

# **Inflation Monitor**

**July 2011**



**State Bank of Pakistan**

**Statistics & DWH Department**

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	<b>Contents</b>	<b>Page</b>
1.	Inflation in Brief	1-6
2.	City- wise Inflation	6
3.	Income Group- wise Inflation	7-8
4.	Weighted Contribution	9
5.	Inflation Diffusion Index	10
6.	Domestic Commodity Prices	11
7.	Global Commodity Prices	11
8.	Seasonal Adjustment in CPI Index	12-14
Annexure A		15
Table A1:	CPI Inflation (YoY) by Groups	
Table A2:	Distribution of Price Changes of CPI Basket July 2011	
Table A3:	Top Ten Contributors to CPI Inflation (YoY) in July 2011	
Table A4:	Distribution of YoY Price Changes - Selected CPI Items July 2011	
Table A5:	City-wise CPI Inflation (YoY) by Income Groups July 2011	
Table A6:	City- wise CPI Inflation (YoY) in July 2011	
Table A7:	Income Group-wise Inflation	
Table A8:	Distribution of Price Change (YoY)-WPI Items: July 2011	
Table A9:	SPI Item-wise Price Movements	
Table A10:	Consumer Price Index Numbers by Major Groups and Selected Commodities	
Table A11:	Wholesale Price Index Numbers by Major Groups and Selected Commodities for July 2011	
Table A14	Seasonally adjusted series – CPI Index	
Table A15	Seasonally adjusted series – YoY % Change	
Table A16	Seasonally adjusted series – MoM % Change	
Figure A1	CPI Non-food Inflation	
Figure A2	Frequency Distribution of Price Changes of CPI Items	
Figure A3	Frequency Distribution of Price Changes of WPI Items	
Figure A4	Group- wise Inflation Diffusion Index and Respective Overall YoY Inflation	
Annexure B	Technical Notes	34

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## **Review**

### **Inflation in Brief**

1. Headline CPI inflation increased by 13.8 percent on year-on-year basis in July 2011 as compared to 13.1 percent in the previous month and 12.3 percent in the corresponding month of last year.
2. CPI inflation on month-on-month basis increased by 1.8 percent in July 2011 as compared to 0.6 percent in the previous month and 1.2 percent in July 2010. Seasonally adjusted month-on-month CPI inflation, however, registered an increase of 0.9 percent in July 2011 compared with an increase of 0.8 percent a month earlier and 0.3 percent in July 2010.
3. Core inflation measured by 20% weighted trimmed mean CPI (Core Trim) increased by 12.3 percent in July 2011 (YoY) as compared to an increase of 12.0 percent in June 2011 and the same increase in July 2010.
4. Core Trim inflation has increased by 1.1 percent on month-on-month basis in July 2011 compared with 0.7 percent in June 2011 and the same increase in July 2010.
5. Core inflation measured by non-food non-energy CPI (Core NFNE) increased to 10.7 percent in July 2011 (YoY) compared with 10.4 percent a month earlier and 10.3 percent in July 2010.
6. Core NFNE inflation on month-on-month basis increased by 0.8 percent in July 2011 as compared to 0.9 percent a month earlier and 0.5 percent in July 2010.
7. WPI inflation on year-on-year basis increased to 21.1 percent in July 2011 compared with 23.9 percent a month earlier and 18.7 percent in July 2010.

8. WPI inflation on month-on-month basis declined by 0.6 percent in July 2011, in contrast with an increase of 0.2 percent a month earlier and an increase of 1.7 percent in July 2010.
9. SPI inflation on year-on-year basis increased by 16.5 percent in July 2011 compared with 16.3 percent a month earlier and 14.9 percent in July 2010.
10. SPI inflation month-on-month basis increased by 2.0 percent in July 2011 compared with 1.2 percent a month earlier and 1.8 percent in July 2010.

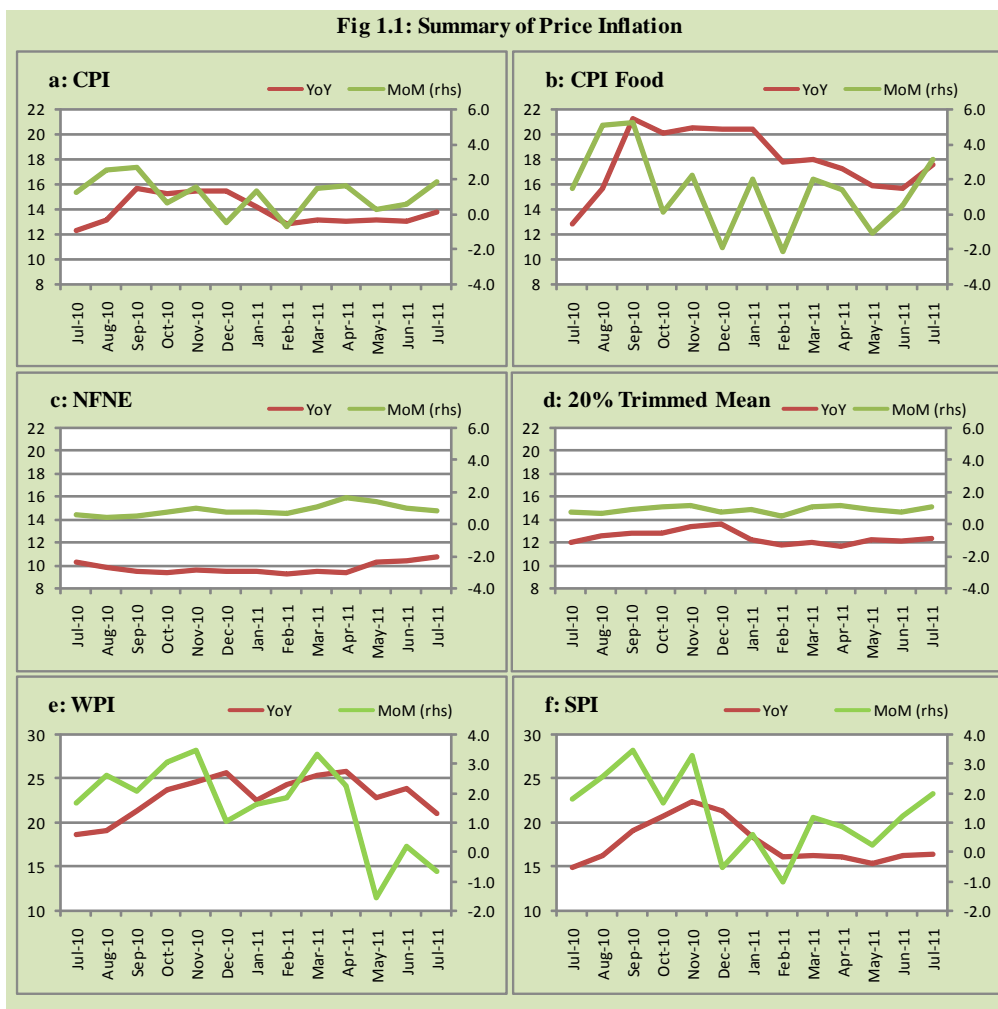
**Table 1.1 Inflation trends (percent)**

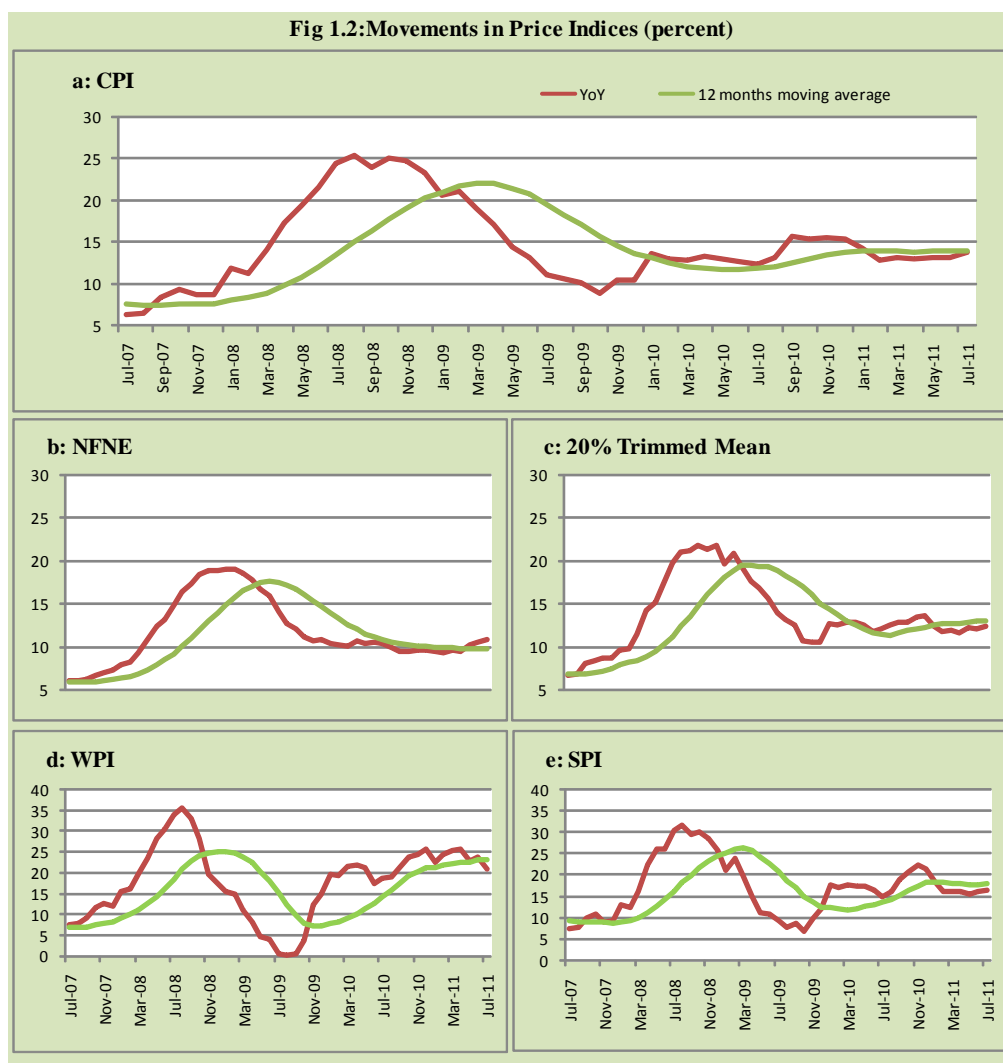
Period	CPI						Core Inflation				WPI		SPI**	
	General		Food		Non-food		NFNE*		Trimmed		YoY	MoM	YoY	MoM
	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM				
Jul-10	12.3	1.2	12.8	1.5	12.0	1.0	10.3	0.5	12.0	0.7	18.7	1.7	14.9	1.8
Aug-10	13.2	2.5	15.6	5.1	11.2	0.3	9.8	0.4	12.5	0.6	19.2	2.6	16.2	2.6
Sep-10	15.7	2.7	21.2	5.3	11.0	0.3	9.4	0.4	12.8	0.9	21.5	2.1	19.1	3.5
Oct-10	15.3	0.6	20.1	0.1	11.3	1.1	9.3	0.7	12.8	1.0	23.8	3.1	20.9	1.7
Nov-10	15.5	1.5	20.5	2.2	11.1	0.9	9.5	1.0	13.4	1.2	24.7	3.5	22.5	3.3
Dec-10	15.5	-0.5	20.4	-1.9	11.4	0.8	9.5	0.7	13.6	0.7	25.7	1.1	21.5	-0.5
Jan-11	14.2	1.3	20.4	2.1	9.0	0.6	9.4	0.7	12.2	0.9	22.6	1.6	18.4	0.6
Feb-11	12.9	-0.7	17.7	-2.1	8.9	0.5	9.2	0.6	11.7	0.4	24.4	1.9	16.2	-1.0
Mar-11	13.2	1.5	18.0	2.0	9.1	1.0	9.5	1.0	11.9	1.1	25.4	3.3	16.3	1.2
Apr-11	13.0	1.6	17.2	1.4	9.5	1.8	9.4	1.6	11.6	1.2	25.9	2.3	16.1	0.9
May-11	13.2	0.2	15.9	-1.1	11.0	1.4	10.2	1.3	12.1	0.9	22.9	-1.6	15.4	0.2
Jun-11	13.1	0.6	15.7	0.5	11.0	0.6	10.4	0.9	12.0	0.7	23.9	0.2	16.3	1.2
Jul-11	13.8	1.8	17.6	3.2	10.6	0.6	10.7	0.8	12.3	1.1	21.1	-0.6	16.5	2.0

