

# **Inflation Monitor**

**August 2007**



**State Bank of Pakistan**

*Economic Analysis Department*

ISSN 1992-8327 (print)

ISSN 1992-8335 (online)

The analysis in this document is based on data provided by  
Federal Bureau of Statistics, Pakistan.

[http://www.sbp.org.pk/publications/Inflation\\_Monitor](http://www.sbp.org.pk/publications/Inflation_Monitor)

© 2007 State Bank of Pakistan

## **Contents**

---

<b>1.</b>	<b>Overview</b>	<b>1</b>
<b>2.</b>	<b>Consumer Price Inflation</b>	<b>5</b>
	2.1 Food Inflation	6
	2.2 Non-food Inflation	8
	2.3 City-wise Inflation	10
	2.4 Income Group-wise Inflation	11
	2.5 Services and Non-services Inflation	12
<b>3.</b>	<b>Wholesale Price Inflation</b>	<b>14</b>
<b>4.</b>	<b>Global Commodity Prices</b>	<b>18</b>
<b>5.</b>	<b>Sensitive Price Indicator</b>	<b>22</b>
<b>6.</b>	<b>Wage Inflation in Construction Sector</b>	<b>24</b>
	<b>Annexure A:</b>	<b>26</b>
	Table A1: CPI Inflation (YoY) by Groups	
	Table A2: Distribution of Price Changes of CPI Basket, August 2007 (YoY)	
	Table A3: Top Ten Contributors to YoY CPI Inflation in August 2007	
	Table A4: Distribution of YoY Price Changes - Selected CPI Items, August 2007	
	Table A5: City-wise CPI Inflation (YoY) by Income Groups, August 2007	
	Table A6: Income Group-wise CPI Inflation (YoY)	
	Table A7: Distribution of Wholesale Price Changes (YoY), August 2007	
	Table A8: SPI Item-wise Price Movements for the month of August 2007	
	Table A9: Daily Labor Wages (Rs. Per day) – Average of 35 Cities	
	Table A10: Consumer Price Index Numbers by Major Groups and Selected Commodities for August 2007	
	Figure A1: CPI Non-food Sub-indexes' Inflation	
	Figure A2: Wholesale Price Inflation (YoY) in Selected Food Items	
	Figure A3: Wholesale Prices Inflation in Selected Non-food Items	
	Figure A4: Frequency Distribution of Price Changes of CPI Items, August 2007	
	Figure A5: Frequency Distribution of Price Changes of WPI Items, August 2007	
	<b>Annexure B: Technical Notes</b>	<b>42</b>



## **Team**

Dr. Mian Farooq Haq	<a href="mailto:mian.farooq@sbp.org.pk">mian.farooq@sbp.org.pk</a>
Mr. Saghir Pervaiz Ghauri	<a href="mailto:saghir.pervaiz@sbp.org.pk">saghir.pervaiz@sbp.org.pk</a>
Mr. Muhammad Akmal	<a href="mailto:muhammad.akmal@sbp.org.pk">muhammad.akmal@sbp.org.pk</a>
Mr. Muhammad Usman Abbasi	<a href="mailto:muhammad.usman3@sbp.org.pk">muhammad.usman3@sbp.org.pk</a>

## Overview

Headline CPI inflation, on year-on-year (YoY) basis, declined to 6.5 percent in August 2007 from 8.9 percent in the same month last year. In August 2007, food inflation declined to 8.6 percent compared to 11.1 percent in the corresponding month last year. This was mainly due to a decline in the prices of some key food items including potatoes, tomatoes, sugar, chilies green, chicken, pulse gram etc. Similarly non-food inflation also declined to 4.9 percent in the month under review compared to 7.4 percent in August 2006 (see **Table 1.1**).

**Table 1.1: Inflation (YoY)**

Percent

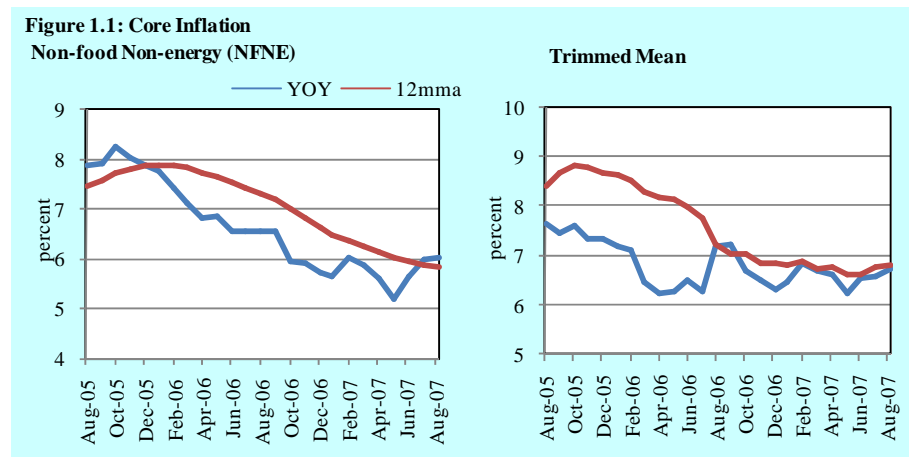
	CPI			Core Inflation <sup>3</sup>		WPI	SPI <sup>2</sup>
	General	Food	Non-food	NFNE <sup>1</sup>	Trimmed		
Aug-06	8.9	11.1	7.4	6.6	7.2	8.2	10.8
Sep-06	8.7	11.3	7.0	6.6	7.2	8.0	10.0
Oct-06	8.1	10.5	6.4	6.0	6.7	6.7	9.9
Nov-06	8.1	10.6	6.3	5.9	6.5	7.5	10.7
Dec-06	8.9	12.7	6.2	5.7	6.3	8.0	12.0
Jan-07	6.6	8.7	5.2	5.7	6.5	5.4	9.5
Feb-07	7.4	10.0	5.6	6.0	6.8	5.1	8.8
Mar-07	7.7	10.7	5.5	5.9	6.7	6.1	8.9
Apr-07	6.9	9.4	5.2	5.6	6.6	6.0	7.7
May-07	7.4	11.3	4.7	5.2	6.2	6.8	8.3
Jun-07	7.0	9.7	5.1	5.7	6.5	7.3	8.0
Jul-07	6.4	8.5	4.9	6.0	6.6	7.6	7.5
Aug-07	6.5	8.6	4.9	6.0	6.7	8.0	7.6

<sup>1</sup> NFNE is Non-food non-energy inflation; <sup>2</sup> SPI for all income groups combined.

<sup>3</sup> The series of core inflation is new. For detail see 'Special Section' of Inflation Monitor of July 2007 (pages 26-49).

The 12-month moving average CPI inflation for August 2007 showed a decline as compared to the same period last year (7.5 percent in August 2007 compared to 7.9 percent in August 2006). While the corresponding food inflation depicted a rise (10.1 percent in August 2007 compared to 7.0 percent in August 2006) and non-food inflation showed a decline (5.6 percent August 2007 compared to 8.4 percent in August 2006).

In contrast to YoY CPI inflation, monthly CPI inflation in August 2007 showed an increase and was recorded at 1.3 percent, which was more than the five-year average of monthly increases in August. This increase in overall monthly CPI inflation was primarily due to a one-month increase in food inflation which was recorded at 2.4 percent as compared to the 2.2 percent inflation in August 2006. The monthly non-food inflation was recorded at 0.5 percent in August 2007, unchanged from August 2006 level and was less than the five-year average (see **Table 1.2**).



Core inflation based on NFNE (non-food non-energy) declined to 6.0 percent in August 2007 from 6.6 percent in August 2006 on YoY basis.

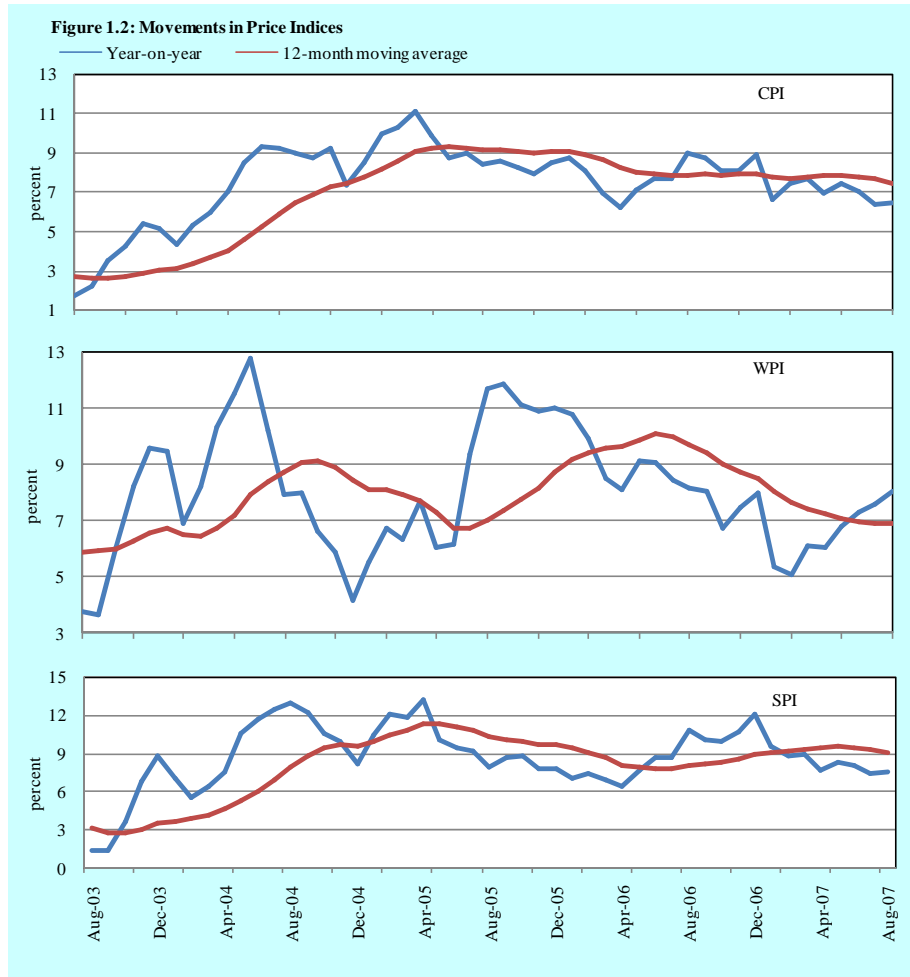
Similarly, core inflation based on 20 percent trimmed-mean showed a decline and was recorded at 6.7 percent in August 2007 as compared to 7.2 percent in August 2006 (see **Figure 1.1**).

The apparent difference in the behavior of the two definitions of core inflation is simple to explain. Since food inflation has been persistently rising in contrast with non-food inflation, the exclusion of all food items necessarily produces a downward trend in core (NFNE) inflation. However, variability in core (trimmed-mean) inflation mirrors the volatility of the prices of a number of food items. Hence, in the present circumstances, the persistent component of inflation is being better captured by the trimmed-

**Table 1.2: Different Dimensions of Inflation (percent)**

	Aug-05	Aug-06	Aug-07	5-year average
<b>Year-on-year (Aug over Aug)</b>				
Overall CPI	8.4	8.9	6.5	7.0
Food group	7.8	11.1	8.6	8.5
Non-food group	8.8	7.4	4.9	5.9
Core Inflation				
NFNE	7.9	6.6	6.0	5.9
Trimmed	7.6	7.2	6.7	6.4
<b>Period average (Jul-Aug over Jul-Aug)</b>				
Overall CPI	8.7	8.3	6.4	6.9
Food group	8.8	9.2	8.5	8.2
Non-food group	8.6	7.6	4.9	5.9
Core Inflation				
NFNE	7.9	6.6	6.0	5.9
Trimmed	7.9	6.8	6.6	6.3
<b>12-month moving average</b>				
Overall CPI	9.2	7.9	7.5	6.4
Food group	11.5	7.0	10.1	7.2
Non-food group	7.6	8.4	5.6	5.9
Core Inflation				
NFNE	7.5	7.3	5.8	5.5
Trimmed	8.7	6.9	6.8	6.0
<b>Monthly (Aug over Jul)</b>				
Overall CPI	0.0	1.2	1.3	0.6
Food group	-1.1	2.2	2.4	0.7
Non-food group	0.9	0.5	0.5	0.6
Core Inflation				
NFNE	0.5	0.5	0.6	0.5
Trimmed	0.3	0.7	0.7	0.5

mean definition of core inflation.





