict middling 1-1/16 inch staple. Prior to 1968, Mexican 1-1/16.2/                      |               |               |               |               |
| DAP: Diammonium Phosphate                                                                                                                                                                                                                                                      |               |               |               |               |

| <b>Table 14: CPI Data Series Original and Seasonally Adjusted</b> |             |             |             |             |             |
|-------------------------------------------------------------------|-------------|-------------|-------------|-------------|-------------|
| <b>Original Series</b>                                            |             |             |             |             |             |
| <b>Period</b>                                                     | <b>FY14</b> | <b>FY15</b> | <b>FY16</b> | <b>FY17</b> | <b>FY18</b> |
| Jul                                                               | 183.58      | 198.05      | 201.76      | 210.08      | 216.19      |
| Aug                                                               | 185.71      | 198.70      | 202.25      | 209.46      | 216.61      |
| Sep                                                               | 185.18      | 199.40      | 202.04      | 209.88      | 217.98      |
| Oct                                                               | 188.82      | 199.81      | 203.03      | 211.57      | 219.61      |
| Nov                                                               | 191.21      | 198.79      | 204.22      | 212.01      | 220.42      |
| Dec                                                               | 188.68      | 196.79      | 203.06      | 210.57      | 220.20      |
| Jan                                                               | 189.60      | 196.95      | 203.49      | 210.94      | 220.27      |
| Feb                                                               | 189.00      | 195.13      | 202.98      | 211.54      | 219.58      |
| Mar                                                               | 190.82      | 195.57      | 203.28      | 213.32      | 220.25      |
| Apr                                                               | 194.06      | 198.16      | 206.43      | 216.30      | 224.25      |
| May                                                               | 193.55      | 199.66      | 205.99      | 216.33      |             |
| Jun                                                               | 194.74      | 200.89      | 207.30      | 215.45      |             |
| <b>Seasonally Adjusted Series</b>                                 |             |             |             |             |             |
| Jul                                                               | 182.79      | 197.15      | 200.83      | 209.10      | 215.19      |
| Aug                                                               | 184.50      | 197.50      | 201.11      | 208.32      | 215.50      |
| Sep                                                               | 184.09      | 198.26      | 200.95      | 208.81      | 216.94      |
| Oct                                                               | 187.26      | 198.20      | 201.43      | 209.95      | 217.96      |
| Nov                                                               | 189.95      | 197.53      | 202.95      | 210.70      | 219.07      |
| Dec                                                               | 189.56      | 197.62      | 203.82      | 211.26      | 220.86      |
| Jan                                                               | 190.21      | 197.61      | 204.21      | 211.74      | 221.17      |
| Feb                                                               | 190.96      | 197.16      | 205.08      | 213.71      | 221.81      |
| Mar                                                               | 192.51      | 197.36      | 205.19      | 215.36      | 222.37      |
| Apr                                                               | 193.87      | 197.93      | 206.16      | 215.97      | 223.87      |
| May                                                               | 193.98      | 200.02      | 206.31      | 216.63      |             |
| Jun                                                               | 195.36      | 201.45      | 207.81      | 215.91      |             |