\* NFNE is Non-food non-energy

\*\* SPI for all income groups combined

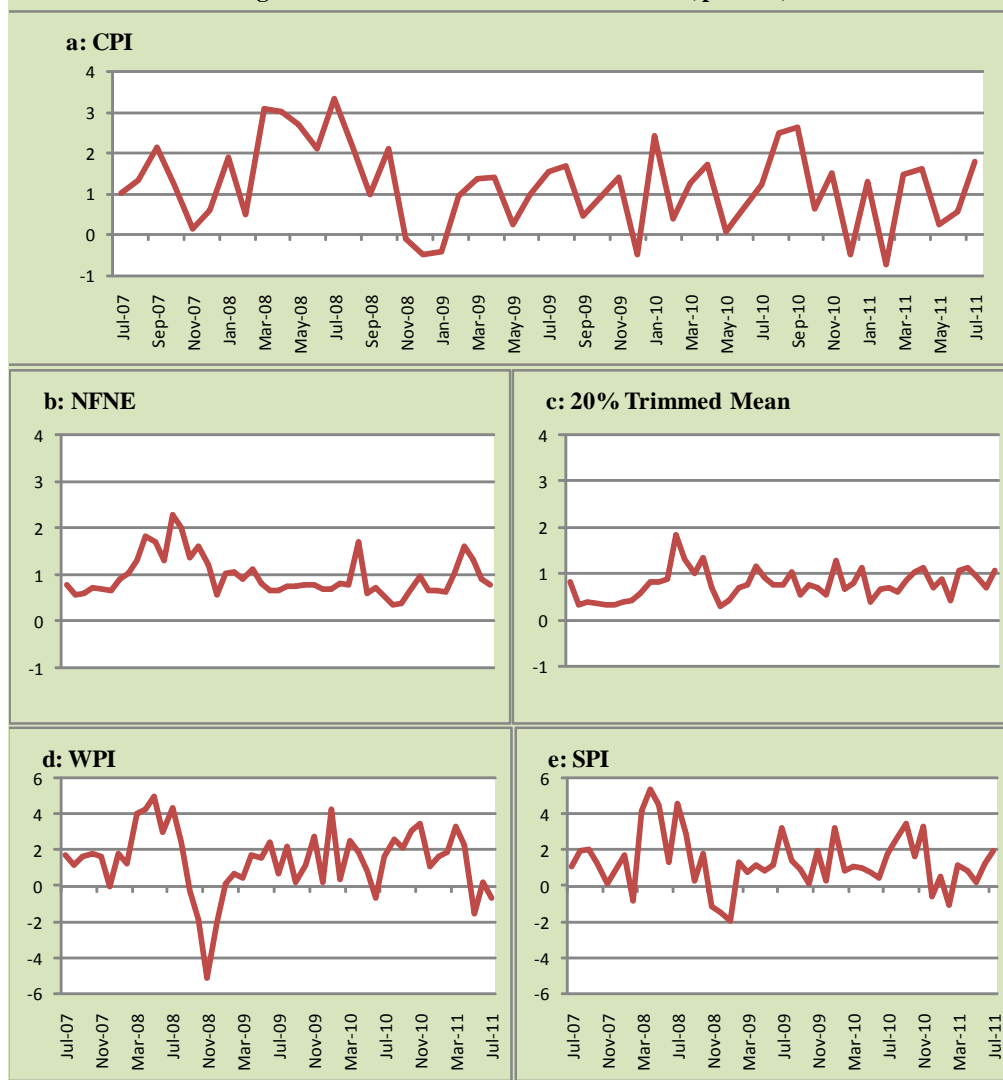
Fig 1.1: Summary of Price Inflation



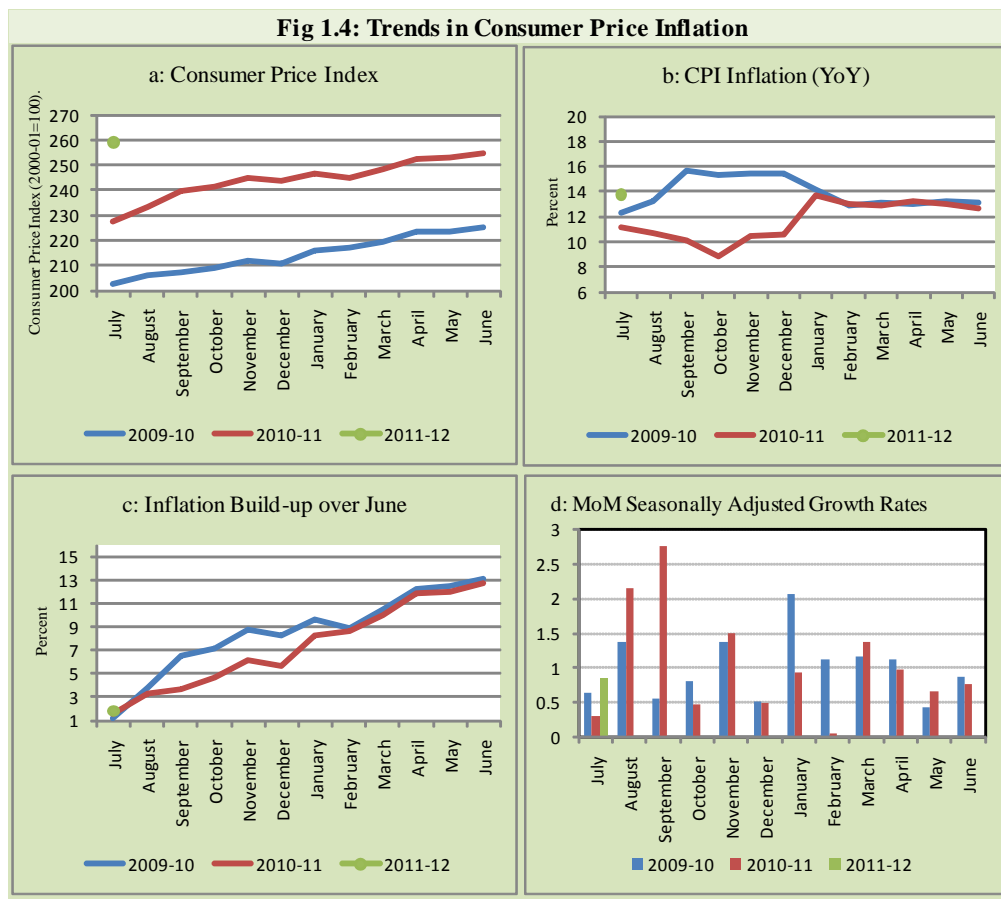




**Fig 1.3: Movements in Price Indices -MoM ( percent)**



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



## 2. City wise Inflation

Inflation in major cities of Pakistan showed mixed trend. The inflation in federal capital, Karachi and Lahore was lower than the overall inflation while two other provisional capitals were on upper side in July 2011 as compared to previous month. Among these five cities, the highest inflation was observed in Peshawar (Table A6).

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

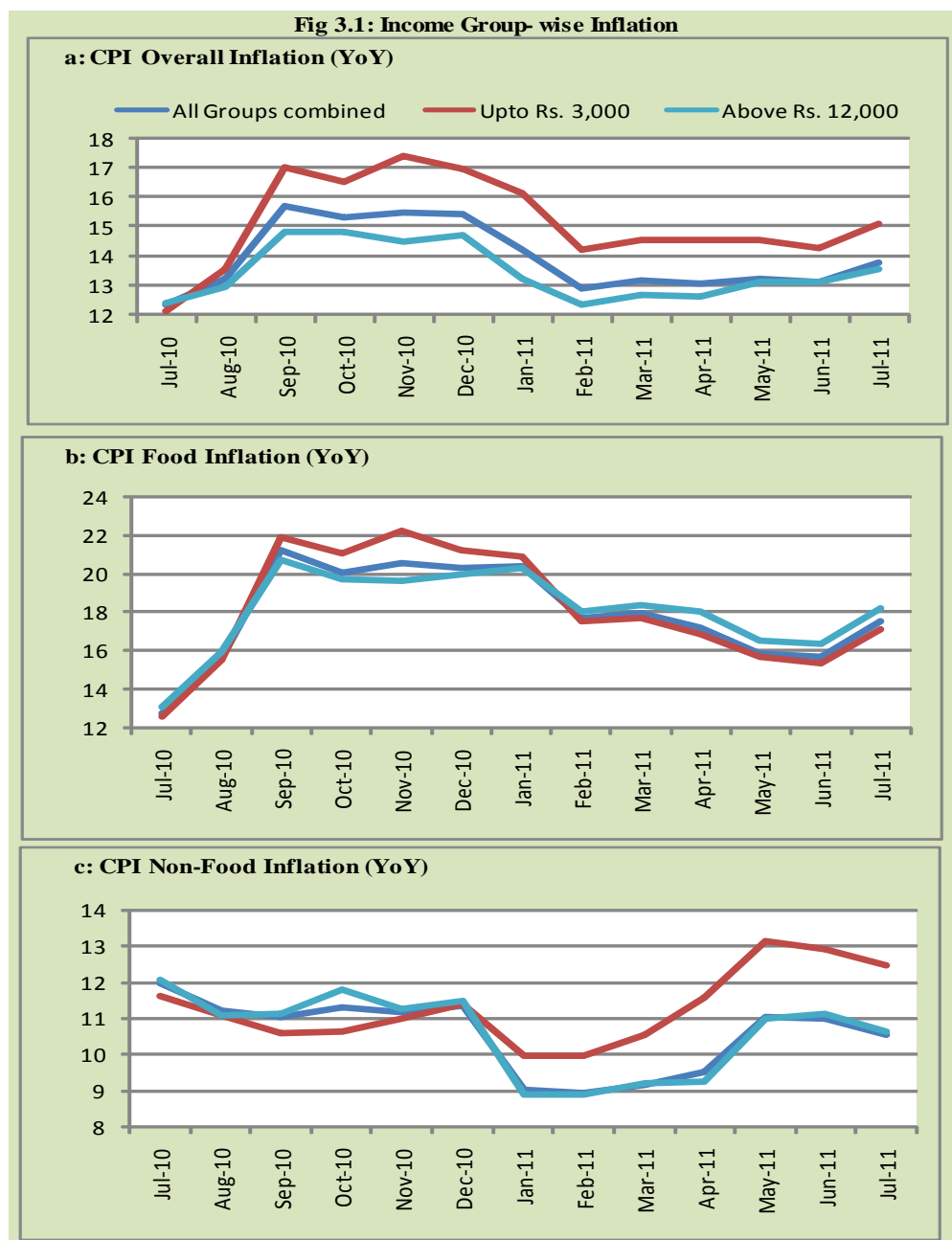
	Jul-10		Jun-11		Jul-11	
	MoM	YoY	MoM	YoY	MoM	YoY
<b>Over all CPI</b>		1.2 12.3		0.6 13.1		1.8 13.8
Islamabad		1.3 9.9		0.4 12.3		1.4 12.4
Karachi		0.7 13.1		1.4 10.5		1.0 10.7
Lahore		1.6 11.5		0.9 10.8		2.4 11.7
Peshawar		1.2 12.7		-0.3 13.8		2.1 14.7
Quetta		0.5 10.7		1.1 13.5		1.0 14.1

### 3. Income Group wise Inflation

Income group- wise data showed that income groups (up to Rs. 3,000 and Rs.3001-5000) have higher inflation than the overall inflation in CPI basket in July 2011 for general and non-food group. The highest income group (above Rs. 12, 000) has the highest food inflation which is 18.2 percent in July 2011 as compared to 17.6 percent of combined groups (Table A7).

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

Income Groups	General			Food			Non-food		
	Jul-10	Jun-11	Jul-11	Jul-10	Jun-11	Jul-11	Jul-10	Jun-11	Jul-11
<b>All Groups combined</b>	12.3	13.1	13.8	12.8	15.7	17.6	12.0	11.0	10.6
Upto Rs. 3,000	12.1	14.3	15.1	12.6	15.3	17.1	11.6	12.9	12.5
Rs. 3,001- 5,000	12.3	13.8	14.6	12.4	15.1	17.1	12.1	12.3	11.7
Rs. 5,001- 12,000	12.3	13.1	13.8	12.7	15.4	17.3	12.0	10.7	10.3
Above Rs. 12,000	12.4	13.1	13.6	13.1	16.3	18.2	12.0	11.1	10.6



#### 4. Weighted Contribution

The weighted contribution of food group increased to 58.39 percent during July 2011 from 54.44 percent in June 2011. This increase is more than 10 percent from the corresponding month of previous year.

The weighted contribution of non-food group showed decrease to 41.61 percent in July 2011 from 45.56 percent in June 2011.