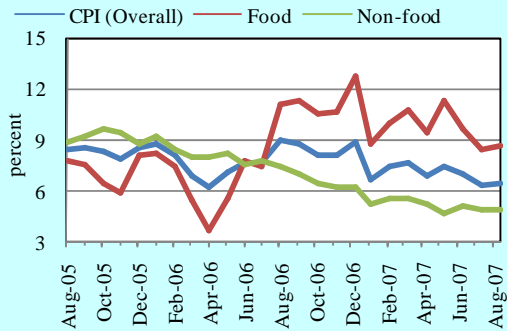
The Wholesale Price Index (WPI) inflation witnessed a downtrend through most of the FY07 and bottomed off at 5.1 percent during February 2007, before resuming its uptrend. However, despite a rising trend, 8.0 percent YoY WPI inflation during August 2007 remained lower than the 8.2 percent YoY WPI inflation seen in August 2006. The relative ease in WPI YoY inflation is mainly reflecting a deceleration in its non-food component. Similarly, a 7.6 percent in SPI during August 2007 is significantly lower than the 10.8 percent increase in SPI during the same month in the preceding year.

## 2. Consumer Price Inflation

Overall CPI inflation on an year on year basis fell by 2.4 percentage points in August 2007 compared to that in August 2006. YoY CPI inflation was recorded at 6.5 percent as compared to 8.9 percent in August 2006. Food inflation (YoY) was recorded at 8.6 percent during the month under review as compared to 11.1 percent in the corresponding month last year.

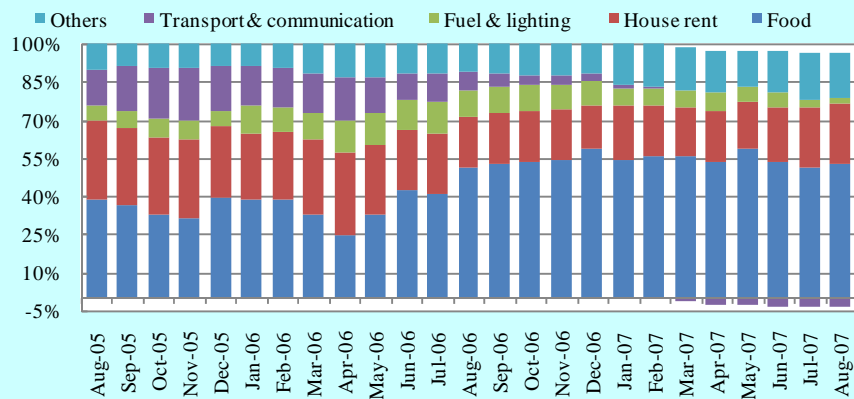
Non-food inflation (YoY) was recorded at 4.9 percent in August 2007 compared to 7.4 percent in August 2006 (see **Figure 2.1**).

**Figure 2.1: Consumer Price Inflation**



The contribution of food group in overall inflation was 56.2 percent in August 2007 which is higher than 51.2 percent contribution during the corresponding month last year. The contribution of house rent index (the largest item of the CPI basket) increased to 25.8 percent in August 2007 from 19.7 percent during the corresponding month last year (see **Figure 2.2**).

**Figure 2.2: Weighted Contribution to CPI Inflation (YoY)**



## 2.1 Food Inflation

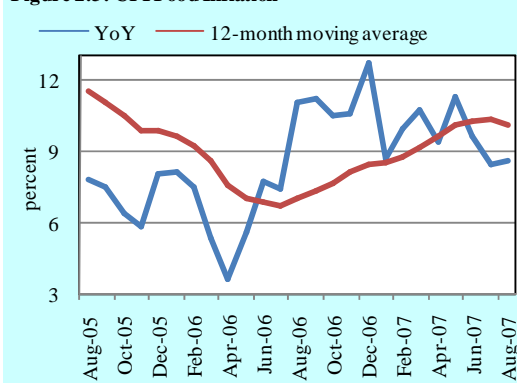
Food inflation (YoY) increased from 8.5 percent in July 2007 to 8.6 percent in August 2007.

This slight (0.1 percentage points) increase is mainly due to an increase in the prices of some vegetables. Out of the total 124 commodities included in the food group, 45 commodities including eggs, some fruits, cooking oil, different types of rice, vegetable ghee and a few vegetables, exhibited YoY

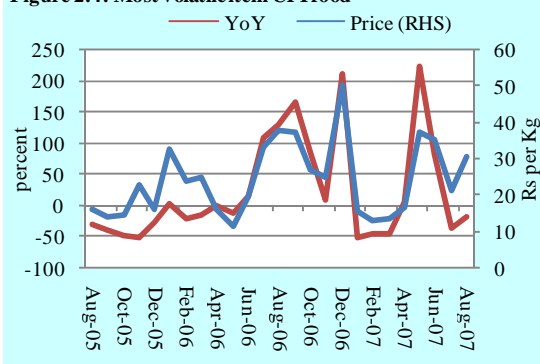
Inflation in the range of 10 to 60 percent in August 2007. The combined weight of commodities with double digit inflation was about 53 percent of the food group. Out of four types of basmati rice, three showed significant increase in YoY inflation of over 50 percent while one type showed 36 percent increase. On the other hand, YoY Inflation of 26 commodities including key staples such as tomatoes, potatoes, sugar, ginger, chicken, pulse moong, etc. either declined or remained unchanged during the month. The rest of the items, having an aggregate weight of 23 percent in the food group, exhibited subdued or moderate inflation (see **Table A2** in Annexure A).

As compared to July 2007, during August 2007 there was an increase in the average price of food items such as wheat flour, fresh milk, sugar, beef, pulse gram, onion, vegetable ghee and tomatoes chicken. Among the selected food items, onion and tomatoes were still the most volatile<sup>1</sup> items over the last two years (see **Figure 2.4** and **Figure 2.5**).

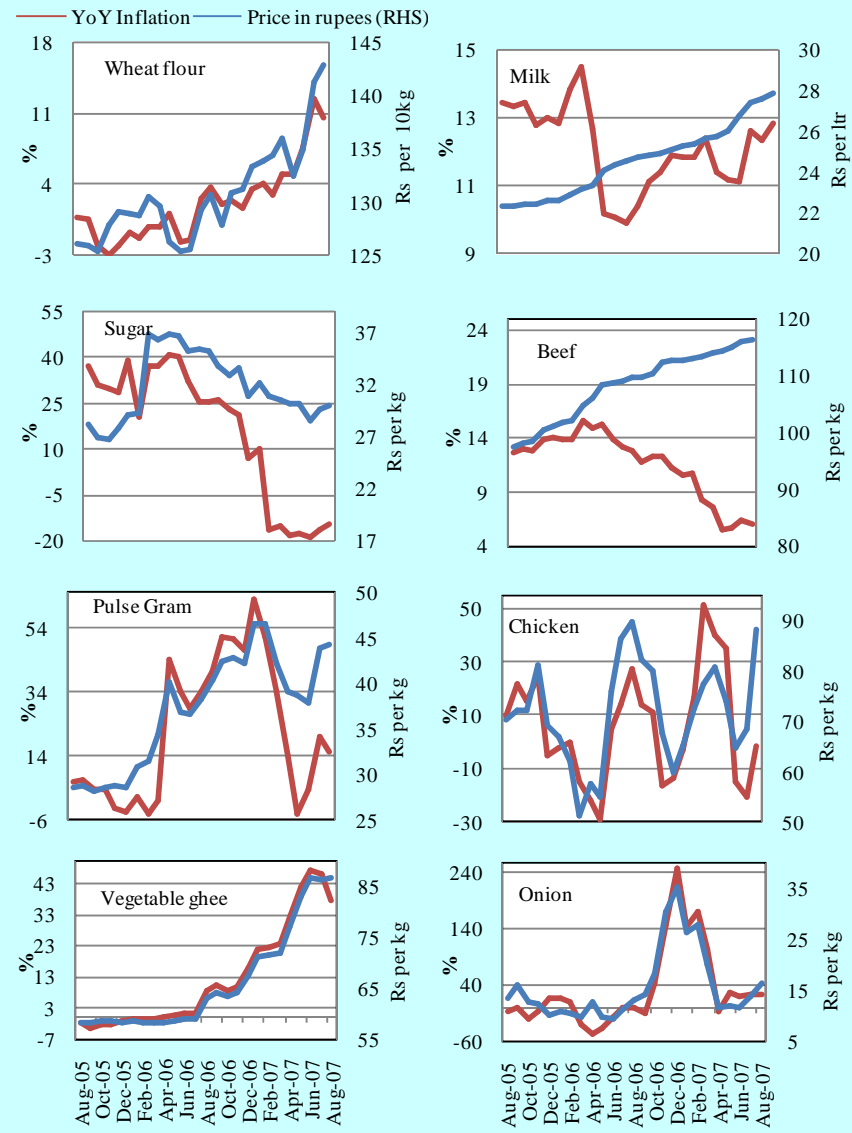
**Figure 2.3: CPI Food Inflation**



**Figure 2.4: Most volatile item CPI food**



<sup>1</sup> The volatility is measured by standard deviation over last two years.

**Figure 2.5: Price Trends in Key Food Items**

In terms of contribution to the overall YoY Inflation, vegetable ghee and fresh milk were the second and third highest contributors (house rent index of non-food group being the first), with 14 and 13.6 percent share in the overall CPI inflation (see **Table A3** in the annexure). The high contribution of vegetable ghee was due to a continual increase in its price after November 2006. On the other hand, the

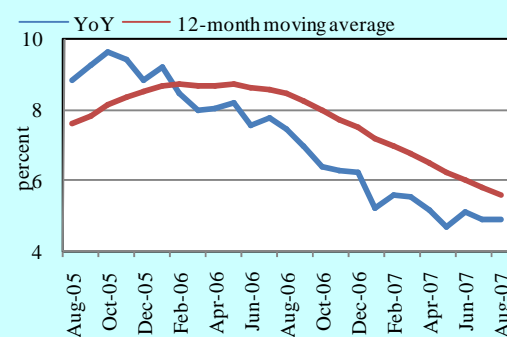
high contribution of fresh milk was primarily due to its high weight in the CPI basket (6.66 percent).

## 2.2 Non-food Inflation

Non-food (YoY) inflation remained at 4.9 percent during August 2007 (see **Figure 2.6**).

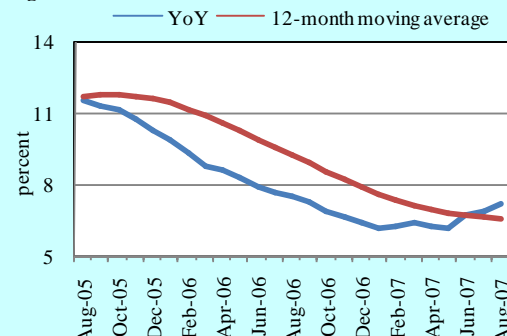
Inflation (YoY) in *apparel, textile & footwear* sub-group was recorded at 7.5 percent in August 2007 depicting a rise of 0.1 percentage points as compared to the previous month. However, there was a rise of 3.6 percentage points as compared to the corresponding month last year. This significant increase in the sub-group was mainly due to an increase in the price of almost all types of footwear as compared to August 2006.

**Figure 2.6: CPI Non-food Inflation**



Inflation recorded by the *house rent index* (HRI) was 7.2 percent in August 2007 as compared to 6.9 percent in the previous month. However, the house rent index declined by 0.3 percentage points as compared to the corresponding month last year (see **Figure 2.7**).

**Figure 2.7: House Rent Inflation**



The *fuel & lighting* sub-group witnessed a decline of 0.4 percentage points and was recorded at 2.2 percent increase in August 2007 as compared to 13 percent rise in August 2006. This significant decline was mainly due to the lower price of all types of gas charges and gas cylinder that partially offset the impact of an increase in electricity charges. In this group a significant decline in YoY Inflation was recorded in gas cylinder (-7.5 percent in August 2007 compared to 49.9 percent in August 2006).

Inflation (YoY) in *household furniture & equipment* sub-group increased to 6.6 percent in August 2007 compared to 6.2 percent in August 2006. This increase of

0.4 percentage points was due to an increase in the prices of electronic commodities included in the sub-group.

Inflation in *recreation & entertainment* sub-groups showed a decline of 0.2 percentage points in August 2007 as compared to the corresponding month of last year, whereas no change was recorded as compared to the preceding month.

YoY inflation in the *medicare* sub-group was recorded at 9.8 percent in August 2007 as compared to that of 7.9 percent during the corresponding month last year, whereas a decline of 2.4 percentage points was recorded as compared to July 2007 (see **Figure A1** in annexure).