| <b>Table 15: CPI Food Data Series Original and Seasonally Adjusted</b> |             |             |             |             |             |
|------------------------------------------------------------------------|-------------|-------------|-------------|-------------|-------------|
| <b>Original Series</b>                                                 |             |             |             |             |             |
| <b>Period</b>                                                          | <b>FY14</b> | <b>FY15</b> | <b>FY16</b> | <b>FY17</b> | <b>FY18</b> |
| Jul                                                                    | 208.19      | 222.80      | 224.14      | 234.69      | 234.47      |
| Aug                                                                    | 212.27      | 224.05      | 224.86      | 232.48      | 235.38      |
| Sep                                                                    | 209.09      | 224.12      | 223.87      | 232.80      | 238.43      |
| Oct                                                                    | 212.61      | 223.74      | 224.86      | 234.68      | 239.89      |
| Nov                                                                    | 218.16      | 222.74      | 227.55      | 235.17      | 240.79      |
| Dec                                                                    | 210.89      | 218.08      | 223.90      | 230.69      | 239.43      |
| Jan                                                                    | 210.81      | 217.10      | 222.58      | 228.45      | 236.92      |
| Feb                                                                    | 208.74      | 213.15      | 221.07      | 229.19      | 234.31      |
| Mar                                                                    | 213.11      | 214.25      | 222.25      | 233.47      | 233.67      |
| Apr                                                                    | 217.33      | 217.26      | 227.53      | 237.50      | 237.08      |
| May                                                                    | 214.75      | 221.22      | 225.84      | 237.01      |             |
| Jun                                                                    | 216.98      | 223.84      | 228.95      | 234.37      |             |
| <b>Seasonally Adjusted Series</b>                                      |             |             |             |             |             |
| Jul                                                                    | 206.59      | 220.99      | 222.27      | 232.71      | 232.50      |
| Aug                                                                    | 209.31      | 221.10      | 222.04      | 229.66      | 232.65      |
| Sep                                                                    | 206.22      | 221.10      | 220.96      | 229.94      | 235.65      |
| Oct                                                                    | 209.33      | 220.42      | 221.65      | 231.49      | 236.72      |
| Nov                                                                    | 214.83      | 219.42      | 224.28      | 231.81      | 237.34      |
| Dec                                                                    | 212.30      | 219.32      | 224.93      | 231.52      | 240.14      |
| Jan                                                                    | 212.56      | 219.01      | 224.68      | 230.80      | 239.52      |
| Feb                                                                    | 213.42      | 217.95      | 226.00      | 234.25      | 239.45      |
| Mar                                                                    | 216.36      | 217.63      | 225.81      | 237.22      | 237.45      |
| Apr                                                                    | 217.76      | 217.65      | 227.89      | 237.77      | 237.29      |
| May                                                                    | 216.07      | 222.41      | 226.94      | 238.08      |             |
| Jun                                                                    | 218.34      | 225.01      | 229.95      | 235.21      |             |

**Table 16: CPI Monthly & Average Seasonal Factors**

| Period | FY14   | FY15   | FY16   | FY17   | FY18   | Average |
|--------|--------|--------|--------|--------|--------|---------|
| Jul    | 100.43 | 100.46 | 100.46 | 100.47 | 100.46 | 100.46  |
| Aug    | 100.66 | 100.61 | 100.57 | 100.55 | 100.51 | 100.58  |
| Sep    | 100.59 | 100.58 | 100.54 | 100.51 | 100.48 | 100.54  |
| Oct    | 100.84 | 100.81 | 100.79 | 100.77 | 100.76 | 100.79  |
| Nov    | 100.66 | 100.64 | 100.62 | 100.62 | 100.62 | 100.63  |
| Dec    | 99.54  | 99.58  | 99.63  | 99.67  | 99.70  | 99.62   |
| Jan    | 99.68  | 99.67  | 99.65  | 99.62  | 99.59  | 99.64   |
| Feb    | 98.97  | 98.97  | 98.98  | 98.98  | 99.00  | 98.98   |
| Mar    | 99.12  | 99.09  | 99.07  | 99.05  | 99.05  | 99.08   |
| Apr    | 100.10 | 100.12 | 100.13 | 100.15 | 100.17 | 100.13  |
| May    | 99.78  | 99.82  | 99.85  | 99.86  |        | 99.83   |
| Jun    | 99.68  | 99.72  | 99.76  | 99.79  |        | 99.74   |