**Table 4.1 Weighted Contribution to CPI Inflation (YoY)**

Period	Food	House rent	Fuel & lighting	Transport and communication	Others
Jul-10	47.18	16.18	13.13	9.46	14.05
Aug-10	54.19	14.05	11.82	7.45	12.50
Sep-10	61.99	10.99	9.75	6.72	10.54
Oct-10	60.11	10.55	10.20	8.12	11.01
Nov-10	61.21	10.00	10.02	6.94	11.83
Dec-10	59.97	9.85	10.93	8.50	10.75
Jan-11	65.25	10.39	5.11	6.30	12.95
Feb-11	62.08	11.39	5.75	6.61	14.17
Mar-11	62.11	11.29	5.59	5.66	15.35
Apr-11	60.23	11.91	6.24	5.53	16.10
May-11	54.68	12.61	7.17	8.67	16.87
Jun-11	54.44	13.71	6.46	8.11	17.27
Jul-11	58.39	14.05	4.34	7.05	16.17

## 5. Inflation Diffusion Index

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

Period	General	Food Beverages & Tobacco	Apparel, Textile & Footwear	Fuel & Lighting	Household Furniture & Equipment	Transport & Communication	Recreation & Entertainment	Education	Cleaning, Laundry & Personal Appearance	Medicare	NFNE
Jul-10	44.2	45.5	59.5	40.0	88.6	30.2	-6.3	12.5	55.6	10.3	44.1
Aug-10	47.1	66.7	61.9	26.7	90.9	30.2	18.8	12.5	13.9	3.4	39.4
Sep-10	47.1	57.5	69.0	20.0	88.6	20.9	0.0	20.8	38.9	20.7	45.3
Oct-10	55.2	52.7	81.0	73.3	93.2	44.2	25.0	16.7	61.1	17.2	55.1
Nov-10	46.0	37.4	76.2	20.0	95.5	30.2	18.8	29.2	58.3	10.3	52.1
Dec-10	43.5	32.7	81.0	53.3	93.2	27.9	12.5	0.0	52.8	13.8	48.7
Jan-11	49.4	60.0	78.6	20.0	84.1	30.2	31.3	25.0	27.8	13.8	47.0
Feb-11	48.5	42.2	78.6	20.0	86.4	53.5	31.3	16.7	44.4	17.2	53.8
Mar-11	54.7	62.0	78.6	40.0	88.6	32.6	18.8	25.0	66.7	10.3	52.1
Apr-11	52.7	31.8	76.2	33.3	93.2	55.8	31.3	58.3	72.2	20.7	62.3
May-11	46.5	22.0	64.3	53.3	97.7	30.2	43.8	58.3	75.0	10.3	58.5
Jun-11	40.8	43.6	59.5	0.0	40.9	18.6	25.0	62.5	66.7	13.8	43.6
Jul-11	50.6	61.8	69.0	26.7	88.6	23.3	31.3	4.2	55.6	17.2	48.7

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

## 6. Domestic Commodity Prices

**Table 6.1 Inflation in Domestic Food Commodities**

Item	Unit	Jul-10		May-11		Jun-11		Jul-11	
		YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM
1 Wheat	10 KG.	-1.8	-0.2	1.8	-9.4	1.9	0.1	5.2	3.1
2 Wheat Flour Bag	10 KG.	-0.3	-0.2	5.7	-4.9	4.5	-2.0	7.9	3.0
3 Rice Basmati Sup. Qlty.	KG.	1.4	0.2	12.7	0.4	12.0	-0.2	13.5	1.6
4 Pulse Masoor (Washed)	KG.	-0.1	-1.4	-7.9	-3.9	-9.8	-3.2	-9.0	-0.6
5 Pulse Moong (Washed)	KG.	111.0	-1.5	39.9	-1.5	21.4	0.5	24.1	0.7
6 Pulse Mash (Washed)	KG.	68.9	0.5	-2.6	-1.9	-5.6	-1.5	-6.5	-0.6
7 Pulse Gram	KG.	18.5	4.9	18.9	-3.1	18.9	0.2	19.2	5.2
8 Vegetable Ghee (Loose)	KG.	8.1	1.1	42.6	-0.9	44.5	1.4	42.2	-0.6
9 Sugar Refined	KG.	45.6	4.9	7.0	-2.0	8.9	5.6	7.0	3.1
10 Milk Fresh (Unboiled)	LTR.	16.1	1.1	20.4	3.3	20.6	2.0	20.8	1.2
11 Curd	KG.	14.1	1.0	19.7	4.1	20.2	2.1	20.5	1.2
12 Beef With Bone Av.Qlty.	KG	24.7	1.2	20.5	1.0	19.5	1.4	18.8	0.7
13 Mutton Av.Qlty.	KG	29.7	2.1	25.9	1.1	25.5	1.6	24.4	1.2
14 Chicken Farm Broiler (Live)	KG	13.8	3.3	-3.9	-8.2	4.4	3.3	19.9	18.7
15 Eggs Farm	DOZ	4.4	-0.7	9.1	-7.3	13.2	12.1	30.7	14.7
16 Potatoes	KG	-6.3	5.5	15.0	16.6	13.2	14.0	20.2	12.1
17 Onion	KG	-10.3	-0.4	-42.3	-18.7	-32.6	-7.2	-25.9	9.5
18 Tomatoes	KG	-10.7	32.4	-28.9	-45.2	-14.8	30.3	19.2	85.4
19 Ginger	KG	77.8	0.7	-7.8	-8.4	-13.7	0.0	-16.0	-2.0
20 Garlic	KG	189.6	13.3	8.4	-14.0	1.4	-3.3	-18.1	-8.5

## 7. Global Commodity Prices

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

Item/ Group	Jul-10		May-11		Jun-11		Jul-11	
	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM
<b>Overall</b>	16.4	1.5	39.9	-5.0	40.3	-1.5	40.8	1.9
Food	5.0	5.6	34.2	-1.9	33.1	-3.0	25.3	-0.6
Metals	27.2	2.8	50.5	-4.3	55.9	-1.6	55.9	2.8
Energy	17.4	0.3	40.8	-5.7	40.0	-1.5	43.2	2.5
Agricultural	23.2	0.7	29.3	-7.6	40.1	2.8	40.4	0.9
Cotton	29.9	-8.2	83.8	-23.6	79.9	-0.4	77.4	-9.5

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

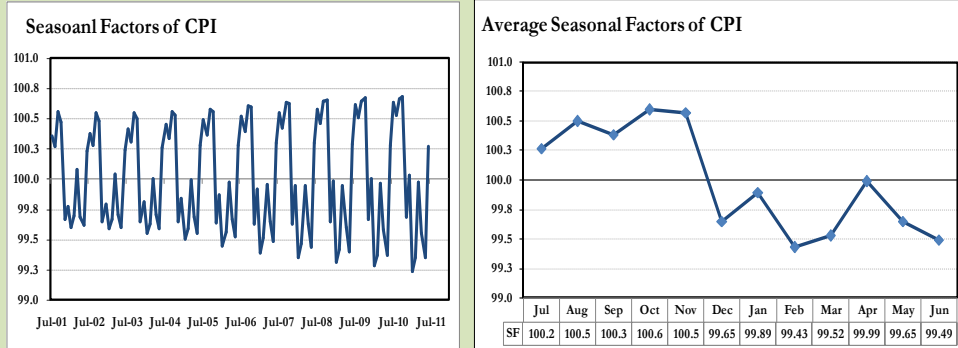
Seasonal adjustment is the process of estimating and removing the seasonal effects from a time series after decomposing it into seasonal, trend, cycle and irregular components. The purpose is to identify the different components of the time series and thus provide a better understanding of its underlying 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 2001 to July 2011 has been taken 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 five years. Average seasonal factors reveal strong seasonality during the calendar year. There is an upward seasonality during the months of 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 2.

**Fig. 8.2 Seasonal Plots of CPI Index**

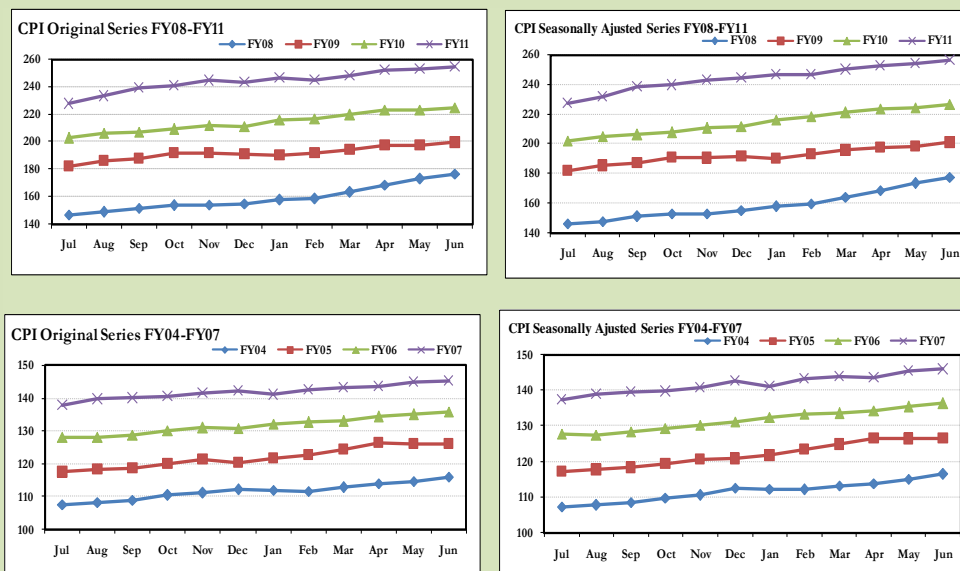


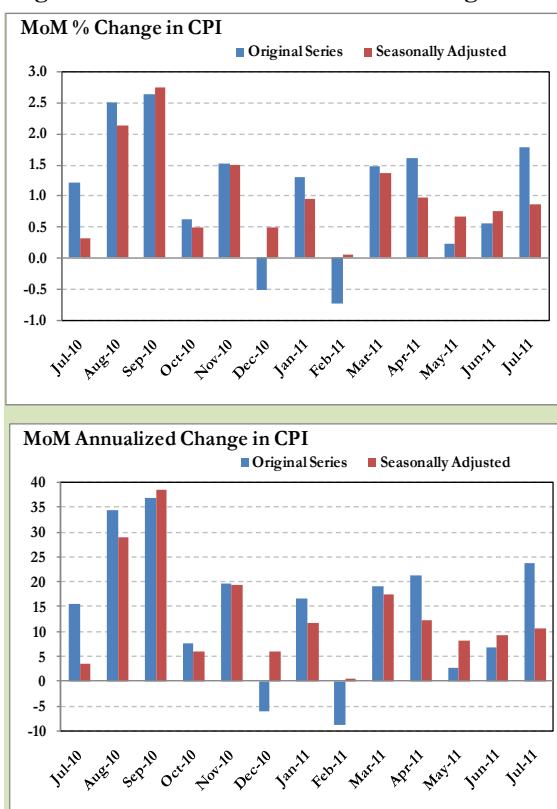
Figure 8.2 shows that seasonally adjusted series are relatively smoother than the original series due to the removal of the seasonal variations. The trend follows the long-term movement in original series, and is smoother than the original series because some irregular fluctuations have been removed.

Seasonally adjusted CPI index for June 2011 stood at 258.4 against 259.2 in Original series showing a decrease of 0.8 on account of adjustment of upward seasonality in July 2011.

Month-on-month change of seasonally adjusted series stood at 0.86% reflecting an increase during July over June 2011 as compared to 1.80% of the 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 July (corresponding to the seasonally adjusted month-on-month rate) is 10.82 percent.

**Fig. 8.3 Month-on-Month Percent Changes in CPI**



**Annexure A****Table A1: CPI Inflation by Groups (percent)**

	Weights	MoM change			YoY change		
		Jul-10	Jun-11	Jul-11	Jul-10	Jun-11	Jul-11
<b>I. Food Group</b>	<b>40.3</b>	<b>1.5</b>	<b>0.5</b>	<b>3.2</b>	<b>12.8</b>	<b>15.7</b>	<b>17.6</b>
<b>II. Non-Food Group</b>	<b>59.7</b>	<b>1.0</b>	<b>0.6</b>	<b>0.6</b>	<b>12.0</b>	<b>11.0</b>	<b>10.6</b>
Apparel, Textile & Footwear	6.1	1.2	0.5	0.9	10.3	13.5	13.1
House Rent	23.4	0.4	1.0	1.0	8.8	8.1	8.8
Fuel & Lighting	7.3	3.9	-0.5	0.7	21.8	10.8	7.4
Household Furniture & Equipment	3.3	1.1	0.1	1.4	7.9	11.2	11.6
Transport & Communication	7.3	0.4	-0.3	-0.7	17.0	14.8	13.6
Recreation & Entertainment	0.8	0.0	0.1	1.0	14.4	0.8	1.9
Education	3.5	0.1	1.6	0.0	8.4	7.4	7.3
Cleaning, Lauundry & Personal Appearance	5.9	0.9	1.7	0.4	10.9	17.6	17.0
Medicare	2.1	0.4	0.6	0.4	11.0	17.3	17.3
<b>Headline</b>	<b>100.0</b>	<b>1.2</b>	<b>0.6</b>	<b>1.8</b>	<b>12.3</b>	<b>13.1</b>	<b>13.8</b>

**Table A2: Distribution of Price changes of CPI basket (YoY)**

Table A2: Distribution of Price changes of CPY basket (FY)												
Groups	% changes	Total number of items	No of items in each inflation range									
			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)			
			Jul-10	Jul-11	Jul-10	Jul-11	Jul-10	Jul-11	Jul-10	Jul-11	Jul-10	Jul-11
I. Food Group	17.6	111	111	16	7	16	3	14	15	65	86	
II. Non-Food Group	10.6	250	250	50	52	37	40	68	42	95	116	
Apparel, textile, etc	13.1	42	42	5	8	2	1	20	2	15	31	
House rent	8.8	1	1	0	0	0	0	1	1	0	0	
Fuel & Lighting	7.4	15	15	1	5	0	3	0	3	14	4	
Household furniture & equip	11.6	44	44	1	1	12	2	20	13	11	28	
Transport & communication	13.6	43	43	14	7	5	6	7	6	17	24	
Recreation & entertainment	1.9	16	16	5	7	4	7	2	0	5	2	
Education	7.3	24	24	5	4	4	10	7	8	8	2	
Cleaning, laundry, etc	17.0	36	36	6	4	5	6	9	9	16	17	
Medicines	17.3	29	29	13	16	5	5	2	0	9	8	
Overall	13.8	361	361	66	59	53	43	82	57	160	202	
Note: Prices of 13 seasonal items were not reported during the month.												