Out of the 250 non-food commodities included in the CPI basket, 24 commodities witnessed double digit inflation. These include items such as firewood, different units of electric charges, primary school fee (English medium) and doctors clinic fee, etc. There were 57 commodities that showed moderate inflation in the range of 5 to 10 percent; all other commodities witnessed either YoY deflation or inflation of less than 5 percent ( see **Table A2** in the annexure). The commodities showing deflation included petrol super, a number of durable goods like telephone charges, computers, CD rom, etc. A significant YoY deflation was recorded in telephone charges outside the city (33.9 percent) in August 2007 ( see **Table A4** in the annexure).

*Transport & communication* subgroup witnessed a disinflation and fell by 3 percent in August 2007 in contrast to 8.0 percent in August 2006.

### 2.3 City-wise Inflation

City-wise inflation data indicates that 20 cities out of 35 were found in the category of high inflation<sup>2</sup> cities. Inflation recorded for all cities depicted a higher level of YoY CPI inflation as compared to their relative positions in all three categories, i.e. general, food, and non-food, during the previous month. Out of five selected cities<sup>3</sup> all cities except Peshawar showed an increase in YoY inflation. City wise inflation in Islamabad, Karachi, Lahore and Quetta was recorded at 7.8, 7.7, 6.5 and 7.1 percent respectively in August 2007. Peshawar showed an ease in YoY inflation from 5.9 percent in July 2007 to 5.7 percent in August 2007. In August 2007 Islamabad, Karachi, Lahore and Quetta were among the category of high inflation cities, whereas Peshawar was among the category of low inflation cities (see **Table 2.1**).

		percent				
	Over all CPI	Islamabad	Lahore	Karachi	Quetta	Peshawar
Aug-06	8.9	10.9	10.5	7.6	8.2	10.1
Sep-06	8.7	10.9	9.5	8.3	8.9	9.8
Oct-06	8.1	10.1	8.7	8.7	8.1	9.3
Nov-06	8.1	9.9	8.9	7.6	8.9	8.4
Dec-06	8.9	10.5	7.9	9.0	10.2	9.3
Jan-07	6.6	9.4	5.9	6.8	8.0	5.6
Feb-07	7.4	9.6	7.4	7.5	7.4	6.3
Mar-07	7.7	9.0	7.9	7.2	7.5	5.9
Apr-07	6.9	8.1	7.2	6.5	7.9	5.8
May-07	7.4	8.2	7.5	7.6	8.7	7.1
Jun-07	7.0	7.8	6.9	7.4	7.6	7.7
Jul-07	6.4	7.3	6.1	6.9	6.4	5.9
Aug-07	6.5	7.8	6.5	7.7	7.1	5.7

The highest level of YoY inflation was recorded in Nawabshah (11.8 percent) followed by Gujranwala (9.5 percent) and Hyderabad (9.1 percent) during August 2007. On the other hand the lowest YoY inflation was recorded in Okara (3.2 percent ) in the month under review (see **Table 2.2**).

<sup>2</sup> High inflation refers to above average CPI (which is 6.4 percent in July 2007 YoY) inflation, and low inflation refers to below average CPI inflation.

<sup>3</sup> Federal & provincial capitals.

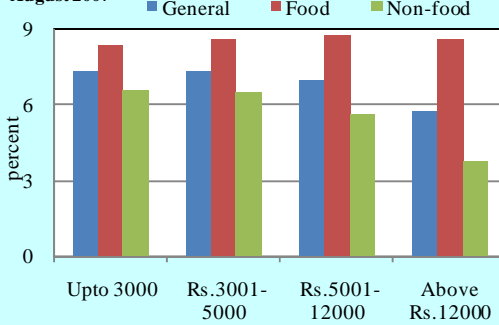
**Table 2.2: City wise Inflation in CPI (YoY), August 2007**

	High inflation cities				Low inflation cities		
	General	Food	Non-food		General	Food	Non-food
Nawabshah	11.8	15.7	9.1	Sialkot	6.4	11.3	2.8
Gujranwala	9.5	12.1	7.6	Bannu	6.4	5.3	7.2
Hyderabad	9.1	11.8	7.2	Turbat	6.3	6.4	6.3
Shahdarpur	8.9	9.9	8.1	Bahawalpur	6.3	9.0	4.3
Mirpur Khas	8.4	10.9	6.6	Attock	6.0	6.6	5.6
Vehari	8.1	10.8	6.1	Rawalpindi	5.9	5.3	6.3
Khuzdar	8.1	8.1	8.0	Peshawar	5.7	7.0	4.8
Samundari	7.9	11.1	5.7	Jhang	5.7	6.8	4.9
Islamabad	7.8	7.7	7.8	Abbotabad	5.5	6.7	4.6
Karachi	7.7	11.4	5.2	Jhelum	5.3	3.6	6.5
Multan	7.7	10.5	5.7	Loralai	4.8	4.0	5.3
Kunri	7.7	10.0	6.0	Sargodha	4.4	6.3	3.0
Sukkur	7.4	9.8	5.8	D.G. Khan	4.2	4.2	4.3
Mianwali	7.4	11.3	4.7	D.I.Khan	4.0	4.6	3.5
Quetta	7.1	11.2	4.2	Okara	3.2	3.8	2.8
Bahawalnagar	7.0	9.0	5.6				
Mardan	6.5	7.5	5.8				
Lahore	6.5	10.6	3.4				
Faisalabad	6.5	12.0	2.4				
Larkana	6.5	8.8	4.7				

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

## 2.4 Income Group-wise Inflation

Inflation recorded for all income groups showed either a decline or no change in their YoY CPI inflation, except for highest income group (of above Rs. 12000) as compared to the preceding month. The data also revealed that YoY CPI inflation recorded for all income groups other than the highest income group, was higher than the overall CPI (YoY) inflation. The inflation

**Figure 2.8 : Income Group-wise CPI Inflation (YoY) August 2007**

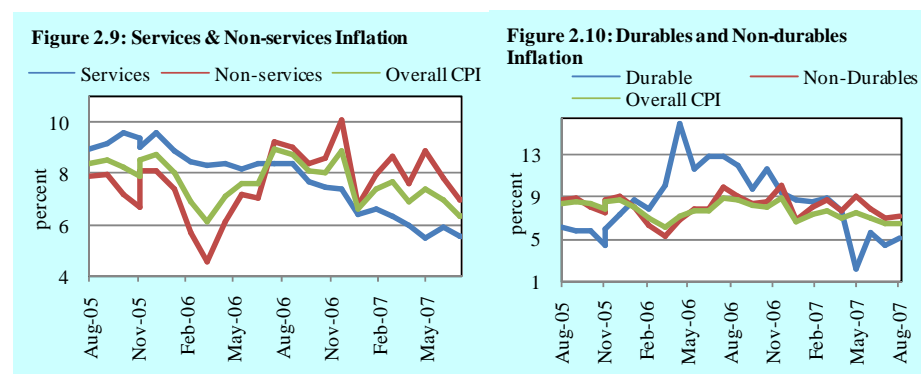


in food prices, faced by the lowest income group is less than the average food inflation for August 2007. On the other hand highest inflation was faced by the people in the highest income bracket (see **Figure 2.8**).

As in the previous month, the highest YoY CPI inflation was recorded for the income groups of up to Rs. 3000 & Rs. 3001-5000 (7.3 percent each), followed by income group of Rs. 5001 to 12000, while the highest income group of above Rs. 12000 experienced the lowest inflation. City-wise data reveals that the lowest YoY Inflation was recorded in Khuzdar for income groups up to Rs. 3000 and Rs. 3001 to 5000 and in Sargodha for income groups Rs. 5001 to 12000 and above 12000. While the highest YoY inflation was recorded in Hyderabad for income group up to Rs. 3000 and in Gujranwala for income groups Rs. 3001-5000, Rs. 5001-12000 and above Rs. 12000. It is interesting to note that Islamabad was the highest YoY inflation city for non-food group for all income groups (see **Table A5** in annexure A).

## 2.5 Services and Non-services Inflation

Inflation (YoY) in both the services<sup>4</sup> and non-services sectors recorded a decline in August 2007 as compared to corresponding month last year. During August 2007 YoY inflation in the services sector was recorded at 5.5 percent as compared



to 8.4 percent in August 2006. YoY inflation recorded for the non-services sector was 7.2 percent in August 2007 as compared to 9.3 percent in the corresponding month of last year. As compared to the preceding month the YoY inflation in services sector showed a marginal decline (from 5.6 to 5.5 percent), while inflation recorded in non-services sector showed an increase of 0.2 percentage points (from 7 to 7.2 percent) (see **Figure 2.9**).

<sup>4</sup> The services group of the CPI basket includes items like house rent index, electricity charges, marriage hall, household servant, transport fare, communication, recreation, tuition fees, laundry charges, hair cut & beauty parlor charges, doctor's fee, tailoring charges etc.

Within the non-services sector, YoY inflation in both the durable<sup>5</sup> and non-durable goods declined. YoY inflation in the durable and non-durable goods was recorded at 5.1 and 7.2 percent respectively in August 2007 as compared to 12.9 and 10 percent in August 2006. This significant decline in durable goods is due to a deceleration in prices of jewelry. Jewelry has the highest weight among durable items, YoY inflation in jewelry was recorded at 5.7 percent in August 2007 as compared to 33.4 percent in August 2006 (see **Figure 2.10**).

---

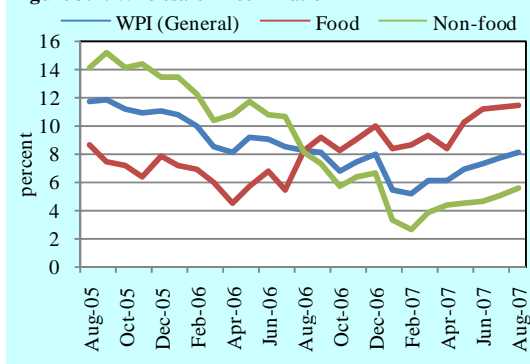
<sup>5</sup> Durable items include suitcase, furniture, electric iron, fans, washing machines, sewing machines, clocks, needles, refrigerators, air conditioners, vehicles, computer & allied products, watches and jewellery, etc.

### 3. Wholesale Price Inflation

The WPI inflation decelerated to 8.0 percent during August 2007 compared with 8.2 percent in August 2006. This was mainly on account of non-food WPI inflation group that declined significantly to 5.6 percent in August 2007 from 8.1 percent during the same month last year. However in comparison to July 2007, the incidence of wholesale price inflation (WPI) was

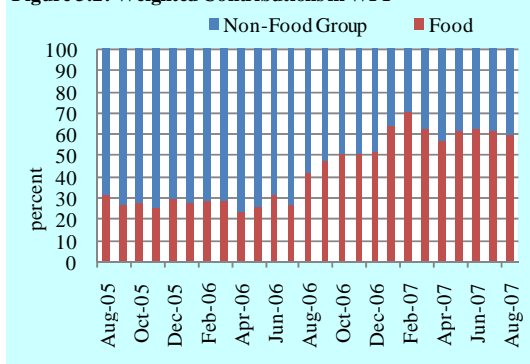
significantly higher and depicted a YoY growth of 8.0 percent during August 2007. Both food and non-food groups of WPI inflation contributed in this upsurge. Particularly the non-food group depicted a recordable higher YoY growth in wholesale prices of 5.6 percent in August 2007 compared to 5.0 percent growth in the wholesale prices in July 2006. In both groups, rice, vegetable ghee, eggs, cooking oil, fresh milk, onions, cotton, cotton seeds, footwear, iron bars and steel etc. contributed in the rise of WPI inflation (see **Figure 3.1**).

**Figure 3.1: Wholesale Price Inflation**



The weighted contribution of food group in WPI inflation declined for the second consecutive month to 59.5 percent in August 2007 from 61.2 percent in July 2007. The contribution of non-food group moved up to 40.5 percent in August 2007 from 38.8 percent in July 2007 (see **Figure 3.2**).

**Figure 3.2: Weighted Contributions in WPI**

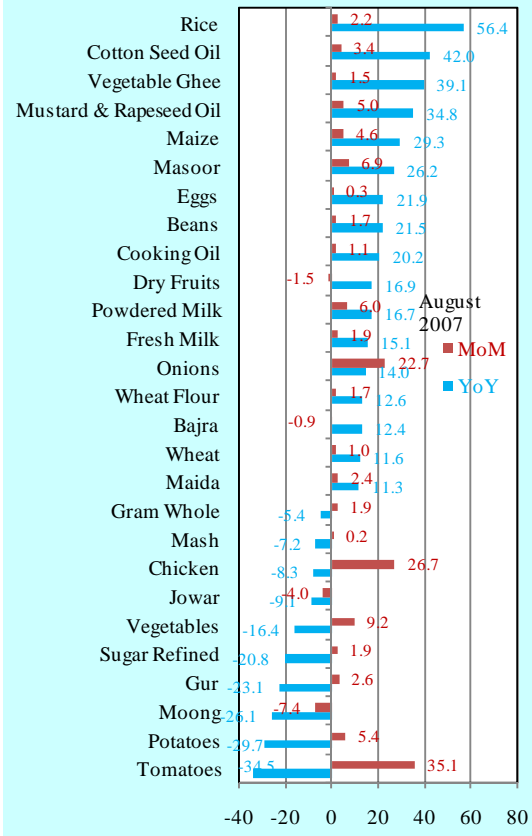


WPI food inflation continued to show strong growth of above 11 percent in August 2007 compared to 8.2 percent during the same month of last year. In food group, the wholesale prices of rice, vegetable ghee, eggs and cotton seed oil exhibited a sharp increase of more than 40 percent each during the month under review. The non-food group WPI inflation witnessed a (YoY) increase of 0.6 percent and stood at 5.6 percent in August 2007 as compared to 5.0 percent in July 2007. Except *fuel, lighting & lubricant* subgroup, all other subgroups of non-food group showed higher (YoY)

WPI inflation in August 2007 as compared to the previous month and thus contributed in the acceleration of non-food inflation.