**Table 17: CPI Food Monthly & Average Seasonal Factors**

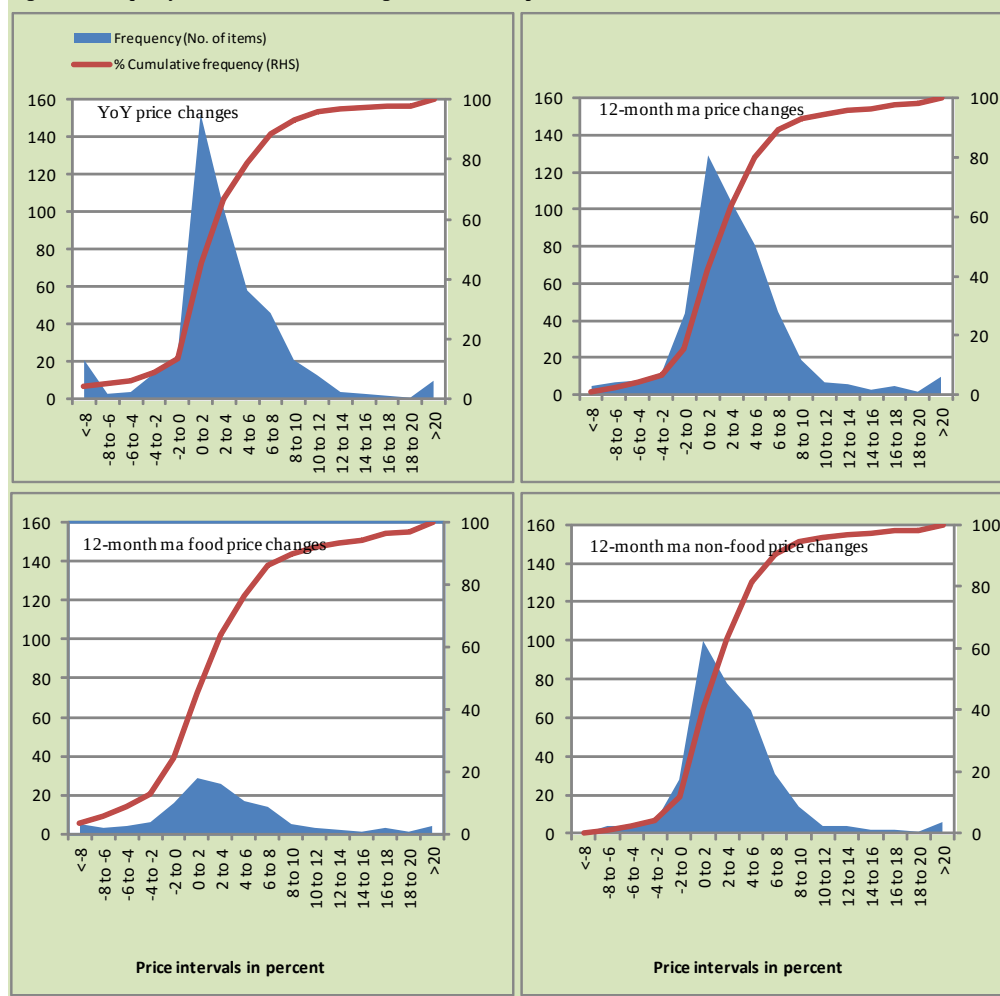
| Period | FY14   | FY15   | FY16   | FY17   | FY18   | Average |
|--------|--------|--------|--------|--------|--------|---------|
| Jul    | 100.77 | 100.82 | 100.84 | 100.85 | 100.85 | 100.83  |
| Aug    | 101.42 | 101.34 | 101.27 | 101.23 | 101.17 | 101.28  |
| Sep    | 101.39 | 101.37 | 101.32 | 101.24 | 101.18 | 101.30  |
| Oct    | 101.57 | 101.51 | 101.45 | 101.38 | 101.34 | 101.45  |
| Nov    | 101.55 | 101.51 | 101.46 | 101.45 | 101.45 | 101.49  |
| Dec    | 99.34  | 99.43  | 99.54  | 99.64  | 99.71  | 99.53   |
| Jan    | 99.18  | 99.13  | 99.07  | 98.98  | 98.92  | 99.05   |
| Feb    | 97.81  | 97.80  | 97.82  | 97.84  | 97.85  | 97.82   |
| Mar    | 98.50  | 98.45  | 98.42  | 98.42  | 98.41  | 98.44   |
| Apr    | 99.80  | 99.82  | 99.84  | 99.89  | 99.91  | 99.85   |
| May    | 99.39  | 99.47  | 99.52  | 99.55  |        | 99.48   |
| Jun    | 99.38  | 99.48  | 99.57  | 99.64  |        | 99.52   |