Note: Prices of 13 seasonal items were not reported during the month.

**Table A3: Top ten contributors to YoY CPI Inflation in July 2011**

Items/ Contributors	Weights	YoY Change		Weighted
		Jul-10	Jul-11	Contribution
A. Ranked by Weighted contribution				
1 House Rent Index	23.43	8.78	8.79	14.05
2 Milk Fresh	6.66	15.98	20.82	11.91
3 Vegetable Ghee	2.67	7.70	37.87	8.10
4 Meat	2.70	26.58	21.01	6.41
5 Fresh Fruits	1.62	8.31	38.53	4.93
6 Wheat Flour	5.11	-0.42	6.90	3.16
7 Petrol	1.73	12.11	23.78	2.92
8 Readymade Food	1.68	12.40	18.94	2.67
9 Spices	0.60	22.36	53.56	2.51
10 Rice	1.34	0.87	20.53	2.46
Total	47.53			59.09
B. Ranked by Percentage change				
1 Spices	0.60	22.36	53.56	2.51
2 Fresh Fruits	1.62	8.31	38.53	4.93
3 Vegetable Ghee	2.67	7.70	37.87	8.10
4 Jewellery	0.39	34.17	33.59	1.90
5 Cooking Oil	0.69	3.33	32.71	1.68
6 Eggs	0.41	4.38	30.71	0.92
7 Gram Whole	0.15	9.38	29.74	0.29
8 Kerosene	0.14	12.04	26.19	0.53
9 Diesel	0.21	18.99	26.18	0.80
10 Toilet Soap	0.74	4.45	26.16	1.21
Total	7.61			22.85
C. Ranked by Weights				
1 House Rent Index	23.43	8.78	8.79	14.05
2 Milk Fresh	6.66	15.98	20.82	11.91
3 Wheat Flour	5.11	-0.42	6.90	3.16
4 Electricity	4.37	27.63	4.61	1.31
5 Bakery & Confectionary	2.98	4.58	7.91	1.15
6 Meat	2.70	26.58	21.01	6.41
7 Vegetable Ghee	2.67	7.70	37.87	8.10
8 Tution Fees	2.36	8.00	8.50	1.22
9 Transport Fare/Charges	2.12	16.70	10.59	2.12
10 Natural Gas	2.05	19.50	5.18	1.11
Total	54.45			50.51

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 13.8 percent in July, 2011.

Table A4: Distribution of Price Changes (YoY) - Selected CPI Items: July 2011				
Groups	Decrease or no change	Subdued increase (Up to 5%)	Moderate increase (5 to 10%)	More than 10% increase
Food Group	<p> Tofee (Hilal),Pulse Masoor (Washed),Pulse Mash (Washed),Onion,Ginger,Garlic,Chowkelate Candy (Small Size), </p>	<p> Wheat Flour Fine/Superior,,Maida,Coffee-Nescafe 75 Gm., </p>	<p> Wheat,Wheat Flour Bag,Vinegar Synthetic (Sirka),Vernicelli,Sugar Refined,Lactogen 400 Grams,Jam Ahmed/Mitchelles, Curry Powd. National 200 Gm,Corriander Seed Powd.Nationa,Cucumber (Kheera), </p>	<p> Watermelon (Turbooz),Vegetable Ghee Tin,Vegetable Ghee (Loose),Turmeric Powd.National 250Gm,Turai,Tomatoes,Tomato Ketchup Ahmed/Mitchl,Tinda,Tea(L/R) Brookbond Supreme 250Gm,Tea Prepared (Ordinary), </p>
Apparel & Textile	<p> Nylon Jogger 27 Size 2-5,Ladies Spoung Chappal Bata,Ladies Sandal Bata,Gents Spoung Chappal Bata,Gents Shoes Paul Bata,Gents Shoe, Art 1109 Service,Gents Sandal Bata,Child Shoe Power Lite Bata, </p>	<p> Pullover Gents Oxford/Bon., </p>	<p> Tailoring Coat-Pant Suit,Pullover Ladies Oxford/Bon., </p>	<p> Voi! Av. Qty.,Vest For Men Av.Qty.,Underwear Av.Qty Medium Siz,Tropical Suiing Law.Pur,Tailoring Suit Female,Tailoring Shirt,Tailoring Awani-Suit (Male),Socks Nylon (Pakistani),Shoe Repair Half Sole,Shirting Av.Qty., </p>
House Rent Index	House Rent Index,			
Fuel & Lighting	<p> Match Box,Small,Gas Chrg 10.1157 - 13.4876Mmbtu,Gas Chrg Upto 3.3719 Mmbtu,Gas Chrg 6.7438 - 10.1157Mmbtu,Gas Chrg 3.3719 - 6.7438 Mmbtu, </p>	<p> Elect.Charges Upto 50 Units,Elect.Charges Above 1000 Uni,Elect.Charges 301 - 1000 Uni, </p>	<p> Tube Light Philips 40 Watts,Elect.Charges 101 - 300 Unit,Elect.Charges 01 - 100 Unit, </p>	<p> Kerosene Oil,Gas Cylinder Stand. Size,Firewood Whole,Bulb Philips 100-Watts , </p>
Household Furniture & Equipment	<p> Washing Machine Singer, </p>	<p> Wall Clock Quartz Av.Qty,Carpet Plain Av. Qty, </p>	<p> Water-Set S.Steel Sup.Qty,Tea-Set S.Steel 3 Pcs. M.Siz,Sofaset Wooden With Foam Sea,Single Bed Without Foam Med.,S.Steel Deghchi Medium Size,Refg. Dawlence 10 Cft. D,Doo,Pedestal Fan 22" Super Qty,Household Servant Female P/T,Gas Burner Double Spfy,Brand,Electric Juicer For Apple, </p>	<p> Water Cooler 9/10 Ltr,Plasti,Towel(3'X2') Av. Qlty,Thermos Starvac 1 Ltr,Tea Set Pak. Chinaware 21 Pc,Table Spoon S.Steel Sup.Qty,Table Shesham Wood (4X2X5"),Suitcase Resin (24"X16"X6"),Sewing Thread/Reel(Ash Pari,Sewing Machine(Singer),S.Steel Plate A.Qty.(M.Size, </p>
Transport & Communication	<p> U.M.S. Reg Charges Min.,Telephone Charges Local Call,Tel Charges Out Side City,Postal Registration Charges,Postal Envelope Domestic,Platform Ticket,Aerogram For Saudi Arabia, </p>	<p> Suzuki Fare Min.With In City,Suzuki Fare Maximum W.In Ctr,Motorcycle Honda Cd-70 ,Minibus Fare MaxWith In Ctr,Internet Charges,Bus Fare Max (Within Ctr, </p>	<p> Motorcycle Yamaha 100Cc.,Minibus Fare Min.With In Ctr,Cng Filling Charges,Car Suzuki 800 Cc (W/O. A/C),Bus Fare Outside City,Bus Fare Min (Within City), </p>	<p> Tyre Motor Cycle Without Tub,Tyre Cycle Specify Brand Nam,Tyre Car With Tube General,Train Fare 1st Slip.101-500 K,Train Fare 1st Slip. 01-100Km,Train Fare 1st Slip. &gt; 500 Km,Train Fare Eco. 1-100 Km,Train Fare Eco. 101-500 Km,Train Fare Eco. &gt; 500 Km,Train Fare A/C Slip.101-500Km, </p>
Recreation & Entertainment	<p> Weekly "Mag",Weekly "Akhbar-E-Jahan",Video Game Sega 16 Byte,Tv.Licence Feedomestic,Daily "Nawa-E-Waqt",Daily "Jang",Daily "Dawn", </p>	<p> Vid. Cassette Blk. Tdk/Sony,V.C.P. Panasonic/Lg/Nat,Tape Recorder Cassette Blan,T.V. 20" Colored With R/Cont,Radio With C.Player National,Cinema Non-A/C High Class,Cinema A/C. Highest Class, </p>	Monthly "Naunehal Digest",Dry Cell 1.5 Volt(Local),	
Education	<p> Govt. College Fee 1st. Year,Govt. College Fee 4Th. Year,English Book Class VI,Eng. Book 1st.Yr Complete Se, </p>	<p> Urdu Book 1st.Year/Inter,Urdu Book Class V (T.B.Bord),Urdu Book Class IvX(T.B.B),Maths Book 1st.Year (T.B.B),Maths Book Calss V (T.B.B),Govt. Engg. Coll. Fee I Year,English Book Class Ix Or X,Comp. With Printer &amp; Speaker,Com. C.D. (Tdk/Imation),Ball Pen (Local), </p>	<p> School Fee Primary Eng.Med.,School Fee 2Nd-Ry Eng.Med.,Pencilgoldfish/Deer,Pen Ink Dollor 57 Ml Bottle,Paper Foolscape (27"X17"),Maths Book Class Ix Or X,Fountain Pen Youth China.Exercise.Book Lined 80/100 P, </p>	<p> Govt. University Fee Msc.,Govt. Med. College Fee Mbbs, </p>
Cleaning & Laundry	<p> Toothpowder Dentonic 90 Gm,Toothpaste Macklines 70 Gm,Surf (Medium) 160 Gm,Lipstick S.Miss/Medora, </p>	<p> Wrist Watch Ladies Citizen,Wrist Watch Gents Citizen,Washing Powder 1000 Gm,Hair-Colour Begin (6 Gms),Facecream Ponds (Medium),Disposable Razor Gillet-II, </p>	<p> Toothbrush Sheild A/Plauque,Toilet Paper Roll (R.Petel),Tissu Paper Perfumed 100 Pcs,Shaving Cream Touch-Me/Adm,Shampoo Plain Medora 200 Ml,Perfume Med.Size Medora/Broa,Nail Polish S.Miss/Medora,Cleanser Powder Vim 1000 Gm,Brylcreem 210 Ml, </p>	<p> Washing Soap Nyl(135-160Gms),Washing Ch. Shirt,Washing Ch. (Kaniz-Shalwar),Toilet Soap Lux 95 Grams,Toilet Soap Lifebouy 140 Gm,Talc Powder Vice Roay,B.Cat.Silver Tezabi 24 Ct,Robin Blue (35 Grams),Hair-Oil Amla/Chambeli,Haircut Charges For Men, </p>
Medicare	<p> Septtran Tablets,Sancos Syrup (50 Ml),Renitec Tab. 5 Mg.,PolyfaxEye Ointment,Phenergan Syrup 120 Ml,Jouhar Joshanda,Hydrylin Syrup 120 Ml,Flagyl Tab. 200 Mg.,Disprin Tab.,Dettol (Medium), </p>	<p> Ventolin Tab. 2Mg.,Panadol Tab. Extra/Plain,Lederplex Syrup,Daonil Tab. 5 Mg.,Amoxil Capsule 250 Mg.S, </p>	<p> Thermometer China,O.R.S. (Nimcol),Gripe-Water Woodward's,Gabos-D (450 Gms),Entox Tab.,Doctor (Mbbs) Clinic Fee,Cotton Bandage 2" - 4",Calcium Syrup Sandoz, </p>	