A detailed item-wise analysis of WPI food inflation showed that the wholesale prices of some important food items like rice, cotton seed oil, pulse masoor, wheat, wheat flour, maize, ghee, eggs and fresh fruits remained firm and exhibited double digit YoY growth of varying magnitude ranging between 10 to 57 percent. The wholesale prices of around 44 percent of items depicted YoY growth of more than 10 percent during the month under review. On the other hand, the wholesale prices of some important food items showed a YoY deflation of different magnitudes i.e. tomatoes (-34.5 percent), potatoes (-29.7 percent), pulse moong (-26.1 percent), sugar (-26.1 percent) and vegetables (-16.4 percent) etc. The decline in YoY sugar price was the result of better supply on the back of arrival of Indian sugar in the market (see **Figure 3.3**).

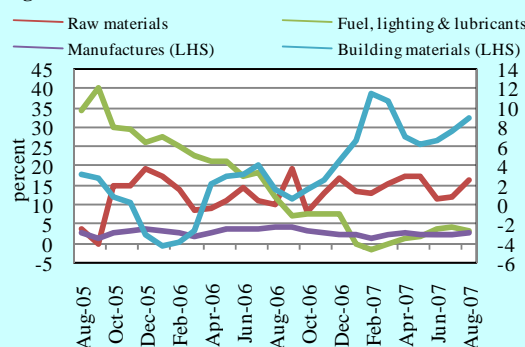
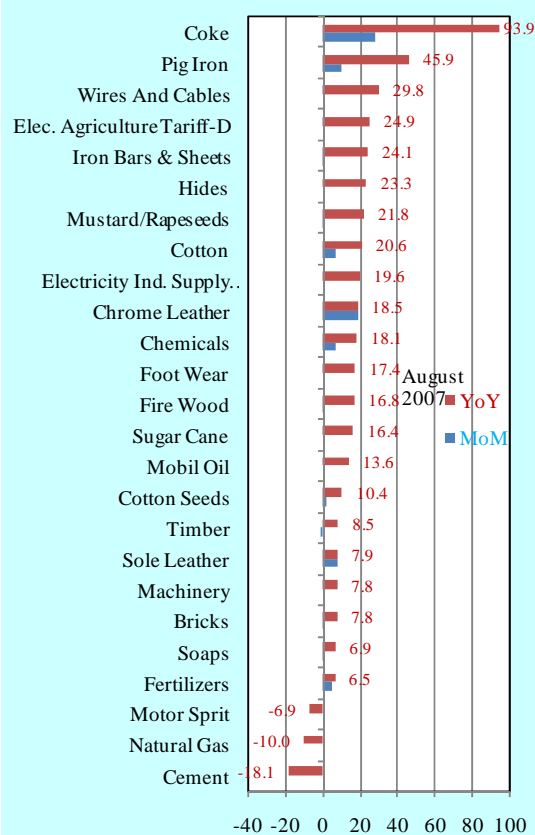
**Figure 3.3: Wholesale Price Inflation (%) in Selected Food Items**



A distribution of price change suggests that 19 out of 43 food items witnessed a rise of more than 10 percent in inflation during the month under review. While 5 items recorded moderate inflation of 5 to 10 percent, other 4 items showed subdued inflation of up to 5 percent. The wholesale prices of the remaining 15 food items declined or remained stable. In case of non-food group, prices of 18 items revealed a positive change of up to 5 percent, 21 items showed decrease or no change, 16 items demonstrated double digit rise of above 10 percent and the remaining 8 items displayed moderate inflation, i.e. 5 to 10 percent (see **Table A7** in Annexure A).

Further classification of the non-food group revealed that except *fuel, lighting and lubricant* all other subgroups, i.e., *manufactures, raw materials* and *building material* wholesale prices showed higher YoY growth during August 2007 compared to the preceding month (see **Figure 3.4**). The *fuel, lightning & lubricants* subgroup witnessed a YoY growth of 3.6 percent during August 2007. Within this group, mobil oil, furnace oil, fire wood, coke and electricity tariff-B exhibited double digit (YoY) growth during August 2007.

The *raw material* sub-group of wholesale prices increased and recorded a growth of 16.5 percent on YoY basis during August 2007: which is 4.3 percent higher as compared to 12.2 percent increase in the preceding month. As in August 2007, it was observed that all items included in the *raw material* sub-group showed positive (YoY) growth except tobacco. In this sub-group, the wholesale price of cotton, sugarcane, pig iron, hides and cotton seeds accelerated significantly and exhibited double digit YoY growth during the month under review. While the price of wheat in the wholesale market surged due to speculative hoarding on the back of rising

**Figure 3.4: YoY Inflation in WPI Non-food****Figure 3.5: Wholesale Prices Inflation (%) in Selected Non-food Items**

international prices. The rise in the prices of cotton and sugarcane is primarily driven by strong demand.

The wholesale prices of the *manufactures* sub-group accelerated and recorded a growth of 3.3 percent in August 2007 compared to 2.4 percent inflation in July 2007. Chemicals, footwear, fertilizers, soaps and machinery showed strong growth in this sub-group.

The growth in *building material* sub-group increased for the third consecutive month and depicted a (YoY) growth of 9.0 percent in August 2007 compared to 7.7 percent during the last month. This was mainly due to the wholesale prices of bricks, wires & cables and iron bars & sheets, and wires and cables that showed double digit rise during the month under review (see **Figure 3.5**).

#### 4. Global Commodity Prices

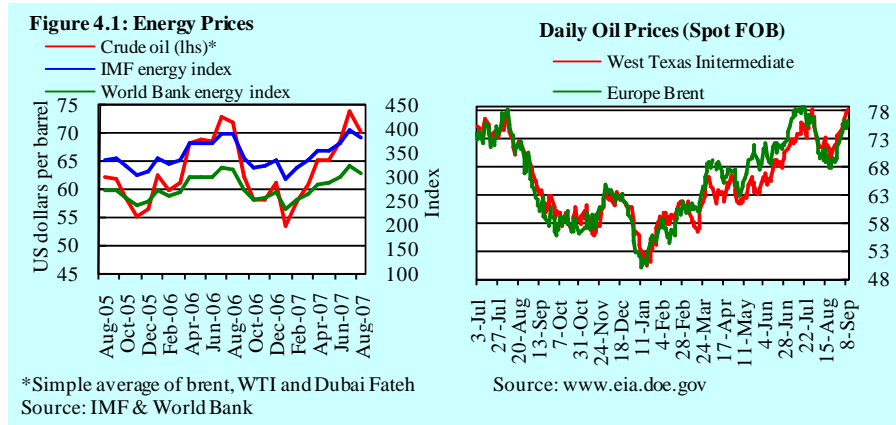
Inflationary pressures in the international market slowed down in August 2007. This slowdown in global commodity prices was attributed to all groups: food, energy and non-food non-energy. In energy group, the crude oil prices dropped in August 2007 due to the fears of an economic slowdown as a result of turmoil in the international credit markets<sup>6</sup>. The drop in energy prices was also reflected by the IMF and the World Bank energy indices that showed downward movement during the month under review. In food group, the prices of all major staples including rice, sugar, palm and soybean oil also showed a YoY decline in the international market. Prices of selected items of non-food non-energy group witnessed a fall during the month under review (see **Table 4.1**).

<b>Table 4.1: International Commodity Prices/Indices</b>				
	<b>Aug 06</b>	<b>Jun 07</b>	<b>Jul 07</b>	<b>Aug 07</b>
<b>Energy</b>				
Crude Oil (US\$ per barrel)	71.8	68.2	73.7	70.1
IMF Energy Index (1995=100)	386.7	368.4	396.6	379.8
WB Energy Index (1990=100)	313.5	298.0	321.7	306.5
Coal	54.6	60.4	72.1	74.5
<b>Food (\$/MT)</b>				
Rice	313.4	326.3	332.5	331.5
Wheat	189.9	223.0	238.4	259.7
Sugar	13.0	9.3	9.9	9.6
Palm Oil	434.5	748.4	764.5	729.6
Soybean Oil	562.5	782.9	819.2	797.1
Sunflower Oil	673.0	673.0	673.0	673.0
<b>Non-Food Non-Energy</b>				
Cotton Outlook 'A' Index #	59.9	0.0	149.6	148.2
WB Steel Products Index (1990=100)	135.8	133.5	132.9	132.6
DAP (\$/MT)	260.9	434.5	436.3	429.4
Urea (\$/MT)	213.7	289.0	267.9	269.0

\$/MT = US\$ per metric tonne.  
# 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/  
Source: IMF and World Bank.

Crude oil prices went down by 2.3 percent in August 2007 over the same month last year though still remained above US\$70 per barrel. The average monthly crude oil price in the international market fluctuated between the minimum range of US\$ 68.5 – US\$ 76.8 per barrel. The volatility in international crude oil prices – measured by the standard deviation (SD) – increased during the month under review and the movement around average price during the month of August 2007 was 2.2. In accordance with the international oil prices, the IMF and the World Bank energy indices for August 2007 exhibited a decline over the preceding month as well as compared to the same month last year (see **Figure 4.1**).

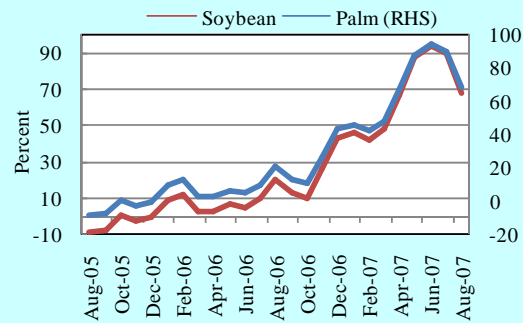
<sup>6</sup> World Bank Commodity Market Review, September 11, 2007.



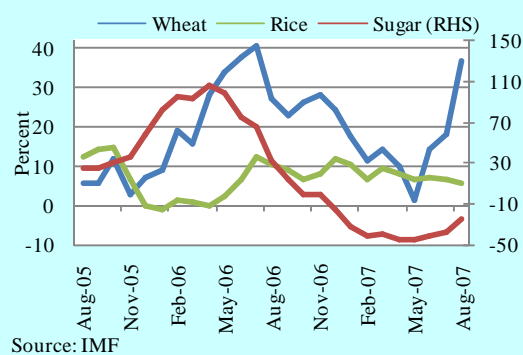
In case of edible oils, the prices of soybean and palm oil prices continued to show strong YoY rise in August 2007. Palm and soybean oil prices registered a steep rise (YoY) of 67.9 and 41.7 percent respectively. This high edible oil price is the result of rising soybean demand for food, feed and fuel internationally and amid lower soybean output in the U.S. However, on MoM basis palm and soybean oil prices declined by 4.6 and 2.7 percent respectively in August 2007 (see **Figure 4.2**).