| <b>Table 18: CPI Month-on-Month % Change Original &amp; Seasonally Adjusted</b> |             |             |             |             |             |
|---------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|-------------|
| <b>Original Series</b>                                                          |             |             |             |             |             |
| <b>Period</b>                                                                   | <b>FY14</b> | <b>FY15</b> | <b>FY16</b> | <b>FY17</b> | <b>FY18</b> |
| Jul                                                                             | 2.02        | 1.70        | 0.43        | 1.34        | 0.34        |
| Aug                                                                             | 1.16        | 0.33        | 0.24        | -0.30       | 0.19        |
| Sep                                                                             | -0.29       | 0.35        | -0.10       | 0.20        | 0.63        |
| Oct                                                                             | 1.97        | 0.21        | 0.49        | 0.81        | 0.75        |
| Nov                                                                             | 1.27        | -0.51       | 0.59        | 0.21        | 0.37        |
| Dec                                                                             | -1.32       | -1.01       | -0.57       | -0.68       | -0.10       |
| Jan                                                                             | 0.49        | 0.08        | 0.21        | 0.18        | 0.03        |
| Feb                                                                             | -0.32       | -0.92       | -0.25       | 0.28        | -0.31       |
| Mar                                                                             | 0.96        | 0.23        | 0.15        | 0.84        | 0.31        |
| Apr                                                                             | 1.70        | 1.32        | 1.55        | 1.40        | 1.82        |
| May                                                                             | -0.26       | 0.76        | -0.21       | 0.01        |             |
| Jun                                                                             | 0.61        | 0.62        | 0.64        | -0.41       |             |
| <b>Seasonally Adjusted Series</b>                                               |             |             |             |             |             |
| Jul                                                                             | 1.22        | 0.92        | -0.31       | 0.62        | -0.33       |
| Aug                                                                             | 0.94        | 0.18        | 0.14        | -0.37       | 0.14        |
| Sep                                                                             | -0.22       | 0.39        | -0.08       | 0.23        | 0.67        |
| Oct                                                                             | 1.72        | -0.03       | 0.24        | 0.55        | 0.47        |
| Nov                                                                             | 1.44        | -0.34       | 0.75        | 0.36        | 0.51        |
| Dec                                                                             | -0.21       | 0.05        | 0.43        | 0.27        | 0.82        |
| Jan                                                                             | 0.35        | 0.00        | 0.19        | 0.23        | 0.14        |
| Feb                                                                             | 0.40        | -0.23       | 0.43        | 0.93        | 0.29        |
| Mar                                                                             | 0.81        | 0.10        | 0.05        | 0.77        | 0.25        |
| Apr                                                                             | 0.71        | 0.29        | 0.47        | 0.28        | 0.68        |
| May                                                                             | 0.05        | 1.06        | 0.07        | 0.30        |             |
| Jun                                                                             | 0.71        | 0.71        | 0.73        | -0.33       |             |

| <b>Table 19: CPI Food Month-on-Month % Change Original &amp; Seasonally Adjusted</b> |             |             |             |             |             |
|--------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|-------------|
| <b>Original Series</b>                                                               |             |             |             |             |             |
| <b>Period</b>                                                                        | <b>FY14</b> | <b>FY15</b> | <b>FY16</b> | <b>FY17</b> | <b>FY18</b> |
| Jul                                                                                  | 3.01        | 2.68        | 0.13        | 2.50        | 0.04        |
| Aug                                                                                  | 1.96        | 0.56        | 0.32        | -0.94       | 0.39        |
| Sep                                                                                  | -1.50       | 0.03        | -0.44       | 0.14        | 1.29        |
| Oct                                                                                  | 1.68        | -0.17       | 0.44        | 0.81        | 0.61        |
| Nov                                                                                  | 2.61        | -0.45       | 1.20        | 0.21        | 0.37        |
| Dec                                                                                  | -3.33       | -2.09       | -1.61       | -1.90       | -0.56       |
| Jan                                                                                  | -0.04       | -0.45       | -0.59       | -0.97       | -1.05       |
| Feb                                                                                  | -0.98       | -1.82       | -0.68       | 0.32        | -1.11       |
| Mar                                                                                  | 2.10        | 0.52        | 0.54        | 1.87        | -0.27       |
| Apr                                                                                  | 1.98        | 1.41        | 2.38        | 1.73        | 1.46        |
| May                                                                                  | -1.19       | 1.82        | -0.74       | -0.21       |             |
| Jun                                                                                  | 1.04        | 1.18        | 1.38        | -1.11       |             |
| <b>Seasonally Adjusted Series</b>                                                    |             |             |             |             |             |
| Jul                                                                                  | 1.49        | 1.21        | -1.22       | 1.20        | -1.15       |
| Aug                                                                                  | 1.31        | 0.05        | -0.10       | -1.31       | 0.06        |
| Sep                                                                                  | -1.47       | 0.00        | -0.49       | 0.12        | 1.29        |
| Oct                                                                                  | 1.51        | -0.30       | 0.31        | 0.68        | 0.46        |
| Nov                                                                                  | 2.63        | -0.45       | 1.18        | 0.14        | 0.26        |
| Dec                                                                                  | -1.18       | -0.04       | 0.29        | -0.13       | 1.18        |
| Jan                                                                                  | 0.12        | -0.14       | -0.11       | -0.31       | -0.26       |
| Feb                                                                                  | 0.40        | -0.49       | 0.59        | 1.49        | -0.03       |
| Mar                                                                                  | 1.38        | -0.15       | -0.08       | 1.27        | -0.83       |
| Apr                                                                                  | 0.65        | 0.01        | 0.92        | 0.23        | -0.07       |
| May                                                                                  | -0.78       | 2.18        | -0.42       | 0.13        |             |
| Jun                                                                                  | 1.05        | 1.17        | 1.32        | -1.21       |             |