**Table A5: City- wise Inflation by Income Groups, July, 2011**

	Upto Rs: 3000						Rs 3001- 5000					
	General		Food		Non-Food		General		Food		Non-Food	
	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY
1 Lahore	2.5	12.9	4.1	15.6	0.1	8.9	2.8	12.8	5.0	16.4	-0.1	8.2
2 Faisalabad	2.8	11.3	5.0	12.8	-0.4	9.1	2.8	11.8	5.0	12.5	0.1	10.9
3 Rawalpindi	1.8	12.9	2.8	16.3	0.4	8.1	2.1	12.4	3.5	15.7	0.3	8.4
4 Multan	2.0	14.6	3.3	15.9	0.3	13.0	2.4	14.0	3.9	15.8	0.4	11.7
5 Gujranwala	3.2	14.0	4.9	17.6	0.6	8.9	3.1	13.6	5.0	17.4	0.7	8.9
6 Islamabad	2.0	13.3	3.6	19.0	-0.2	5.9	2.4	13.5	4.6	19.1	-0.5	6.5
7 Sargodha	2.8	13.8	4.2	14.0	1.1	13.6	2.9	13.7	4.2	13.6	1.3	13.8
8 Sialkot	1.4	9.2	2.6	10.2	-0.3	7.9	1.8	9.6	3.0	10.9	0.1	7.8
9 Bahawalpur	3.5	16.9	5.7	17.6	0.6	16.0	3.1	16.3	5.1	17.4	0.5	14.9
10 Karachi	1.2	11.8	1.8	14.9	0.4	7.6	1.2	10.9	1.8	13.4	0.4	7.8
11 Hyderabad	1.9	15.1	2.8	16.9	0.6	12.6	1.9	14.9	2.9	17.6	0.7	11.4
12 Sukkur	1.1	15.4	1.3	20.6	0.8	8.5	1.1	14.6	1.4	19.2	0.7	9.3
13 Larkana	1.9	17.4	2.6	21.7	0.9	11.6	2.2	17.5	2.8	21.4	1.3	12.8
14 Peshawar	1.9	16.6	2.9	17.8	0.6	15.0	2.2	16.4	3.5	17.6	0.7	15.0
15 Bannu	2.5	14.1	2.9	14.9	2.0	13.1	3.0	14.2	3.7	15.1	2.1	13.1
16 Quetta	1.0	16.2	1.0	19.1	1.1	12.2	1.2	14.8	1.3	18.6	0.9	9.9
17 Khuzdar	0.3	19.2	0.1	18.5	0.6	20.2	0.4	18.4	0.3	17.6	0.6	19.3
	Rs 5001- 12000						above Rs 12000					
	General		Food		Non-Food		General		Food		Non-Food	
	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY
1 Lahore	2.7	11.9	5.1	16.8	-0.1	6.6	2.0	11.3	5.0	17.5	0.0	7.2
2 Faisalabad	2.6	11.2	4.7	13.1	0.4	9.2	2.0	11.2	4.4	14.7	0.4	8.9
3 Rawalpindi	1.9	12.2	3.4	16.1	0.4	8.1	1.4	13.2	3.5	17.5	0.2	10.7
4 Multan	2.3	13.0	4.0	15.9	0.4	9.9	1.8	12.4	3.9	16.6	0.4	9.7
5 Gujranwala	2.7	13.0	4.6	17.7	0.7	8.2	2.0	12.3	3.7	17.9	0.9	8.8
6 Islamabad	2.1	12.1	4.6	18.6	-0.5	5.7	1.3	12.5	4.5	19.6	-0.8	8.2
7 Sargodha	3.2	13.9	4.5	13.9	1.9	14.0	3.0	15.4	5.1	15.6	1.7	15.4
8 Sialkot	1.8	9.1	3.2	10.6	0.3	7.3	1.5	9.1	3.1	10.2	0.4	8.4
9 Bahawalpur	2.8	15.4	5.0	18.4	0.5	12.0	2.2	15.5	4.8	20.6	0.5	12.1
10 Karachi	1.2	10.5	1.9	13.4	0.4	7.6	0.7	10.8	1.9	15.2	0.0	8.2
11 Hyderabad	1.8	14.3	2.8	17.6	0.7	10.8	1.7	14.4	3.3	18.9	0.7	11.6
12 Sukkur	1.0	14.3	1.3	19.3	0.7	9.4	1.3	14.4	1.9	19.6	0.9	11.5
13 Larkana	2.1	17.1	2.8	21.8	1.5	12.4	1.6	17.2	2.3	22.2	1.1	14.2
14 Peshawar	2.1	14.9	3.8	17.6	0.4	12.3	1.9	14.1	4.5	17.8	0.4	11.9
15 Bannu	3.3	14.1	4.6	15.6	2.0	12.7	3.4	14.7	5.2	17.2	2.4	13.2
16 Quetta	1.0	14.1	1.3	18.6	0.7	9.3	1.0	14.0	1.7	18.8	0.5	11.0
17 Khuzdar	0.7	15.9	0.7	15.7	0.7	16.1	0.6	13.9	0.6	13.8	0.7	14.0

**Table A6: City- wise Inflation in CPI (YoY) July, 2011**

	High inflation cities				Low inflation cities		
	General	Food	Non-food		General	Food	Non-food
Loralai&Cantt	20.2	26.1	15.7	Abbotabad	13.6	16.9	11.0
Khuzdar	19.4	20.4	18.5	D.G. Khan	13.2	16.5	10.6
Jhang	17.9	18.8	17.1	Mianwali	13.2	12.9	13.5
Bahawalnagar	17.8	17.9	17.6	Multan	13.0	16.1	10.3
D.I.Khan	17.7	22.3	13.9	Gujranwala	12.9	17.7	9.0
Larkana	17.2	21.8	13.5	Shahdadpur	12.8	14.6	11.3
Samundari	15.8	19.2	13.2	Rawalpindi	12.7	16.7	9.5
Bahawalpur	15.7	18.7	13.1	Islamabad	12.4	19.4	6.8
Kunri	15.6	17.9	13.8	Lahore	11.7	17.0	6.9
Mirpur Khas	15.4	19.6	12.1	Attock	11.3	13.4	9.6
Turbat	15.1	18.5	12.6	Faisalabad	11.3	13.8	9.0
Mardan	15.0	16.4	13.8	Karachi	10.7	14.2	7.9
Peshawar	14.7	17.7	12.3	Sialkot	9.1	10.4	7.9
Okara	14.5	17.2	12.4				
Sukkur	14.4	19.4	10.5				
Hyderabad	14.3	17.9	11.4				
Bannu	14.3	15.9	13.0				
Sargodha	14.3	14.3	14.3				
Nawabshah	14.3	16.5	12.5				
Vehari	14.3	16.7	12.2				
Jehlum	14.2	18.2	10.8				
Quetta	14.1	18.7	10.2				

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

**Table A7 : Income Group-wise Inflation ( percent)**

	MoM			YoY		
	Jul-10	Jun-11	Jul-11	Jul-10	Jun-11	Jul-11
<b><u>Upto Rs. 3000</u></b>						
General	1.4	0.7	2.1	12.1	14.3	15.1
Food	1.5	0.6	3.1	12.6	15.3	17.1
Non-food	1.3	0.7	0.9	11.6	12.9	12.5
<b><u>Rs. 3001- 5000</u></b>						
General	1.4	0.7	2.1	12.3	13.8	14.6
Food	1.5	0.6	3.2	12.4	15.1	17.1
Non-food	1.4	0.7	0.8	12.1	12.3	11.7
<b><u>Rs. 5001- 12000</u></b>						
General	1.3	0.6	2.0	12.3	13.1	13.8
Food	1.5	0.6	3.2	12.7	15.4	17.3
Non-food	1.1	0.5	0.7	12.0	10.7	10.3
<b><u>Above Rs. 12000</u></b>						
General	1.1	0.5	1.5	12.4	13.1	13.6
Food	1.5	0.4	3.1	13.1	16.3	18.2
Non-food	0.9	0.5	0.5	12.0	11.1	10.6
<b><u>All income groups</u></b>						
General	1.2	0.6	1.8	12.3	13.1	13.8
Food	1.5	0.5	3.2	12.8	15.7	17.6
Non-food	1.0	0.6	0.6	12.0	11.0	10.6

**Table A8: SPI Item-wise price movements**

S.No.	Items	Unit	Prices	Percentage change	
			Jul-11	YoY	MoM
1	Wheat	Kg.	25.4	6.1	3.5
2	Wheat Flour A.Qlt.	Kg.	29.7	9.1	3.9
3	Rice Basmti.Broken	Kg.	57.3	28.4	4.1
4	Rice Irri-6	Kg.	43.7	25.4	2.8
5	Masur Pulse Washed	Kg.	107.5	-8.5	-1.6
6	Moong Pulse Washed	Kg.	140.3	21.9	0.0
7	Mash Pulse Washed	Kg.	154.5	-7.7	-0.7
8	Gram Pulse Washed	Kg.	72.4	19.9	4.0
9	Beef	Kg.	233.7	19.7	1.9
10	Mutton	Kg.	451.1	21.9	1.5
11	Egg Hen (Farm)	Doz.	79.0	31.3	18.4
12	Bread Plain M.S.	Each	30.4	11.2	0.7
13	Sugar	Kg.	71.3	7.1	3.4
14	Gur	Kg.	86.0	13.9	3.3
15	Milk Fresh	Litr	55.9	20.8	-0.2
16	Milk Powdered Nido	400G	229.9	14.9	-0.1
17	Curd	Kg.	65.2	19.2	0.7
18	Veg.Ghee Tin	2.5K	495.0	32.7	0.0
19	Veg.Ghee Loose	Kg.	166.2	40.8	-0.2
20	Mustard Oil	Kg.	169.7	24.5	0.7
21	Cooking Oil	2.5L	495.0	32.7	0.0
22	Potatoes	Kg.	31.6	10.9	7.8
23	Onions	Kg.	18.2	-20.3	25.1
24	Tomatoes	Kg.	41.9	10.5	50.9
25	Bananas	Doz.	57.6	20.6	-5.2
26	Salt Powdered	Kg.	7.7	12.5	0.0
27	Red Chillies (Powd)	Kg.	253.4	40.3	-0.6
28	Garlic	Kg.	146.1	-22.2	-8.2
29	Tea Packet	250G	151.3	16.2	0.0
30	Tea (Prepared)	Cup	13.7	23.9	0.0
31	Cooked Beef Plate	Each	57.3	16.9	0.9
32	Cooked Dal Plate	Each	35.9	17.0	0.2
33	Cigarettes K-2	10'S	15.0	8.4	3.3
34	Coarse Latha	Mtr.	71.3	40.2	3.3
35	Lawn (Avg.+S.Qlty)	Mtr.	126.5	19.9	0.9
36	Voil Printed	Mtr.	66.0	23.9	2.3
37	Shirting	Mtr.	100.5	20.4	2.8
38	Sandel Gents Bata	Pair	499.0	0.0	0.0
39	Sandel Ladies Bata	Pair	399.0	5.3	0.0
40	Chappal Spng. Bata	Pair	139.0	7.8	0.0
41	Kerosene	Litr	96.6	25.8	-0.1
42	Firewood	40Kg	395.4	26.0	0.9
43	Elec. Bulb 60-Wats	Each	24.4	3.0	0.1
44	Match Box	Each	1.0	3.0	0.0
45	Washing Soap	Cake	17.3	28.5	2.1
46	Bath Soap Lifebuoy	Cake	30.0	26.1	2.4
47	Chicken (Farm)	Kg.	160.8	21.9	16.6
48	Gas Chrg. All Slabs Combd	Mmbt	115.4	-65.8	-65.8
49	L.P.G.(Cylender 11Kg.)	Each	1345.6	38.1	14.5
50	Elec.Chrg.All Slabs Combd	Unit	4.5	-47.1	-50.3
51	Petrol	Litr	84.6	23.3	-3.4
52	Diesel	Litr	92.9	28.5	-2.1
53	Telephone Local	Call	3.6	0.0	0.0
<b>Maximum</b>				<b>40.8</b>	<b>50.9</b>
<b>Median</b>				<b>19.7</b>	<b>0.7</b>
<b>Minimum</b>				<b>-65.8</b>	<b>-65.8</b>



Table A9: Distribution of Price Change (YoY) - WPI Items : July 2011

Groups	Decrease or no change	Subdued increase (Up to 5%)	Moderate increase (5 to 10%)	More than 10% increase
<b>Food</b>	Onions, Jowar, Masoor, Mash	Sugar Confectionary, Vegetables, Condiments, Gur	Fish, Maida, Sugar Refined, Wheat, Wheat Flour, Tomatoes	Beans, Maize, Tea, Powdered Milk, Beverages, Fruit Prepared/Preserved, Vegetables Prepared/Preserved, Chicken, Oil Cakes, Besan, Fresh Milk, Gram Split, Meat, Milk Food, Fresh Fruits, Bajra, Salt, Potatoes, Moong, Dry Fruits, Mineral Water, Cooking Oil, Eggs, Rice, Mustard & Rapeseed Oil, Cotton Seed Oil, Vegetable Ghee
<b>Raw Material</b>	Pig Iron	Cotton	Tobacco	Wool, Sugar Cane, Skins, Mustard/Rapeseeds, Hides, Cotton Seeds
<b>Fuel &amp; Lighting</b>	Natural Gas	Electricity Ind. Supply Tariff-B, Elec. Agricul		Motor Sprit, Mobil Oil, Kerosine Oil, Furnace Oil, Fire Wood, Diesel Oil, Coke, Coal
<b>Manufacture</b>		Woolen Textiles, Sole Leather, Foot Wear, Dying Materials, Cigarettes	Ready Made Garments, Chrome Leather, Audio-Visual Instruments	Utensils, Tyres, Tubes, Transports, Soaps, Silk & Reyon Textiles, Plastic Products, Pesticides & Insecticised, Paper, Other Electrical Goods, Nylon Yarn, Mattresses, Matches, Machinery, Jute Manufactures, Hosiery, Glass Products, Fertilizers, Drugs & Medicines, Cotton Yarn, Cotton Textiles, Cosmetics, Chemicals, Blended Yarn
<b>Building Material</b>		Tiles, Sanitary Wares	Timber, Pipe Fittings, Glass Sheets	Wires And Cables, Paints & Varnishes, Iron Bars & Sheets, Cement, Cement Blocks, Bricks