Wheat prices exhibited a sharp YoY growth of 36.8 percent during August 2007 compared to 27.2 percent during the same month last year. On July-August basis wheat prices gained 8.9 percent. This was due to the relatively weak

**Figure 4.2: Edible Oil Price YoY Change**

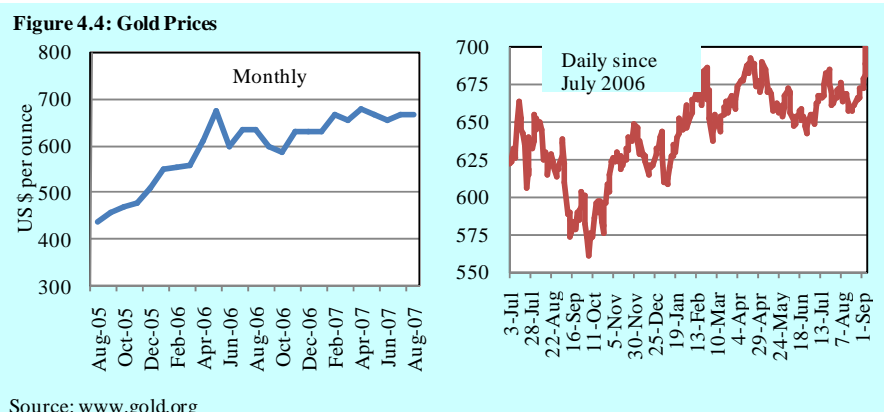


**Figure 4.3: Wheat, Rice and Sugar Prices YoY Change**



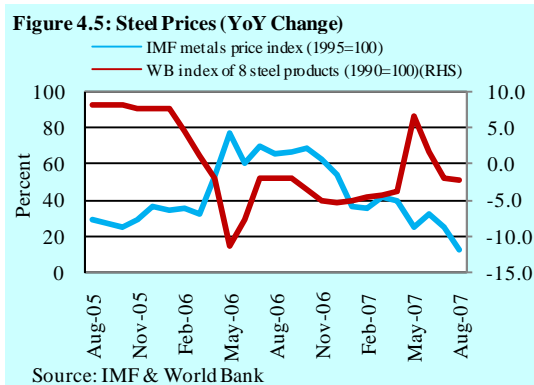


crops in major exporting countries and expected record low season ending stocks<sup>7</sup>. On the other hand, the price of rice in the international market dropped slightly by 0.3 percent. Sugar prices also declined by 2.9 percent in August 2007 over the preceding month and the average monthly sugar prices continued to decline for the eleventh consecutive month on YoY basis and fell by 25.9 percent in August 2007 (see **Figure 4.3**).



Average gold prices remained almost unchanged at US\$ 665 per ounce during August 2007 compared to the previous month. While the range of the daily gold price in the international market increased; fluctuating between US\$ 649 per ounce and \$684 per ounce. The volatility in daily gold price – measured by the standard deviation (SD) – reduced during August 2007 and exhibited a lower fluctuation of 4.9 around mean of US\$ 665 per ounce compared to SD of 9.8 in July 2007(see **Figure 4.4**).

According to IMF metal price index and World Bank index of 8-steel products, metal prices plunged by 8.5 and 0.23 percent respectively in August 2007 compared to the preceding month. This decline was caused by rising concerns of slowing global demand due to reduced liquidity and credit availability. As regards to

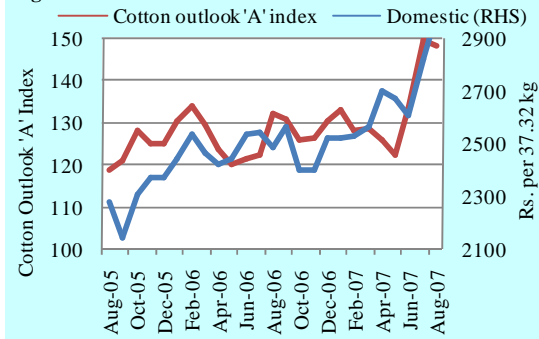


<sup>7</sup> World Bank Commodity Market Review, September 11, 2007.

individual items in metal group, nickel prices declined (MoM) by 17 percent during the month under review due to cutbacks in stainless steel output. Zinc prices fell around 9 percent on expectations of higher mine supply, while aluminum prices declined 8 percent on rising inventories and large production growth in China<sup>8</sup>. Copper prices fell 6 percent, but remained supported by numerous strike actions. On the other hand tin and lead prices rose due to supply constraints and falling stocks (see **Figure 4.5**).

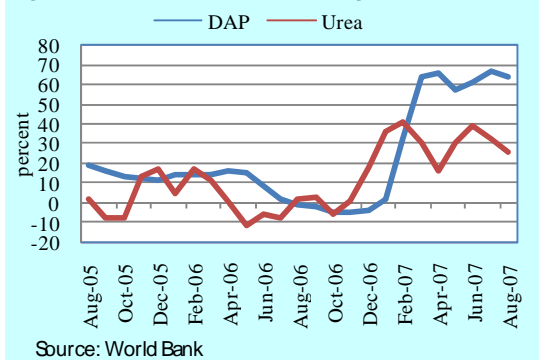
Cotton prices showed further strength during August 2007 in the international markets and increased significantly by 6.2 percent due to a strong demand in China and expectations of lower output due to flooding in Texas. However, cotton prices in domestic market declined slightly (by 1 percent) in August 2007 over the preceding month (see **Figure 4.6**).

**Figure 4.6: Cotton Prices**



After witnessing a decline for two consecutive months, urea prices showed a slight rise in August 2007. However, the prices of urea were 26 percent higher than the same month of last year. Whereas the prices of DAP<sup>9</sup> remained slightly lower in August 2007 compared to its prices in July 2007 in the international market (see **Figure 4.7**).

**Figure 4.7: Fertilizer Prices (YoY Change)**



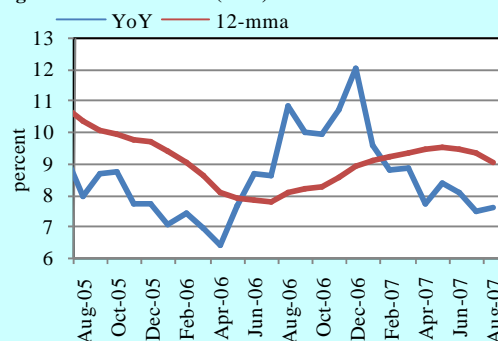
<sup>8</sup> World Bank Commodity Market Review, September 11, 2007.

<sup>9</sup> DAP: Diammonium Phosphate

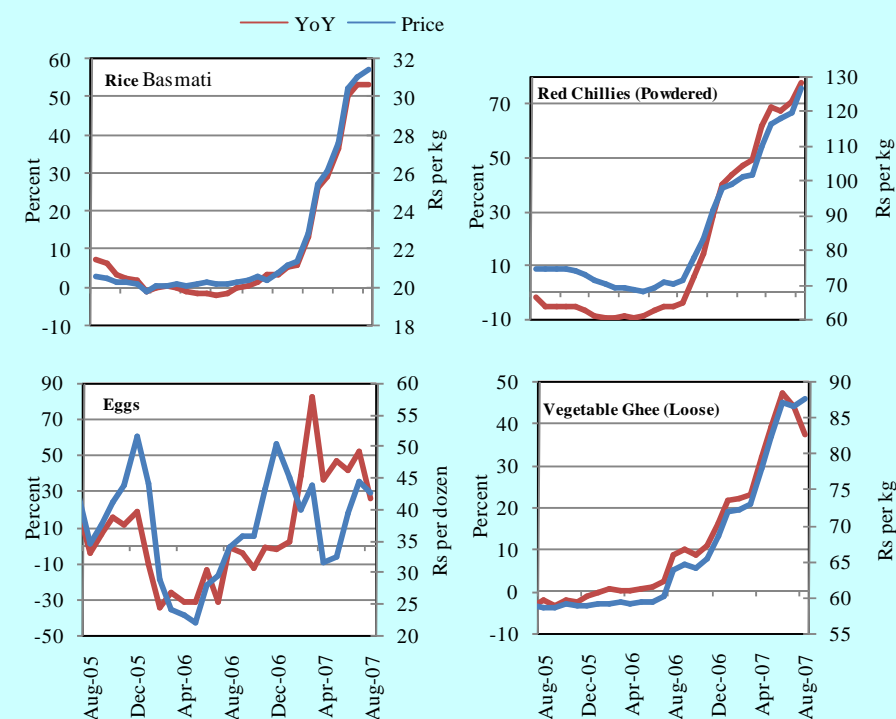
## 5. Sensitive Price Indicator

The sensitive price indicator (SPI) showed an increase in inflation and recorded 7.6 percent YoY growth in the month under review as compared to 7.5 percent YoY growth recorded in the previous month. However this 7.6 percent inflation is lower than 10.5 percent inflation recorded in the corresponding month last year. Similarly the long-run trend indicated by 12-month moving average showed a slight decrease in the month under review: 9 percent as compared to 9.3 percent in the previous month (see **Figure 5.1**).

**Figure 5.1: SPI Inflation (YoY)**



**Figure 5.2: SPI Inflation (YoY) in selected Items**

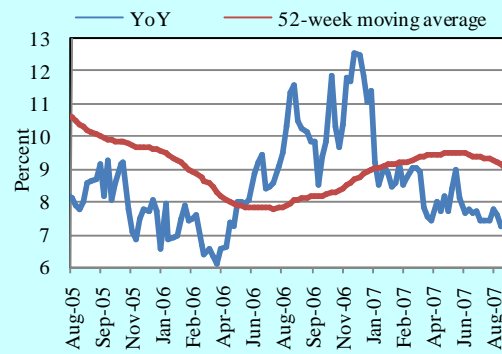


The major items contributing to the SPI inflation were rice, eggs, vegetable ghee, edible oil and red chilies (see **Figure 5.2**). In the SPI basket, 25 items recorded YoY inflation higher than the average level of 7.6 percent during August 2007. The remaining 28 items recorded YoY inflation less than the average level with 12 items including sugar, potatoes, pulse moong, gur, potatoes, tomatoes, garlic etc showing negative growth.

Compared to the prices of the previous month, almost 30 percent items included in the SPI basket witnessed a decline or no change in the price level. On the other hand three items, i.e. tomatoes, onions and chicken showed double digit growth in inflation compared with the previous month (see **Table A8** in Annexure A).

Weekly SPI witnessed mixed trends in YoY inflation during August 2007 and fluctuated between the range of 7.2 percent to 8.1 percent. After recording weekly YoY inflation of 7.8 percent in the first week of August 2007, SPI inflation declined to 7.2 percent in the second last week of August before rising to 8.1 percent in the last week of the month under review. The long-run trend indicated by 52-week moving average has shown a slight decrease in inflation since June 2007 (see **Figure 5.3**).

**Figure 5.3: Weekly SPI Inflation**



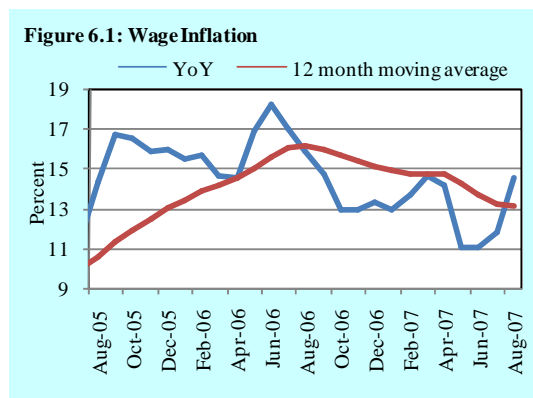
**Table 5.1 : Income Group-wise SPI Inflation (YoY)**

	percent				
	Up to Rs. 3000	Rs. 3001-5000	Rs. 5000-12000	Above Rs. 12000	All income groups
Sep-06	11.2	10.8	10.8	10.6	10.0
Oct-06	11.8	11.3	11.2	9.8	9.9
Nov-06	13.4	12.7	12.2	10.1	10.7
Dec-06	14.5	14.0	13.6	11.2	12.0
Jan-07	12.1	11.3	10.7	8.5	9.5
Feb-07	10.6	10.0	9.7	7.8	8.8
Mar-07	9.7	9.5	9.4	8.0	8.9
Apr-07	8.3	8.3	8.2	6.9	7.7
May-07	9.1	9.3	9.0	7.0	8.3
Jun-07	9.7	9.6	8.9	6.2	8.0
Jul-07	9.8	9.4	8.3	5.2	7.5
Aug-07	9.2	9.0	8.1	5.5	7.6

Like the previous month, the incidence of SPI inflation was the highest in the lowest income group. On the other end, the least affected group was the highest income group with YoY inflation maintaining single digit growth for the eighth consecutive month in August 2007 (see **Table 5.1**). This is because most of the items showing high inflation are from the food group and thus are more significant for the lowest income group as compared to other income groups. However, despite being the least affected group income group-wise SPI inflation reveals that the highest income group, showed an increase in inflation as compared to the previous month.

## 6. Wage Inflation in Construction Sector

Though wage inflation decelerated to 14.5 percent in August 2007 compared with 15.9 percent in August 2006, there is an evident uptrend visible since June 2007 (see **Figure 6.1** and **Table 6.1**). This acceleration in inflation was the result of an increase in nominal wages of all types of workers i.e. skilled and unskilled in the month of August, 2007. The long run trend of nominal wage inflation measured by 12 month moving average continued on its downward trend due to generally declining nominal wage inflation during the last 12 months.