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



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

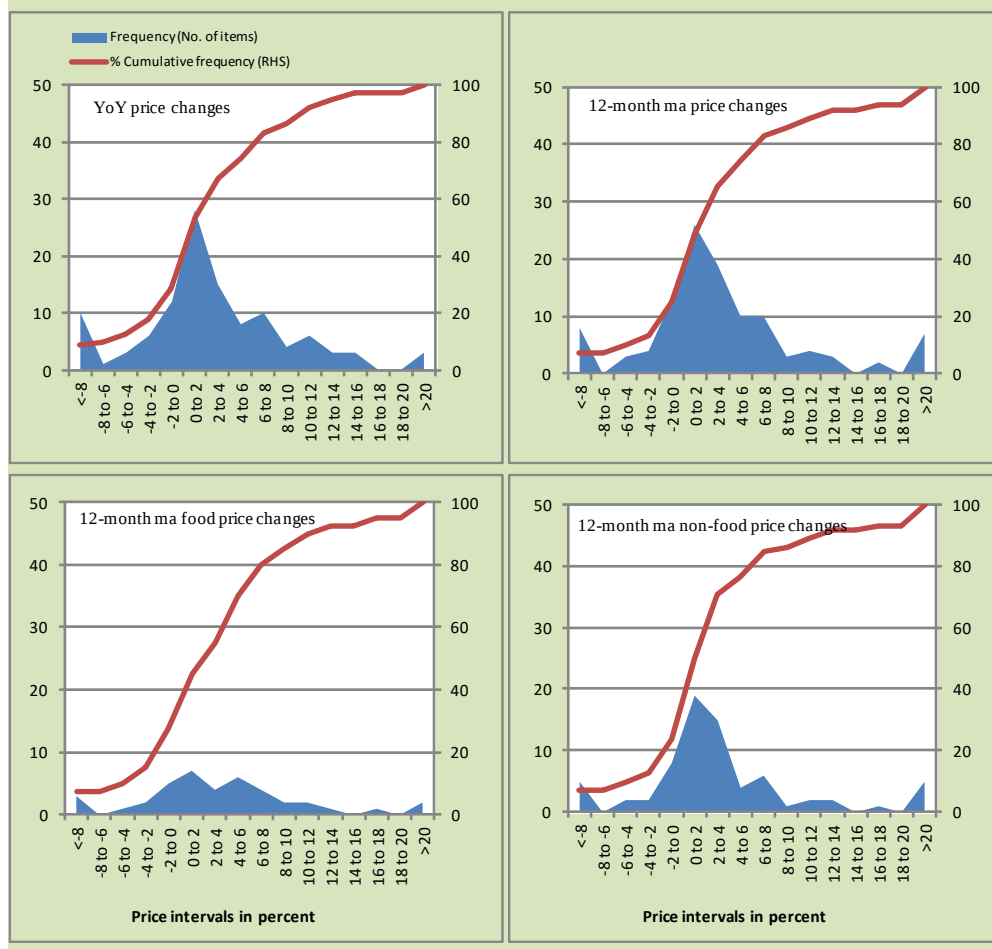
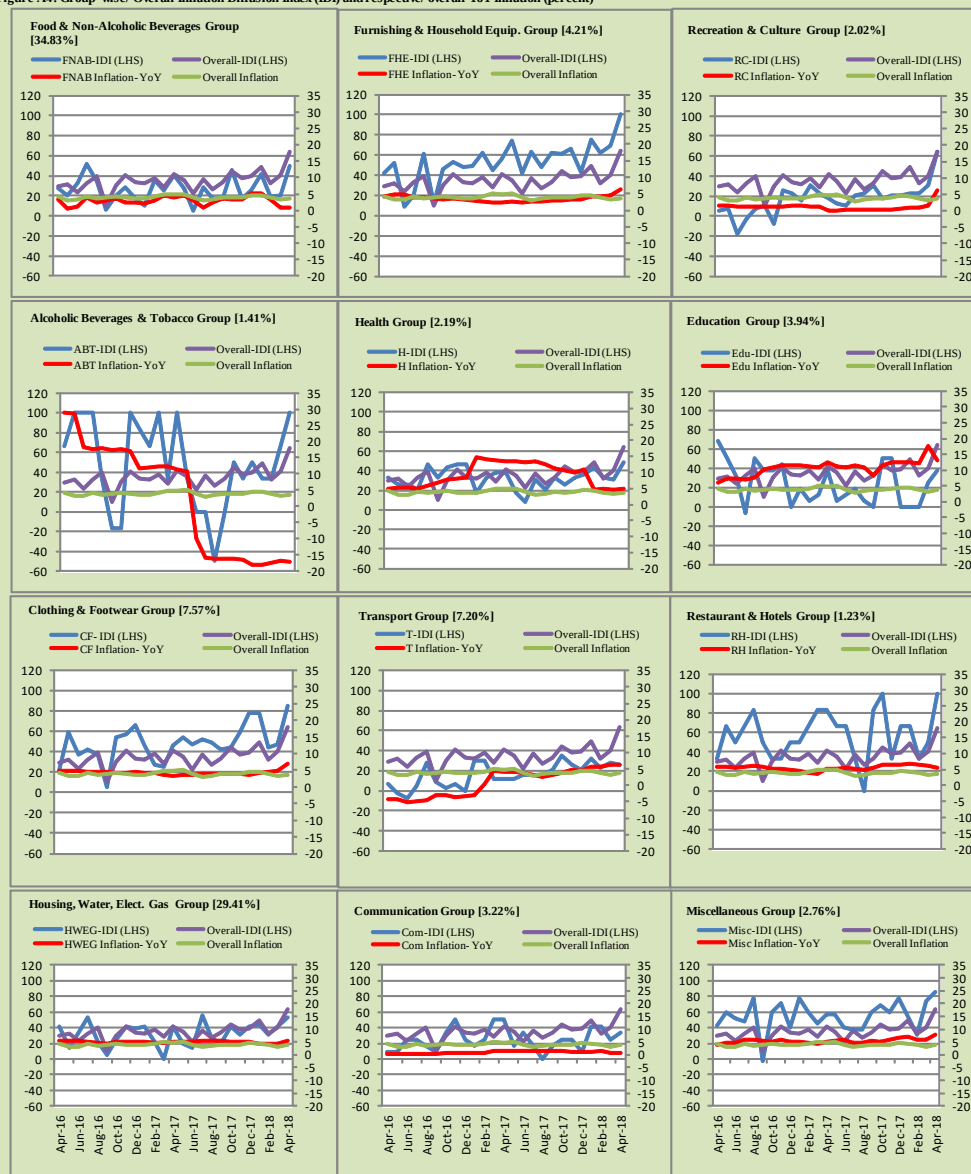


Figure A4: Group-wise/ Overall Inflation Diffusion Index (IDI) and respective/ overall YoY Inflation (percent)



Numbers in square brackets show the weights of respective groups in the CPI baskets.

## **Annexure B**

### **Technical Notes**

1. All the three measures of inflation, viz. CPI, WPI and SPI are computed by the following Laspeyres Index formula:

$$I_t = \sum_j w_0^j \left( \frac{P_t^j}{P_0^j} \right)$$

Where  $I_t$  is price index,  $w_0^j$  is weight of commodity  $j$  in the overall basket,  $P_t^j$  is price of commodity  $j$  in period  $t$  and  $P_0^j$  is its price in the base year.