<b>Table A10: Consumer Price Index Numbers by Major Groups and Selected Commodities</b>				
Items and specification	Weights	Index		
		Jul-10	Jun-11	Jul-11
<b>General</b>	<b>100.00</b>	<b>227.79</b>	<b>254.57</b>	<b>259.15</b>
<b>Food &amp; Beverages.</b>	<b>40.34</b>	<b>258.19</b>	<b>294.29</b>	<b>303.58</b>
1 Wheat	0.48	277.68	283.54	292.22
2 Wheat Flour	5.11	280.45	291.82	299.81
3 Maida	0.11	270.73	277.15	281.59
4 Besan	0.13	215.68	250.61	260.00
5 Rice	1.34	280.72	328.68	338.35
6 Pulse Masoor	0.22	329.27	301.31	299.59
7 Pulse Moong	0.22	380.22	468.48	471.79
8 Pulse Mash	0.20	366.48	344.47	342.54
9 Pulse Gram	0.43	208.54	236.21	248.60
10 Gram Whole	0.15	203.42	246.61	263.92
11 Mustard Oil	0.05	250.00	305.26	307.68
12 Cooking Oil	0.69	234.30	310.94	310.94
13 Vegetable Ghee	2.67	251.36	347.68	346.55
14 Sugar	1.95	242.36	251.53	259.24
15 Gur	0.07	289.93	320.41	332.93
16 Tea	1.26	206.11	233.57	233.88
17 Milk Fresh	6.66	269.23	321.42	325.28
18 Milk Powder	0.11	228.51	260.45	261.36
19 Milk Products	0.56	244.44	291.37	295.56
20 Honey	0.04	222.91	277.09	279.33
21 Cereals	0.09	257.40	283.83	285.76
22 Jam,Tomato,Pickles & Vinegar	0.25	205.18	230.87	231.19
23 Beverages	0.73	202.22	231.59	234.56
24 Condiments	0.34	249.06	279.51	280.81
25 Spices	0.60	244.17	372.92	374.95
26 Dry Fruit	0.28	352.57	406.74	409.20
27 Bakery & Confectionary	2.98	152.15	163.49	164.19
28 Cigarettes	0.95	238.20	248.06	255.51
29 Betel Leaves & Nuts	0.19	201.78	231.66	233.06
30 Readymade Food	1.68	262.15	309.26	311.80
31 Sweetmeat & Nimco	0.38	269.58	327.64	330.94
32 Fish	0.27	215.69	244.32	245.02
33 Meat	2.70	354.55	425.30	429.03
34 Chicken Farm	0.92	244.74	247.39	293.54
35 Eggs	0.41	227.07	258.87	296.80
36 Potatoes	0.58	291.68	312.76	350.60
37 Onions	0.62	218.66	147.97	162.10
38 Tomatoes	0.48	222.30	143.02	265.07
39 Vegetables	1.84	297.28	287.96	329.36
40 Fresh Fruits	1.62	248.61	336.96	344.39
<b>Apparel, Textile &amp; Footwear.</b>	<b>6.10</b>	<b>173.11</b>	<b>193.99</b>	<b>195.82</b>
41 Cotton Cloth	1.62	183.72	215.65	218.95
42 Silk,Linen,Woolen/Cloth	0.58	176.10	202.83	204.67
43 Tailoring Charges	0.86	189.02	213.48	215.40
44 Hosiery	0.15	183.05	219.44	220.68
45 Readymade Garments	1.20	155.51	178.29	180.67
46 Woolen Readymade Garments	0.15	200.74	226.60	226.60
47 Footwear	1.53	161.98	163.42	163.46
<b>House Rent.</b>	<b>23.43</b>	<b>213.98</b>	<b>230.50</b>	<b>232.78</b>
48 House Rent Index	23.43	213.98	230.50	232.78

(continued)

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

Items and specification	Weights	Index		
		Jul-10	Jun-11	Jul-11
<b>Fuel And Lighting.</b>	<b>7.29</b>	<b>251.82</b>	<b>268.53</b>	<b>270.48</b>
49 Kerosene	0.14	460.69	581.33	581.33
50 Firewood	0.48	347.03	433.49	434.60
51 Match Box	0.13	200.00	200.00	200.00
52 Bulb & Tube	0.13	140.88	153.09	154.84
53 Electricity	4.37	203.92	213.32	213.32
54 Natural Gas	2.05	328.37	338.81	345.37
<b>H.Hold.Furniture &amp; Equipment Etc.</b>	<b>3.29</b>	<b>177.79</b>	<b>195.63</b>	<b>198.34</b>
55 Utensils	0.37	163.28	179.13	181.19
56 Plastic Products	0.11	220.19	250.62	254.22
57 Suitcase	0.05	173.40	193.83	197.66
58 House Hold Equipments	0.10	166.84	185.52	188.67
59 Furniture (Ready Made)	0.31	193.06	211.17	214.44
60 Furnishing	0.64	169.00	189.47	192.71
61 Elect.Iron Fans & Washing Machine	0.19	170.46	182.80	184.60
62 Sewing Machine,Clock And Needles	0.13	154.41	170.94	175.59
63 Refrigerator & Airconditioner	0.18	138.90	154.33	155.13
64 Marriage Hall	0.04	213.93	253.48	257.53
65 House Hold Servant	1.19	188.40	204.65	207.16
<b>Transport &amp; Communication.</b>	<b>7.32</b>	<b>221.99</b>	<b>253.94</b>	<b>252.20</b>
66 Petrol	1.73	223.13	285.89	276.18
67 Diesel	0.21	464.69	598.55	586.33
68 Cng. Filling Charges	0.16	226.80	243.54	243.54
69 Service Charges	0.38	184.85	203.86	205.76
70 Vehicles	0.26	138.14	151.12	149.96
71 Tyre & Tube	0.28	182.06	211.52	213.00
72 Transport Fare/Charges	2.12	295.79	326.02	327.10
73 Train Fare	0.15	253.24	287.05	287.05
74 Air Fare	0.10	365.51	427.16	427.16
75 Communication	1.93	127.86	128.28	130.01
<b>Recreation &amp; Entertainment.</b>	<b>0.83</b>	<b>139.12</b>	<b>140.32</b>	<b>141.77</b>
76 Recreation	0.34	142.98	142.98	146.51
77 Entertainment	0.49	136.42	138.46	138.46
<b>Education.</b>	<b>3.45</b>	<b>193.61</b>	<b>207.64</b>	<b>207.68</b>
78 Tution Fees	2.36	189.89	206.01	206.04
79 Stationery	0.35	191.03	206.63	206.89
80 Text Books	0.69	215.90	222.92	222.92
81 Computer & Allied Products	0.05	85.52	87.05	86.86
<b>Cleaning Laundry &amp; Per.Appearance.</b>	<b>5.88</b>	<b>190.23</b>	<b>221.63</b>	<b>222.60</b>
82 Washing Soap & Detergent	1.55	172.02	194.99	195.95
83 Toilet Soap	0.74	194.80	243.11	245.75
84 Tooth Paste	0.40	119.85	122.70	122.70
85 Shaving Articles	0.35	158.88	171.81	172.04
86 Cosmetics	1.43	171.41	183.81	185.24
87 Watches	0.06	150.91	157.43	157.43
88 Jewellery	0.39	449.70	601.70	600.76
89 Laundry Charges	0.22	198.82	234.21	234.62
90 Hair Cut & Beauty Parlour Charges	0.73	175.54	205.00	205.58
<b>Medicare.</b>	<b>2.07</b>	<b>167.20</b>	<b>195.38</b>	<b>196.19</b>
91 Drugs & Medicines	1.08	135.77	153.97	154.28
92 Doctor'S Fee	1.00	201.08	240.01	241.37

<b>Table A11: Wholesale Price Index Numbers by major Groups and Selected Commodities</b>				
<b>Items and Specifications</b>	<b>Index</b>			
	<b>Jun-10</b>	<b>Apr-11</b>	<b>May-11</b>	<b>Jun-11</b>
<b>General</b>	<b>242.44</b>	<b>304.58</b>	<b>299.85</b>	<b>300.50</b>
<b>Food</b>	<b>251.73</b>	<b>296.72</b>	<b>296.11</b>	<b>300.50</b>
1 Wheat	279.06	313.76	283.76	286.23
2 Wheat Flour	273.54	300.85	285.43	283.19
3 Maida	266.62	285.22	277.83	276.88
4 Besan	188.61	234.61	225.80	224.95
5 Rice	310.72	393.72	395.80	399.94
6 Maize	331.03	391.76	383.09	377.23
7 Jowar	345.17	385.88	329.32	321.03
8 Bajra	237.17	292.89	295.61	307.53
9 Beans	294.86	319.89	316.63	318.55
10 Gram Whole	211.41	262.72	263.29	262.41
11 Gram Split	180.74	228.57	221.45	222.14
12 Masoor	307.36	292.85	281.91	271.39
13 Mash	306.99	315.37	304.05	302.25
14 Moong	387.06	491.04	487.42	487.77
15 Potatoes	262.14	248.45	290.01	320.29
16 Onions	230.27	191.58	147.43	139.88
17 Tomatoes	132.20	215.88	112.95	132.69
18 Vegetables	307.11	320.68	299.12	296.02
19 Fresh Fruits	191.26	255.16	244.27	232.76
20 Dry Fruits	259.91	331.55	326.80	329.45
21 Fresh Milk	220.50	252.98	261.43	267.11
22 Powdered Milk	225.47	245.09	245.41	248.94
23 Milk Food	181.08	207.84	216.92	220.28
24 Vegetable Ghee	278.75	395.72	392.87	395.78
25 Mustard & Rapeseed Oil	279.15	377.17	376.60	380.87
26 Cotton Seed Oil	285.06	386.62	386.30	398.84
27 Cooking Oil	225.71	293.64	301.10	301.40
28 Oil Cakes	325.35	393.95	391.87	392.99
29 Gur	268.31	279.86	283.03	289.97
30 Sugar Refined	236.21	246.81	241.43	254.27
31 Chicken	258.10	273.30	253.20	261.62
32 Eggs	231.94	254.86	239.84	263.71
33 Fish	145.86	150.76	149.34	150.17
34 Meat	330.29	389.39	393.69	402.36
35 Spices	272.40	380.36	385.18	385.08
36 Condiments	304.45	313.17	314.60	315.61
37 Salt	171.77	196.00	196.00	205.27
38 Tea	172.25	195.13	195.61	195.70
39 Beverages	145.99	163.75	166.31	168.22
40 Mineral Water	130.06	152.67	159.52	167.99
41 Fruit Prepared/Preserved	214.30	239.08	244.16	248.80
42 Vegetables Prepared/Preserved	189.31	215.31	217.71	221.53
43 Sugar Confectionary	100.57	100.67	100.98	101.16
<b>Raw Material</b>	<b>296.34</b>	<b>450.47</b>	<b>382.68</b>	<b>383.08</b>
44 Cotton	278.56	503.45	377.50	370.87
45 Cotton Seeds	276.41	362.89	358.16	370.37
46 Mustard/Rapeseeds	289.33	367.55	364.65	374.82
47 Tobacco	236.02	260.69	261.49	263.41
48 Sugar Cane	499.09	601.95	601.95	608.55
49 Wool	146.46	164.33	170.95	175.82
50 Hides	139.49	156.19	157.02	160.56
51 Skins	104.48	122.98	126.49	134.62
52 Pig Iron	321.93	321.93	321.93	321.93

(continued)

**Table A11: Wholesale Price Index Numbers by major Groups and Selected Commodities**

Items and Specifications	Index			
	Jun-10	Apr-11	May-11	Jun-11
<b>Fuel &amp; Light</b>	<b>304.00</b>	<b>390.47</b>	<b>399.37</b>	<b>400.28</b>
53 Coal	142.50	160.00	160.00	160.00
54 Coke	666.22	791.13	791.13	791.13
55 Diesel Oil	448.03	577.53	626.56	617.19
56 Motor Sprit	221.32	272.22	288.03	282.49
57 Mobil Oil	208.33	233.37	246.36	251.34
58 Furnace Oil	341.81	536.84	521.19	536.33
59 Kerosine Oil	443.81	571.16	609.25	574.90
60 Natural Gas	256.00	256.00	256.00	256.00
61 Electricity Ind. Supply Tariff-B	201.01	222.49	222.49	222.49
62 Elec. Agriculture Tariff-D	205.07	238.86	238.86	238.86
63 Fire Wood	282.24	357.11	364.01	365.39
<b>Manufacture</b>	<b>168.82</b>	<b>220.30</b>	<b>216.65</b>	<b>210.61</b>
64 Sole Leather	134.06	140.01	140.01	140.01
65 Chrome Leather	212.23	228.63	232.07	232.07
66 Cotton Yarn	164.37	267.49	239.47	210.64
67 Blended Yarn	186.61	251.42	248.86	233.19
68 Nylon Yarn	128.09	185.96	187.85	180.56
69 Cotton Textiles	154.95	183.61	184.34	186.11
70 Hosiery	160.37	196.13	196.65	197.21
71 Silk & Reyon Textiles	152.12	174.29	176.71	178.26
72 Woolen Textiles	143.32	149.53	149.53	149.53
73 Jute Manufactures	135.59	174.73	196.39	205.48
74 Mattresses	142.61	165.50	166.67	165.94
75 Ready Made Garments	118.87	125.26	125.07	124.58
76 Utensils	149.53	160.39	160.47	160.47
77 Plastic Products	144.91	168.07	168.89	177.01
78 Glass Products	179.81	198.87	200.12	200.12
79 Chemicals	201.43	250.25	253.58	255.60
80 Dying Materials	93.46	96.14	96.14	96.14
81 Soaps	185.38	223.03	228.46	231.15
82 Cosmetics	123.62	178.84	181.27	181.27
83 Drugs & Medicines	120.90	135.67	140.73	145.21
84 Fertilizers	312.14	427.49	437.90	439.60
85 Pesticides & Insecticised	150.11	184.80	191.90	197.91
86 Machinery	183.67	207.45	211.96	215.30
87 Transports	131.55	169.28	185.85	193.04
88 Tyres	219.60	243.64	259.21	261.72
89 Tubes	198.01	229.40	232.19	232.19
90 Audio-Visual Instruments	92.59	100.49	100.49	98.83
91 Other Electrical Goods	134.41	152.72	159.53	159.33
92 Cigarettes	246.75	262.35	262.35	263.34
93 Paper	106.36	114.45	117.04	117.04
94 Matches	124.26	130.85	144.89	149.16
95 Foot Wear	192.15	204.94	204.94	204.94
<b>Building Material</b>	<b>220.29</b>	<b>238.63</b>	<b>242.36</b>	<b>245.60</b>
96 Cement	127.57	135.55	136.49	137.44
97 Bricks	250.44	325.74	334.06	335.81
98 Cement Blocks	170.83	175.73	179.23	186.23
99 Tiles	99.67	101.37	102.37	102.82
100 Iron Bars & Sheets	292.64	314.21	318.60	322.62
101 Pipe Fittings	183.46	196.51	198.99	201.32
102 Timber	217.94	231.22	245.20	243.56
103 Glass Sheets	178.68	191.40	191.40	197.52
104 Paints & Varnishes	149.43	218.35	238.33	247.40
105 Sanitary Wares	162.22	163.37	163.29	163.15
106 Wires And Cables	272.09	304.05	306.76	312.18