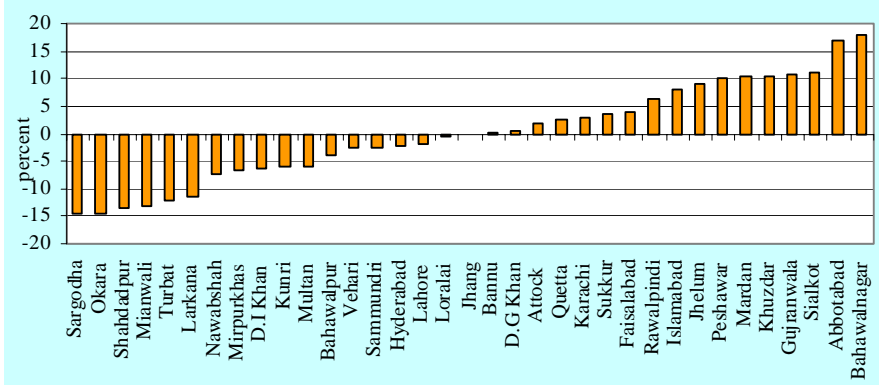


**Table 6.1: Wage Inflation (YoY)**

	Jan- 07	Feb- 07	Mar- 07	Apr- 07	May- 07	Jun- 07	Jul- 07	Aug- 07
<b>Overall</b>	12.9	13.7	14.6	14.2	11.1	11.1	11.8	14.5
<b>Skilled:</b>	<b>12.5</b>	<b>13.3</b>	<b>14.3</b>	<b>13.8</b>	<b>10.5</b>	<b>10.4</b>	<b>11.4</b>	<b>14.2</b>
Carpenter	12.4	12.8	14.6	13.7	12.8	11.9	11.9	14.8
Mason	12.1	13.9	15.2	16.0	14.2	13.5	13.4	15.9
Plumber	10.6	11.3	11.7	11.2	9.8	10.9	12.1	15.0
Electrician	14.9	15.1	15.6	14.1	5.2	5.3	8.1	11.1
<b>Unskilled:</b>	<b>16.3</b>	<b>17.1</b>	<b>17.3</b>	<b>16.8</b>	<b>14.9</b>	<b>15.6</b>	<b>14.8</b>	<b>16.4</b>
Laborer	16.3	17.1	17.3	16.8	14.9	15.6	14.8	16.4

Figure 6.2 presents the picture of city wise deviation in wages from mean during the month of August 2007. Out of 35 cities, 17 cities recorded higher than average wage inflation and the remaining 18 cities witnessed lower than average inflation. The highest wage inflation was observed in Bahawalnagar followed by Abbottabad and Sialkot whereas Sargodha, Okara, Shahdadpur etc., showed the lowest YoY changes in wages during the month under review.

**Figure 6.2: City-wise Wage Inflation - Difference from Mean in August 2007**



## Annexure A

Table A1: CPI Inflation (YoY) by Groups <span style="float: right;">(percent)</span>						
	Weights	Aug-03	Aug-04	Aug-05	Aug-06	Aug-07
<b>I. Food Group</b>	<b>40.3</b>	<b>0.4</b>	<b>14.4</b>	<b>7.8</b>	<b>11.1</b>	<b>8.6</b>
<b>II. Non-Food Group</b>	<b>59.7</b>	<b>2.7</b>	<b>5.9</b>	<b>8.8</b>	<b>7.4</b>	<b>4.9</b>
Apparel, textile, etc.	6.1	4.2	1.1	5.1	3.9	7.5
House rent	23.4	1.9	9.6	11.5	7.5	7.2
Fuel & lighting	7.3	3.5	2.6	6.2	13.0	2.2
Household furniture & equip.	3.3	3.1	5.4	5.7	6.2	6.6
Transport & com.	7.3	2.0	7.2	16.2	8.0	-3.0
Recreation & entertainment	0.8	0.1	-0.9	-0.3	0.2	0.0
Education	3.5	4.9	2.4	5.3	6.3	6.2
Cleaning, laundry, etc.	5.9	4.1	4.4	3.0	4.4	5.1
Medicines	2.1	-0.8	1.1	1.3	7.9	9.8
<b>Headline</b>	<b>100</b>	<b>1.8</b>	<b>9.2</b>	<b>8.4</b>	<b>8.9</b>	<b>6.5</b>

Table A2: Distribution of Price Changes of CPI Basket, August 2007 (YoY)						
Groups	% Changes	Total Number of Items	No. of Items in each Inflation Range			
			Decrease or no change	Subdued increase	Moderate increase	Double digit increase
			(0 % or less)	(0 to 5%)	(5 to 10%)	(over 10%)
<b>I. Food Group</b>	<b>8.6</b>	<b>113</b>	<b>26</b>	<b>15</b>	<b>27</b>	<b>45</b>
<b>II. Non-Food Group</b>	<b>4.9</b>	<b>250</b>	<b>73</b>	<b>97</b>	<b>56</b>	<b>24</b>
Apparel, textile, etc.	7.5	42	2	24	12	4
House rent	7.2	1			1	
Fuel & lighting	2.2	15	9	1		5
Household furniture & equip.	6.6	44	1	16	25	2
Transport & com.	-3.0	43	22	15	3	3
Recreation & entertainment	0.0	16	10	3	1	2
Education	6.2	24	7	8	5	4
Cleaning, laundry, etc.	5.1	36	1	23	9	3
Medicines	9.8	29	21	7		1
<b>Overall</b>	<b>6.5</b>	<b>363</b>	<b>99</b>	<b>112</b>	<b>83</b>	<b>69</b>

Note: Prices of 11 seasonal items were not reported during the month.

**Table A3: Top Ten Contribution to YoY CPI Inflation in August 2007**

Items		weights	YoY change		Weighted Contribution
			Aug-06	Aug-07	
A. Ranked by Weighted Contribution					
1	House Rent Index	23.43	7.49	7.17	25.79
2	Milk Fresh	6.66	10.29	12.91	14.02
3	Vegetable Ghee	2.67	5.63	33.50	13.63
4	Rice	1.34	1.60	51.97	9.73
5	Wheat Flour	5.11	1.90	10.47	8.00
6	Electricity	4.37	0.00	10.07	5.31
7	Meat	2.70	13.27	6.22	3.86
8	Footwear	1.53	2.49	17.94	3.30
9	Cooking Oil	0.69	2.09	29.33	2.92
10	Tution Fees	2.36	6.92	7.45	2.64
Total		50.86	-	-	89.20
B. Ranked by Percentage Change					
1	Rice	1.34	1.60	51.97	9.73
2	Vegetable Ghee	2.67	5.63	33.50	13.63
3	Mustard Oil	0.05	5.61	33.45	0.21
4	Cooking Oil	0.69	2.09	29.33	2.92
5	Milk Powder	0.11	4.74	27.60	0.44
6	Pulse Masoor	0.22	-8.85	27.19	0.77
7	Eggs	0.41	0.43	23.71	1.36
8	Onions	0.64	-2.29	23.19	2.14
9	Spices	0.60	2.81	20.13	1.43
10	Doctor's Fee	1.00	14.18	18.18	2.62
Total		7.71	-	-	35.24
C. Ranked by Weights					
1	House Rent Index	23.43	7.49	7.17	25.79
2	Milk Fresh	6.66	10.29	12.91	14.02
3	Wheat Flour	5.11	1.90	10.47	8.00
4	Electricity	4.37	0.00	10.07	5.31
5	Bakery & Confectionary	2.98	4.75	3.49	1.35
6	Meat	2.70	13.27	6.22	3.86
7	Vegetable Ghee	2.67	5.63	33.50	13.63
8	Tution Fees	2.36	6.92	7.45	2.64
9	Transport Fare/Charges	2.12	9.37	2.09	0.84
10	Natural Gas	2.05	29.48	-7.79	-3.97
Total		54.45	-	-	71.47
Note: Weighted contribution is estimated by multiplying the weights by the index-change of an item; this is then reported as a share in YoY change in CPI, which is 6.5 percent in August 2007.					



Table A4: Distribution of Price Changes - Selected CPI Items, August 2007				
Groups	Decrease or no change	Subdued increase (upto 5%)	Moderate increase (5 to 10%)	Increase of over 10%
Food Group	Sugar Refined		Beef With Bone	Milk Fresh (Unboiled)
	Chicken Farm		Av.Qlty.	Wheat Flour Bag
	Broiler (Live)	Bananas	Mutton Av.Qlty.	Vegetable Ghee
	Tea Loose Kenya	Coffee-Nescafe 75	Tea Prepared	(Loose)
	Av.Qlty 250G	Gm.	(Ordinary)	Vegetable Ghee Tin
	Potatoes	Bananas	Wheat	Onion
	Tomatoes	Cold Drink (Standard	Bread Tandoori St.	Rice Basmati Broken
Apparel & Textile	Pulse Moong	Siz)	Size	Av.Qlty
	(Washed)	Pulse Mash (Washed)	Pulse Gram	Eggs Farm
	Gents Shoes Paul	Lawn Av.Qlty.	Long Cloth Av.Qlty.	Nylon Jogger 27 Size
	Bata	Shirting Av.Qlty.	Tailoring Awami-Suit	2-5, Child Shoe Power
	Ladies Sandal Bata	School Uni.	(Male)	Lite Bata, Gents
		Kameez,Shal.Girl	Tailoring Suit Female	Spoung Chappal Bata
House Rent Index			House rent index	
Fuel & Lighting	Gas Chrg 6.7438 -			Elect.Charges Above
	10.1157Mmb			1000 Uni
	Gas Chrg10.1157 -		Bulb Philips 100-	Elect.Charges 301 -
	13.4876Mmb		Watts	1000 Uni
H/hold Furniture	Gas Cylinder			Elect.Charges 101 -
	Stand. Size			300 Unit
		Quilt (Lihaf) 3 Kg.	Household Servant	
		Cotton, Tea Set Pak.	Female P/T, Bedsheet	Table Shesham Wood
Transport & Comm.	Sewing Machine(Singer)	Chinaware 21 Pc	Single Bed Sup.Qlty	(4X2X5")
		Blanket (90" X 54")	Pedestal Fan 22" Super	Airconditioner 1.5 Ton
			Qlty	Pel
Recreation & Entertainment	Petrol Super	A/C Bus Fare Outside	Bicycle With Tyres &	Taxi 4 Seater Fare
	Tel Charges Out	City, Car Service	Tubes, Motor Cycle	Air Fare Economy
	Side City	Charges, Tyre Car	Service Charges	Class.
	Telephone Charges	With Tube General,	Tyre Cycle Specify	Tyre Motor Cycle
Education	Local Call, Bus	Auto Rickshaw Fares	Brand Nam	Without Tub
	Fare Outside City			
Cleaning & Laundry	Tv.Licence	Cinema A/C. Highest		
	Feedomestic	Class, Radio With		Dry Cell 1.5
	Daily "Jang"	C.Player National		Volt(Local)
	Video Game Sega	Vid. Cassette Blk.	Cinema Non-A/C High	Weekly "Akhbar-E-
Medicare	16 Byte	Tdk/Sony	Class	Jahan"
	Govt. College Fee	Govt. College Fee Ist.	School Fee 2Nd-Ry	Eng. Book Ist.Yr
	4Th. Year	Year	Eng.Med.	Complete Se
	Urdu Book	English Book Class Ix	School Fee Primary	Urdu Book Class
Medicare	Ist.Year/Inter	Or X	Eng.Med.	Ix/X(T.B.B)
	Urdu Book Class V	Maths Book Ist.Year	Exercise.Book Lined	Govt. University Fee
	(T.B.Bord)	(T.B.B)	80/100 P	Msc.
Medicare		Haircut Charges For	Washing Soap	
		Men, Surf (Medium)	Nyl(135-160Gms)	
		160 Grm	Toilet Soap Lux 95	Shaving Cream Touch-
		Washing Powder 1000	Grams, Shampoo Plain	Me/Adm.
Medicare	Hair-Colour Begin	Grm, Toothpaste	Medora 200 Ml.	Robin Blue (35
	(6 Gms)	Macklines 70 Grm	Toilet Soap Lifebouy	Grams)
			140 Grm	Silver Tezabi 24 Ct
Medicare	Gripe-Water	Cotton Bandage 2" - 4"		Doctor (Mbbs) Clinic
	Woodwards	Amoxil Capsule 250		Fee
	Dettol (Medium)	Mg.S, Panadol Tab.		
	Jouhar Joshanda	Extra/Plain		