2. Base year for all the indices is the year 2007-08.
3. CPI basket contains 487 consumers' goods; WPI basket contains 463 items; SPI contains 53 items.
4. YoY inflation is the percent change of an index in a given month over the index in the same month of the last year. It is computed as follows:

$$\pi_t = \left( \frac{I_t}{I_{t-12}} - 1 \right) \times 100$$

5. Period average inflation is the percent change of the average index during the period from July to the given month of a fiscal year over the average index during the corresponding period of the last year. It is computed as follows:

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

Where  $v$  is the serial number of the month of July of current fiscal year in a given time series.

6. Monthly inflation is the percent change of an index in a given month over the index in the preceding month. It is computed as follows:

$$\pi_t = \left( \frac{I_t}{I_{t-1}} - 1 \right) \times 100$$

7. 12-month moving average inflation (Long-run trend inflation) is the percent change of 12-month moving average of a price index; it is computed as follows:

$$\tilde{\pi}_t = \left( \frac{\sum_{i=0}^{11} I_{t-i}}{\sum_{i=0}^{11} I_{t-12-i}} - 1 \right) \times 100$$

8. Core Inflation is defined as the persistent component of measured inflation that excludes volatile and controlled prices. It reflects the normal supply and demand conditions in the economy. Core inflation is computed by the following three methods:
- a) Non-food, Non-energy inflation (NFNE inflation); it is computed by excluding food group and energy items (kerosene oil, petrol, diesel, CNG, electricity and natural gas) from the CPI basket.
  - b) 20% trimmed-mean inflation; it is computed through the following steps:
    - i. All CPI items are arranged in ascending order according to YoY/12-month moving average/monthly/period average changes in their price indices in a given month.
    - ii. 20 percent of the items showing extreme changes are excluded with 10 percent of the items at the top of the list (corresponding to cumulative weight of 90% or more) and 10 percent of the items at the bottom of the list (corresponding to cumulative weight of 10 percent or less).
    - iii. The weighted mean of the changes in price indices of the rest of the items is core inflation.
  - c) Relatively Stable Component of CPI (RSC-CPI) developed by State Bank of Pakistan is a hybrid method based on permanent exclusion criteria. Volatile price items, to be excluded in the newly proposed measure RSC-CPI, are identified by analyzing the list and frequency of commodities that have been trimmed frequently in the past while computing monthly weighted trimmed mean measure. Commodities

that were trimmed out 13 and above times since July 2008 to February 2013 are selected for permanently excluding from the CPI basket. This newly developed component includes a mix of both food and non-food commodities that show persistent price behavior. Fifty Commodities included comprise relatively stable component (RSC-CPI) with a weight of 67.69. The detailed methodology of RSC-CPI and group wise items along their weights can be viewed at the following link;

<http://www.sbp.org.pk/publications/wpapers/2013/wp66.pdf>

9. Weighted contribution of different items (or sub-groups) to total inflation is worked out as below:

Let the overall index ( $I_t$ ) is the weighted average of price indexes of individual items or sub-groups ( $I_{it}$ ), i.e.

$$I_t = \sum_i w_i \cdot I_{it}$$

The weighted contribution of a single item (or a sub-group) to overall inflation is defined as below:

$$C_{it} = \alpha_{it-12} \cdot w_i \cdot \left( \frac{\pi_{it}}{\pi_t} \right)$$

Where  $C_{it}$  : Contribution of  $i^{\text{th}}$  item to the overall inflation

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

reference month

$w_i$  : Weights of  $i^{\text{th}}$  item

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

$\pi_t$  : Overall inflation

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

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

### Methodology for Estimating Inflation Diffusion Index for Pakistan

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

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

Thus, it is the difference between the share of items with increasing prices (i.e. depicting inflation) and the share of items with falling prices (i.e. depicting deflation) in CPI amongst the commodities for which prices have altered or remained constant<sup>1</sup>.

Based upon commodity level price data from July 2001 to February 2011 we computed inflation diffusion indices overall (general) CPI basket and for all groups in CPI basket (except House Rent Index being single item). A simple analysis<sup>2</sup> suggests that IDI is a leading indicator for Pakistan’s YoY inflation.

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

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