*Inflation Monitor, July 2011*

<b>Table A12: Price Indices - Base 2000-01 = 100</b>							
<b>Period</b>	<b>CPI</b>			<b>WPI</b>			<b>SPI *</b>
	<b>Overall</b>	<b>Food</b>	<b>Non-food</b>	<b>Overall</b>	<b>Food</b>	<b>Non-food</b>	
2004-05	121.98	125.69	119.47	124.14	125.03	123.50	126.52
2005-06	131.64	134.39	129.78	136.68	133.78	138.78	136.43
2006-07	141.87	148.21	137.59	146.17	145.67	146.53	149.29
2007-08	158.90	174.36	148.44	170.15	173.27	167.88	170.55
2008-09	191.90	215.69	175.82	201.10	213.54	192.04	209.29
2009-10	214.41	242.59	195.36	226.49	239.01	217.39	236.87
2010-11	244.26	286.15	215.94	279.30	285.93	274.48	278.96
2009 Jan	190.09	210.33	176.40	192.91	208.80	181.35	204.02
Feb	191.90	211.58	178.59	194.19	210.31	182.46	206.78
Mar	194.53	216.13	179.92	195.00	212.16	182.51	208.40
Apr	197.28	220.46	181.61	198.28	215.69	185.61	210.85
May	197.74	220.04	182.66	201.29	217.50	189.49	212.62
Jun	199.69	222.23	184.45	206.13	219.81	196.17	215.09
Jul	202.77	228.93	185.08	207.57	224.31	195.39	222.00
Aug	206.21	234.69	186.95	212.16	229.52	199.53	225.18
Sep	207.14	235.59	187.90	212.53	230.34	199.57	227.34
Oct	209.11	238.12	189.49	215.01	232.35	202.39	227.73
Nov	212.02	242.40	191.48	220.98	236.69	209.55	232.14
Dec	210.99	238.16	192.62	221.43	235.06	211.51	232.81
2010 Jan	216.09	242.91	197.95	230.80	241.37	223.11	240.25
Feb	216.93	243.17	199.19	231.64	242.67	223.61	242.37
Mar	219.65	247.55	200.78	237.51	246.68	230.84	244.98
Apr	223.44	252.53	203.77	241.88	248.53	237.04	247.50
May	223.58	252.62	203.94	243.98	248.81	240.47	249.51
Jun	225.03	254.42	205.15	242.44	251.73	235.68	250.61
Jul	227.79	258.19	207.23	246.48	256.40	239.26	255.13
Aug	233.50	271.35	207.91	252.93	267.12	242.60	261.70
Sep	239.69	285.63	208.62	258.22	279.03	243.08	270.74
Oct	241.17	285.89	210.93	266.19	283.96	253.26	275.31
Nov	244.84	292.20	212.81	275.46	290.52	264.50	284.33
Dec	243.60	286.64	214.50	278.38	286.07	272.78	282.83
2011 Jan	246.76	292.52	215.82	282.96	291.06	277.07	284.47
Feb	244.93	286.26	216.98	288.24	289.24	287.51	281.56
Mar	248.55	292.03	219.15	297.86	294.48	300.32	284.83
Apr	252.58	296.04	223.19	304.58	296.72	310.30	287.28
May	253.17	292.73	226.42	299.85	296.11	302.57	287.89
Jun	254.57	294.29	227.71	300.50	300.50	300.50	291.41
Jul	259.15	303.58	229.11	298.57	309.27	290.78	297.13

\*: all groups combined

**Table A13: International Commodity Prices/ Indices**

	Apr-11	May-11	Jun-11	Jul-11
<b>Energy</b>				
Crude Oil (US\$ per barrel) *	116.3	108.2	105.9	107.9
IMF Energy Index (2005 = 100)	210.7	198.7	195.8	200.7
WB Energy Index (1990 = 100) @	389.0	364.1	357.7	364.9
<b>Food</b>				
Rice (\$/MT)	500.6	500.6	515.4	546.2
Wheat (\$/MT)	336.3	354.5	326.5	303.9
Sugar (US cent/ pound)	23.9	21.9	24.9	29.5
Palm Oil (\$/MT)	1,123.8	1,143.4	1,075.9	1,033.6
Soybean Oil (\$/MT)	1,279.0	1,255.7	1,250.1	1,242.1
<b>Non-Food Non-Energy</b>				
Cotton Outlook 'A' Index #	216.6	165.5	164.9	149.3
IMF Metal Price Index (2005 = 100)	250.1	239.5	235.7	242.2
Copper (\$/MT)	9,482.8	8,931.7	9,066.9	9,650.5
Aluminum (\$/MT)	2,667.4	2,587.2	2,557.8	2,525.4
Iron Ore (\$ cents/dry MT)	179.3	177.1	170.9	173.0
Tin (\$/MT)	32,347.7	28,571.4	25,519.7	27,398.1
Nickle (\$/MT)	26,332.2	24,164.6	22,420.9	23,848.0
Zinc (\$/MT)	2,371.5	2,159.6	2,234.5	2,397.8
Lead (\$/MT)	2,719.4	2,419.6	2,525.0	2,681.0
Uranium (\$/MT)	57.8	56.1	55.4	52.8
DAP (\$/MT)	617.1	609.8	612.0	650.6
Urea (\$/MT)	340.4	397.4	485.9	474.8

Source: IMF and World Bank

Prepared by: Muhammad Ashfaq (021-99212574)

\$/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

@ World Bank commodity index for low and middle income countries

Table 14. CPI Data Series Original and Adjusted											
CPI Index Original Series											
Period	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12
Jul	102.0	106.0	107.5	117.6	128.1	137.9	146.7	182.4	202.8	227.8	259.2
Aug	102.6	106.4	108.2	118.2	128.1	139.6	148.6	186.3	206.2	233.5	
Sep	102.7	106.6	108.9	118.7	128.8	140.1	151.8	188.1	207.1	239.7	
Oct	103.1	106.7	110.5	120.1	130.0	140.6	153.7	192.1	209.1	241.2	
Nov	103.4	106.7	111.2	121.4	131.0	141.6	153.9	191.9	212.0	244.8	
Dec	103.0	106.4	112.2	120.4	130.7	142.3	154.8	190.9	211.0	243.6	
Jan	103.1	106.6	112.1	121.6	132.2	141.0	157.7	190.1	216.1	246.8	
Feb	103.4	107.1	111.7	122.8	132.7	142.5	158.5	191.9	216.9	244.9	
Mar	104.7	107.1	112.8	124.4	133.0	143.2	163.4	194.5	219.7	248.6	
Apr	105.1	107.5	113.9	126.5	134.3	143.6	168.3	197.3	223.4	252.6	
May	104.4	107.1	114.7	126.0	134.9	144.9	172.9	197.7	223.6	253.2	
Jun	104.9	106.9	116.0	126.1	135.7	145.2	176.5	199.7	225.0	254.6	
CPI Index Seasonally Adjusted Series											
Jul	101.8	105.8	107.3	117.3	127.7	137.5	146.3	181.8	202.2	227.2	258.4
Aug	102.2	106.0	107.8	117.7	127.5	138.9	147.8	185.2	204.9	232.0	
Sep	102.5	106.3	108.6	118.3	128.3	139.5	151.2	187.2	206.1	238.4	
Oct	102.6	106.2	109.9	119.4	129.3	139.7	152.7	190.9	207.8	239.6	
Nov	103.0	106.1	110.6	120.8	130.3	140.8	152.9	190.6	210.6	243.2	
Dec	103.3	106.8	112.5	120.8	131.2	142.8	155.4	191.6	211.7	244.4	
Jan	103.3	106.8	112.3	121.8	132.4	141.1	157.8	190.1	216.1	246.7	
Feb	103.8	107.5	112.2	123.4	133.4	143.3	159.5	193.2	218.5	246.8	
Mar	105.1	107.5	113.2	124.9	133.6	143.9	164.3	195.7	221.0	250.2	
Apr	105.0	107.4	113.9	126.5	134.4	143.7	168.4	197.4	223.5	252.6	
May	104.7	107.5	115.0	126.4	135.4	145.5	173.5	198.5	224.5	254.3	
Jun	105.3	107.3	116.4	126.7	136.4	146.0	177.5	200.9	226.5	256.2	



Table 15: CPI Index Monthly &amp; Average Seasonal Factors

CPI Index – Seasonal Factors												
Period	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	Average
Jul	100.21	100.23	100.24	100.26	100.28	100.28	100.30	100.30	100.29	100.28	100.2	100.27
Aug	100.36	100.38	100.41	100.45	100.49	100.51	100.55	100.58	100.62	100.64		100.50
Sep	100.26	100.28	100.31	100.34	100.36	100.39	100.42	100.46	100.51	100.53		100.39
Oct	100.55	100.55	100.55	100.55	100.57	100.60	100.63	100.64	100.64	100.66		100.60
Nov	100.47	100.48	100.50	100.52	100.56	100.59	100.63	100.65	100.67	100.68		100.57
Dec	99.66	99.65	99.65	99.64	99.63	99.63	99.63	99.64	99.66	99.68		99.65
Jan	99.77	99.79	99.81	99.84	99.87	99.91	99.94	99.98	100.00	100.03		99.89
Feb	99.60	99.59	99.55	99.50	99.45	99.39	99.35	99.31	99.28	99.24		99.43
Mar	99.70	99.66	99.63	99.59	99.56	99.51	99.46	99.41	99.37	99.35		99.52
Apr	100.08	100.04	100.00	99.99	99.98	99.95	99.94	99.94	99.96	99.98		99.99
May	99.69	99.70	99.70	99.69	99.67	99.65	99.63	99.60	99.58	99.55		99.65
Jun	99.62	99.60	99.58	99.55	99.52	99.48	99.44	99.40	99.37	99.35		99.49

Table 16: CPI Index Month-on-Month Changes Original &amp; Seasonally Adjusted Series

CPI Index MoM % Change Original Series											
Period	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	
Jul	1.09	0.57	1.38	1.59	1.61	1.01	3.34	1.54	1.23	1.80	
Aug	0.31	0.66	0.58	0.00	1.25	1.32	2.14	1.70	2.51		
Sep	0.19	0.60	0.38	0.55	0.32	2.13	0.97	0.45	2.65		
Oct	0.16	1.47	1.19	0.93	0.36	1.23	2.12	0.95	0.62		
Nov	-0.08	0.60	1.08	0.77	0.73	0.14	-0.12	1.39	1.52		
Dec	-0.24	0.90	-0.82	-0.23	0.47	0.58	-0.50	-0.49	-0.51		
Jan	0.16	-0.09	1.00	1.17	-0.88	1.91	-0.42	2.42	1.30		
Feb	0.47	-0.34	0.99	0.33	1.04	0.49	0.95	0.39	-0.74		
Mar	0.03	1.02	1.30	0.23	0.49	3.08	1.37	1.25	1.48		
Apr	0.34	0.96	1.69	1.02	0.31	3.04	1.41	1.73	1.62		
May	-0.29	0.69	-0.40	0.45	0.92	2.69	0.23	0.06	0.23		
Jun	-0.21	1.12	0.08	0.59	0.20	2.10	0.99	0.65	0.55		
Seasonally Adjusted Series											
Jul	0.47	-0.07	0.70	0.85	0.83	0.19	2.45	0.64	0.31	0.86	
Aug	0.16	0.49	0.39	-0.21	1.01	1.08	1.85	1.37	2.14		
Sep	0.28	0.70	0.49	0.67	0.44	2.25	1.09	0.56	2.76		
Oct	-0.11	1.23	0.97	0.72	0.14	1.02	1.94	0.81	0.49		
Nov	-0.01	0.65	1.11	0.79	0.73	0.14	-0.13	1.37	1.50		
Dec	0.59	1.76	0.05	0.69	1.45	1.60	0.51	0.52	0.49		
Jan	0.02	-0.25	0.80	0.93	-1.16	1.59	-0.76	2.07	0.95		
Feb	0.67	-0.08	1.33	0.75	1.57	1.09	1.63	1.12	0.05		
Mar	-0.04	0.94	1.21	0.12	0.37	2.96	1.27	1.16	1.37		
Apr	-0.04	0.58	1.28	0.60	-0.13	2.55	0.88	1.13	0.98		
May	0.05	1.00	-0.09	0.77	1.23	3.01	0.58	0.44	0.66		
Jun	-0.11	1.24	0.21	0.73	0.36	2.30	1.19	0.86	0.76		