Table A5: City-wise CPI Inflation (YoY) by Income Groups, August 2007								percent
		Upto Rs:3000			Rs 3001-5000			
		General	Food	Non-Food	General	Food	Non-Food	
1	Lahore	8.1	12.1	5.3	7.8	11.3	5.4	
2	Faisalabad	7.2	12.1	3.9	8.1	11.9	5.5	
3	Rawalpindi	5.2	3.9	6.1	5.7	4.8	6.4	
4	Multan	8.0	9.7	6.9	8.3	10.5	6.8	
5	Gujranwala	9.1	12.3	6.9	9.9	12.4	8.1	
6	Islamabad	8.3	7.8	8.6	8.3	7.6	8.8	
7	Sargodha	5.9	7.8	4.6	5.5	7.2	4.4	
8	Sialkot	8.0	12.7	4.8	7.6	11.7	4.8	
9	Bahawalpur	6.6	8.2	5.6	7.1	9.2	5.7	
10	Karachi	8.4	11.6	6.2	8.9	12.6	6.4	
11	Hyderabad	9.4	11.3	8.2	9.4	11.7	7.9	
12	Sukkur	8.7	11.6	6.7	7.8	9.7	6.5	
13	Larkana	7.3	10.0	5.5	6.8	8.7	5.6	
14	Peshawar	7.8	9.1	7.0	6.7	6.9	6.6	
15	Bannu	5.4	4.2	6.2	6.6	5.1	7.5	
16	Quetta	8.8	11.2	7.2	7.7	11.1	5.4	
17	Khuzdar	3.6	2.0	4.6	4.7	3.5	5.5	

		Rs 5001-12000			above Rs 12000			
		General	Food	Non-Food	General	Food	Non-Food	
1	Lahore	7.1	10.9	4.5	5.7	10.0	2.9	
2	Faisalabad	7.3	11.9	4.3	5.6	12.1	1.2	
3	Rawalpindi	6.0	5.2	6.4	5.8	5.5	6.1	
4	Multan	7.9	10.7	6.0	7.2	10.0	5.3	
5	Gujranwala	9.7	12.4	7.9	8.8	11.2	7.2	
6	Islamabad	8.0	7.6	8.3	7.7	7.7	7.7	
7	Sargodha	4.8	6.4	3.6	3.0	5.2	1.5	
8	Sialkot	7.0	11.6	4.0	5.9	11.0	2.5	
9	Bahawalpur	6.7	9.3	5.0	5.2	8.5	3.0	
10	Karachi	8.6	12.0	6.3	6.9	10.6	4.4	
11	Hyderabad	9.4	12.0	7.7	8.2	11.5	6.0	
12	Sukkur	7.5	9.8	5.9	6.9	9.5	5.1	
13	Larkana	6.7	9.2	5.1	5.3	7.7	3.7	
14	Peshawar	6.1	7.0	5.5	5.1	7.0	3.9	
15	Bannu	6.4	5.3	7.1	5.6	5.8	5.6	
16	Quetta	7.4	11.3	4.7	6.6	11.2	3.5	
17	Khuzdar	6.1	5.4	6.5	5.7	5.5	5.8	

<b>Table A6 : Income Group-wise CPI Inflation (YoY)</b>								percent
	<b>Jan-07</b>	<b>Feb-07</b>	<b>Mar-07</b>	<b>Apr-07</b>	<b>May-07</b>	<b>Jun-07</b>	<b>Jul-07</b>	<b>Aug-07</b>
<u>Up to Rs. 3000</u>								
General	7.6	7.9	7.8	6.9	7.7	7.7	7.5	7.3
Food	9.4	9.6	9.1	7.7	9.6	9.3	8.7	8.4
Non-food	6.3	6.7	6.8	6.3	6.3	6.6	6.7	6.5
<u>Rs. 3001-5000</u>								
General	7.3	7.8	7.9	7.2	8.0	7.9	7.5	7.3
Food	9.0	9.4	9.3	8.0	10.2	9.6	8.8	8.6
Non-food	6.1	6.7	6.9	6.5	6.5	6.8	6.6	6.5
<u>Rs. 5000-12000</u>								
General	6.9	7.5	7.8	7.1	7.8	7.5	6.9	6.9
Food	8.7	9.6	10.1	8.8	10.9	9.7	8.6	8.7
Non-food	5.6	6.0	6.2	5.9	5.7	5.9	5.6	5.6
<u>Above Rs. 12000</u>								
General	6.3	7.2	7.5	6.7	6.9	6.3	5.6	5.8
Food	8.7	10.7	12.2	10.8	12.3	9.8	8.1	8.6
Non-food	4.6	4.7	4.3	3.9	3.1	3.9	3.8	3.7
<u>All income groups</u>								
General	6.6	7.4	7.7	6.9	7.4	7.0	6.4	6.5
Food	8.7	10.0	10.7	9.4	11.3	9.7	8.5	8.6
Non-food	5.2	5.6	5.5	5.2	4.7	5.1	4.9	4.9

Table A7: Distribution of Price Change (YoY)--WPI Items: August 2007

Groups	Decrease or no change	Subdued increase (upto 5%)	Moderate increase (5 to 10%)	More than 10% increase
Food	Tomatoes			Spices, Fruit
	Potatoes, Moong			Prepared/Preserved
	Gur, Sugar Refined			Maida, Wheat
	Vegetables			Bajra, Wheat Flour
	Jowar			Onions, Fresh Milk
	Chicken			Powdered Milk
	Mash			Dry Fruits
	Gram Whole		Salt	Cooking Oil
	Gram Split		Milk Food	Beans, Eggs
	Tea	Mineral Water	Oil Cakes	Masoor, Maize
	Beverages	Meat	Vegetables	Mustard & Rapeseed
	Besan	Fish	Prepared/Preserved	Oil, Vegetable Ghee
	Sugar Confectionary	Condiments	Fresh Fruits	Cotton Seed Oil, Rice
Raw material				Cotton Seeds
				Sugar Cane
				Cotton
				Mustard/Rapeseeds
Fuel & lighting				Hides, Pig Iron
Manufactures			Furnace Oil	
Building material				

**Table A8: SPI Item-wise Price Movements for the month of August 2007**

S.No	Items	Unit	Price Aug -07	Percentage change	
				YoY	Monthly
1	Wheat	Kg.	12.7	9.2	1.9
2	Wheat flour a.qlt.	Kg.	14.9	12.0	1.8
3	Rice basmati. broken	Kg.	31.5	54.2	1.3
4	Rice irri-6	Kg.	22.7	40.5	1.2
5	Masur pulse washed	Kg.	54.4	31.4	8.0
6	Moong pulse washed	Kg.	53.3	-12.6	-5.0
7	Mash pulse washed	Kg.	71.5	1.3	-0.2
8	Gram pulse washed	Kg.	40.8	4.6	1.5
9	Beef	Kg.	120.9	4.8	0.2
10	Mutton	Kg.	232.2	4.9	0.4
11	Egg hen (farm)	Doz.	42.5	25.4	-4.4
12	Bread plain m.s.	Each	16.5	9.4	5.8
13	Sugar	Kg.	30.0	-14.2	2.8
14	Gur	Kg.	35.7	-16.5	2.5
15	Milk fresh	Litr	29.2	13.6	0.7
16	Milk powdered Nido	400g	143.9	29.6	6.6
17	Curd	Kg.	34.4	12.9	1.3
18	Veg.ghee tin	2.5k	267.8	29.5	3.2
19	Veg.ghee loose	Kg.	87.4	37.3	1.0
20	Mustard oil	Kg.	92.4	32.2	4.2
21	Cooking oil	2.5l	267.8	29.5	3.2
22	Potatoes	Kg.	17.2	-20.2	3.1
23	Onions	Kg.	16.3	16.7	15.7
24	Tomatoes	Kg.	27.2	-36.5	21.7
25	Bananas	Doz.	33.2	2.3	-2.6
26	Salt powdered	Kg.	4.8	8.1	1.9
27	Red chilies (powd)	Kg.	126.3	77.9	5.7
28	Garlic	Kg.	52.0	-8.2	0.1
29	Tea packet	250g	65.0	-3.7	0.0
30	Tea (prepared)	Cup	6.6	6.3	0.3

**continued**

S.No	Items	Unit	Price Aug -07	Percentage change	
				YoY	Monthly
31	Cooked beef plate	Each	31.7	10.3	2.1
32	Cooked dal plate	Each	19.0	9.0	1.8
33	Cigarettes k-2	10's	8.5	6.4	1.6
34	Coarse latha	Mtr.	36.6	5.3	1.6
35	Lawn (avg.+s.qlty)	Mtr.	82.0	2.4	-2.7
36	Voil printed	Mtr.	38.8	1.7	-0.4
37	Shirting	Mtr.	68.3	4.4	1.7
38	Sandal gents Bata	Pair	499.0	25.1	0.0
39	Sandal ladies Bata	Pair	299.0	0.0	0.0
40	Chappal spng. Bata	Pair	99.0	11.2	0.0
41	Kerosene	Litr	39.1	0.0	0.0
42	Firewood	40kg	202.3	11.7	0.4
43	Elec. Bulb 60-wats	Each	12.1	4.2	0.4
44	Match box	Each	0.8	26.2	1.2
45	Washing soap	Cake	8.7	7.7	1.0
46	Bath soap lifebuoy	Cake	15.0	7.6	0.0
47	Chicken (farm)	Kg.	87.8	-1.2	32.5
48	Gas chrg. All clb. Comb	D.mmbt	224.7	-7.8	0.0
49	L.p.g.(cylinder 11kg.)	Each	562.4	-5.0	3.7
50	Elec.chrg.all slabs com	Bd. Unit	5.1	9.9	0.0
51	Petrol	Litr	53.8	-6.9	0.0
52	Diesel	Litr	37.9	-2.6	0.0
53	Telephone local	Call	2.3	0.0	0.0
<b>Max:</b>				<b>77.9</b>	<b>32.5</b>
<b>Median</b>				<b>6.4</b>	<b>1.2</b>
<b>Min:</b>				<b>-36.5</b>	<b>-5.0</b>

<b>Table A9: Daily Labor Wages (Rs. per day) - Average of 35 Cities</b>						
	<b>Carpenter</b>	<b>Mason</b>	<b>Laborer</b>	<b>Plumber</b>	<b>Electrician</b>	<b>Average</b>
Annual Averages						
FY03	218	225.4	107.7	219.8	216.4	197.4
FY04	224.5	237.4	114.5	225	221.9	204.6
FY05	245.8	261.4	129.5	245.5	240.3	224.5
FY06	283.2	306.0	154.7	283.2	270.1	259.4
FY07	319.9	350.2	180.3	315.7	308.1	294.8
Monthly Averages						
Aug-06	306.0	334.5	170.4	305.7	303.6	284.0
Sep-06	312.4	338.2	173.7	310.1	303.7	287.6
Oct-06	313.9	340.3	176.9	310.4	303.7	289.0
Nov-06	315.0	342.2	178.4	311.8	304.8	290.4
Dec-06	318.1	347.6	180.7	315.5	306.9	293.8
Jan-07	320.2	349.0	181.5	316.3	307.9	295.0
Feb-07	324.1	354.7	182.9	319.8	308.3	298.0
Mar-07	328.4	359.7	184.9	321.5	311.7	301.2
Apr-07	330.8	364.1	186.2	323.6	313.2	303.6
May-07	331.1	365.3	188.0	321.3	313.2	303.8
June-07	334.9	374.0	191.5	330.2	318.2	309.7
Jul-07	339.9	377.4	193.9	338.4	326.4	315.2
Aug-07	351.2	387.9	198.3	351.6	337.3	325.2
Source: Federal Bureau of Statistics						