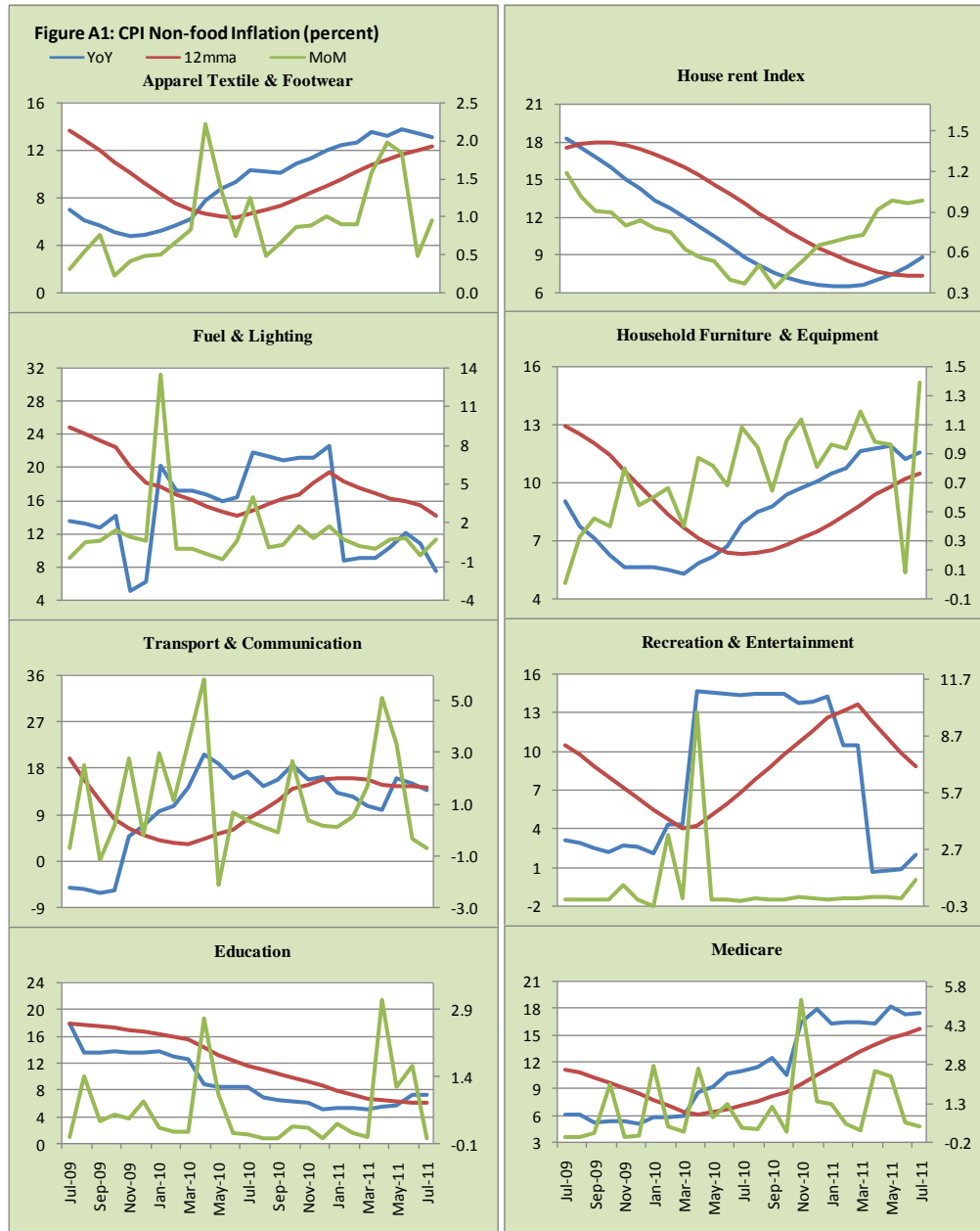
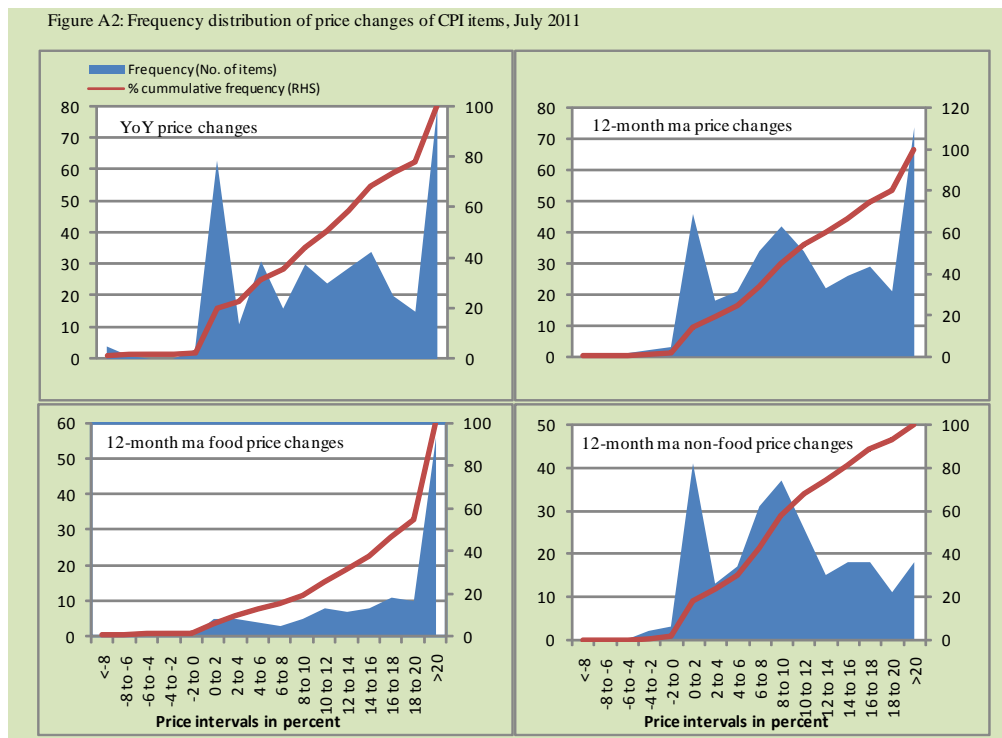


Figure A2: Frequency distribution of price changes of CPI items, July 2011



**Figure A3: Frequency Distribution of price changes of WPI items, July 2011**

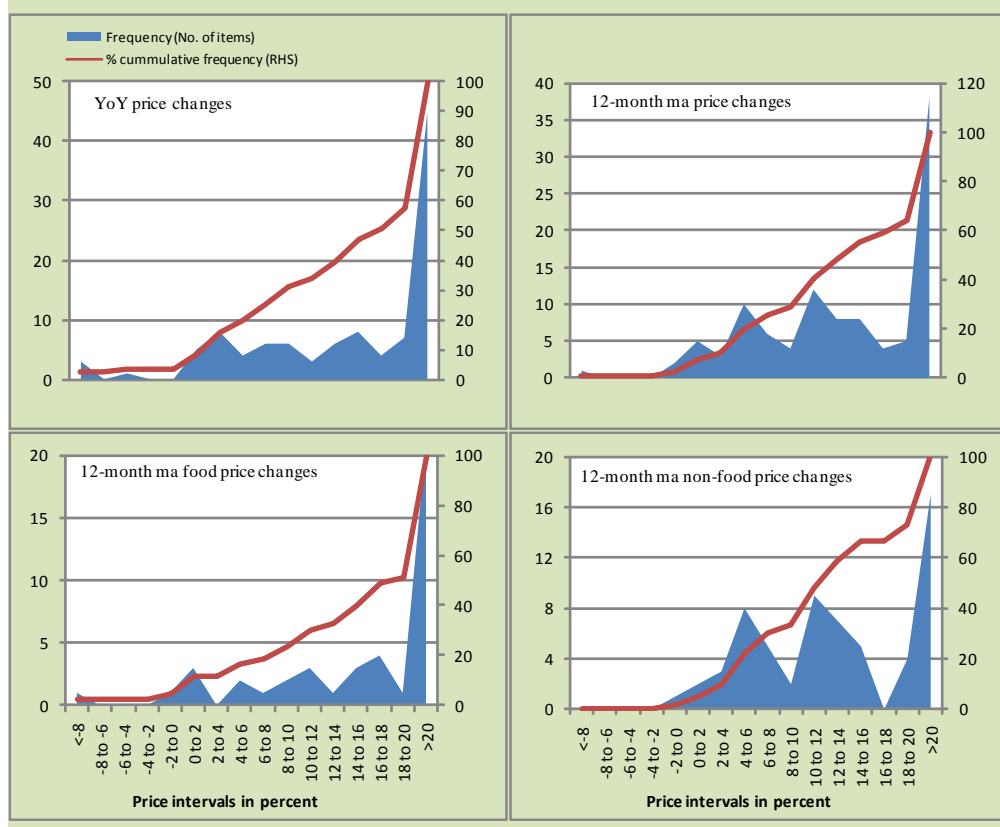
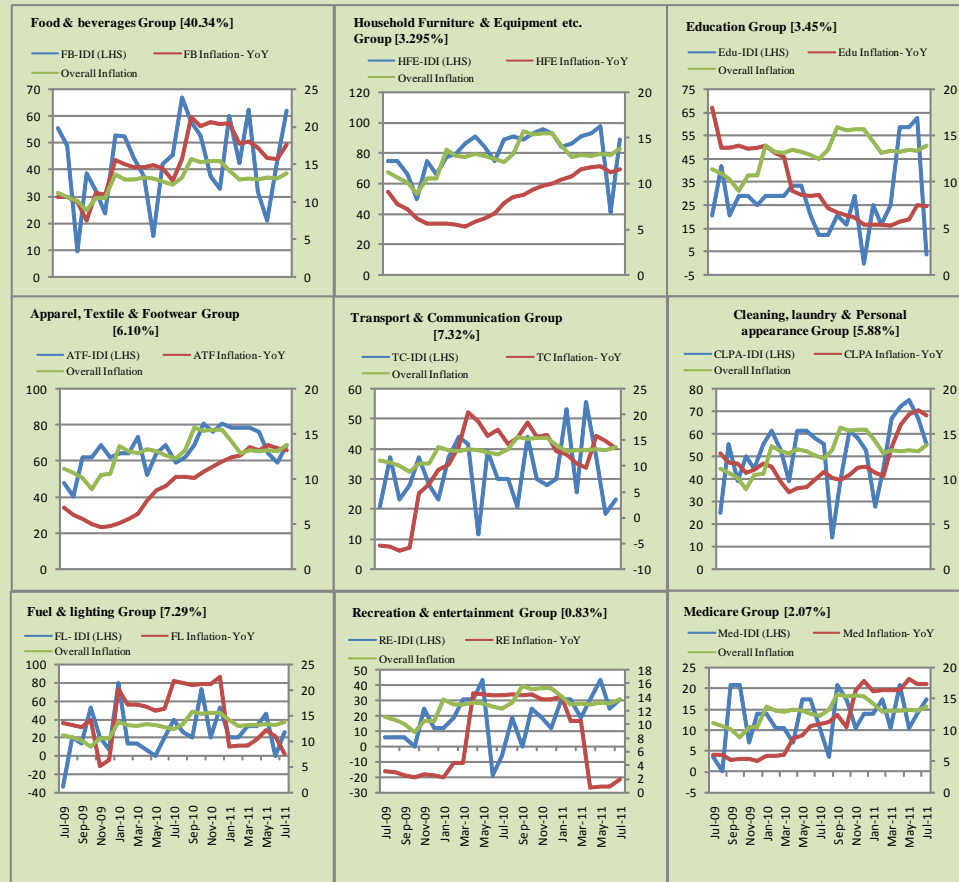


Figure A4: Group-wise Inflation Diffusion Index (IDI) and respective/overall YoY Inflation (percent)



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 2000-01.
3. CPI basket contains 374 consumers' goods; WPI basket contains 425 commodities; SPI contains 53 commodities.
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 two 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.

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 374 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:

$$\frac{\text{Number of Commodities with } \uparrow \text{ in MoM change} - \text{Number of Commodities with } \downarrow \text{ in MoM change}}{\text{Number of Commodities for which prices are reported}}$$

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.

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<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.