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

Item and Specification		Index		
		Weights	Aug-06	Aug-07
<b>GENERAL</b>		<b>100.0009</b>	<b>139.36</b>	<b>148.64</b>
<b>FOOD &amp; BEVERAGES.</b>		<b>40.3415</b>	<b>145.70</b>	<b>158.26</b>
1	WHEAT	0.4830	133.64	145.42
2	WHEAT FLOUR	5.1122	134.54	148.63
3	MAIDA	0.1059	129.56	141.74
4	BESAN	0.1320	139.77	146.52
5	RICE	1.3369	126.08	191.60
6	PULSE MASOOR	0.2214	115.31	146.66
7	PULSE MOONG	0.2230	203.36	177.44
8	PULSE MASH	0.2017	155.28	156.72
9	PULSE GRAM	0.4272	132.26	140.15
10	GRAM WHOLE	0.1491	133.87	135.35
11	MUSTARD OIL	0.0456	123.90	165.35
12	COOKING OIL	0.6858	130.75	169.10
13	VEGETABLE GHEE	2.6672	137.29	183.28
14	SUGAR	1.9467	128.29	109.31
15	GUR	0.0735	162.31	135.51
16	TEA	1.2559	111.78	108.84
17	MILK FRESH	6.6615	146.73	165.68
18	MILK POWDER	0.1105	130.14	166.06
19	MILK PRODUCTS	0.5607	134.56	152.04
20	HONEY	0.0358	129.61	130.45
21	CEREALS	0.0878	127.79	138.50
22	JAM,TOMATO,PICKLES & VINEGAR	0.2472	117.96	133.21
23	BEVERAGES	0.7286	130.52	137.77
24	CONDIMENTS	0.3392	111.50	119.40
25	SPICES	0.6008	106.62	128.08
26	DRY FRUIT	0.2760	193.73	220.36
27	BAKERY & CONFECTIONARY	2.9837	116.69	120.76
28	CIGARETTES	0.9527	147.36	157.93
29	BETEL LEAVES & NUTS	0.1851	128.74	146.46
30	READYMADE FOOD	1.6833	148.99	160.71
31	SWEETMEAT & NIMCO	0.3846	145.94	161.18
32	FISH	0.2703	138.44	148.83
33	MEAT	2.6981	207.30	220.19
34	CHICKEN FARM	0.9158	170.28	167.90
35	EGGS	0.4119	125.01	154.65
36	POTATOES	0.5806	240.73	182.24
37	ONIONS	0.6237	130.70	161.01
38	TOMATOES	0.4833	221.95	179.70
39	VEGETABLES	1.8377	170.90	160.98
40	FRESH FRUITS	1.6155	156.90	161.92
<b>APPAREL, TEXTILE &amp; FOOTWEAR.</b>		<b>6.0977</b>	<b>120.44</b>	<b>129.48</b>
41	COTTON CLOTH	1.6197	126.91	132.99
42	SILK,LINEN,WOOLEN/CLOTH	0.5766	123.36	128.93
43	TAILORING CHARGES	0.8636	124.07	131.83
44	HOSIERY	0.1528	132.07	138.48
45	READYMADE GARMENTS	1.2038	120.48	123.78
46	WOOLEN READYMADE GARMENTS	0.1485	132.86	137.91
47	FOOTWEAR	1.5327	108.04	127.42
<b>HOUSE RENT.</b>		<b>23.4298</b>	<b>138.12</b>	<b>148.03</b>
48	HOUSE RENT INDEX (Combined)	23.4298	138.12	148.03
<b>FUEL AND LIGHTING.</b>		<b>7.2912</b>	<b>148.50</b>	<b>151.72</b>
49	KEROSENE	0.1366	235.87	235.87
50	FIREWOOD	0.4778	195.50	219.13
51	MATCH BOX	0.1301	100.00	100.00
52	BULB & TUBE	0.1311	86.35	86.73

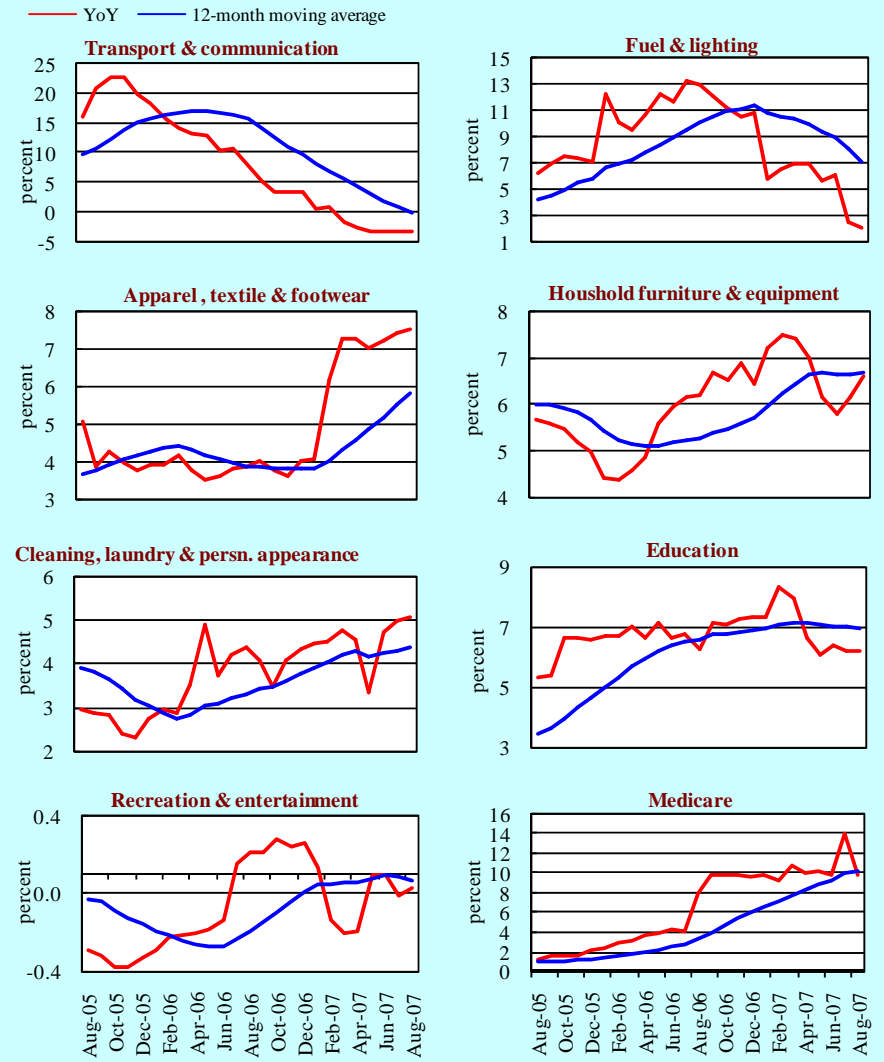
(continued)

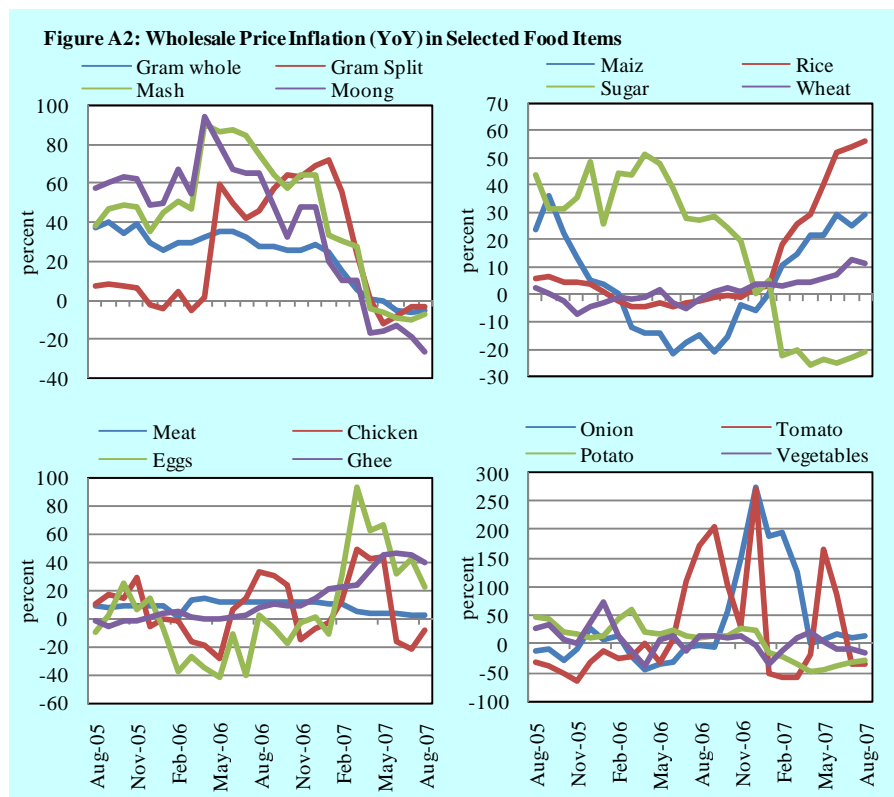


Table A10 (continued)

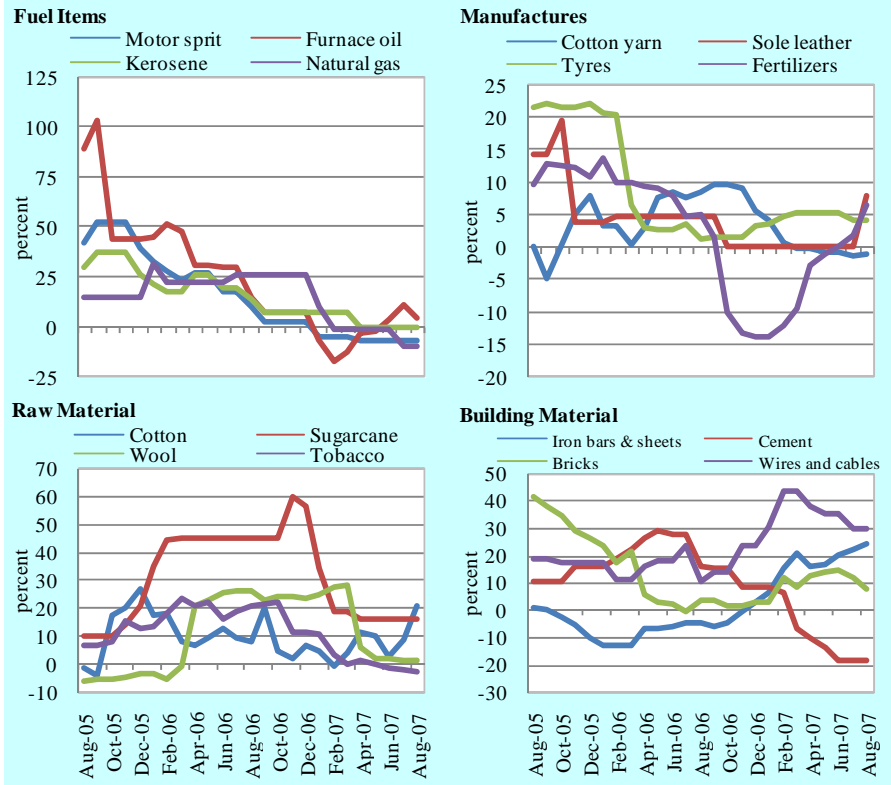
Item and Specification	Weights	Index	
		Aug-06	Aug-07
53 ELECTRICITY	<b>4.3698</b>	108.59	119.53
54 NATURAL GAS	2.0458	224.01	206.56
<b>H.HOLD.FURNITURE &amp; EQUIPMENT ETC.</b>	<b>3.2862</b>	<b>128.58</b>	<b>137.05</b>
55 UTENSILS	0.3690	117.94	122.76
56 PLASTIC PRODUCTS	0.1055	135.07	142.37
57 SUITCASE	0.0470	119.15	126.38
58 HOUSE HOLD EQUIPMENTS	0.0953	117.21	122.67
59 FURNITURE (Ready Made)	0.3054	126.72	137.36
60 FURNISHING	0.6362	125.17	131.85
61 ELECT.IRON FANS & WASHING MACHINE	0.1889	118.69	125.46
62 SEWING MACHINE,CLOCK AND NEEDLES	0.1270	116.77	118.74
63 REFRIGERATOR & AIRCONDITIONER	0.1756	94.53	100.51
64 MARRIAGE HALL	0.0445	136.40	148.99
65 HOUSE HOLD SERVANT	1.1918	142.42	153.99
<b>TRANSPORT &amp; COMMUNICATION.</b>	<b>7.3222</b>	<b>151.08</b>	<b>146.58</b>
66 PETROL	1.7253	188.63	175.59
67 DIESEL	0.2070	245.02	238.74
68 CNG. FILLING CHARGES	0.1649	137.60	142.87
69 SERVICE CHARGES	0.3835	128.68	133.30
70 VEHICLES	0.2596	100.46	100.77
71 TYRE & TUBE	0.2831	119.36	124.94
72 TRANSPORT FARE/CHARGES	2.1236	169.28	172.82
73 TRAIN FARE	0.1514	169.82	170.01
74 AIR FARE	0.0983	218.72	253.00
75 COMMUNICATION	1.9255	99.44	86.76
<b>RECREATION &amp; ENTERTAINMENT.</b>	<b>0.8259</b>	<b>105.82</b>	<b>105.85</b>
76 RECREATION	0.3399	100.00	100.97
77 ENTERTAINMENT	0.4860	109.90	109.26
<b>EDUCATION.</b>	<b>3.4548</b>	<b>130.14</b>	<b>138.17</b>
78 TUTION FEES	2.3629	134.73	144.77
79 STATIONERY	0.3500	119.40	127.06
80 TEXT BOOKS	0.6894	123.40	125.47
81 COMPUTER & ALLIED PRODUCTS	0.0525	83.62	82.10
<b>CLEANING LAUNDRY &amp; PER.APPEARANCE.</b>	<b>5.8788</b>	<b>122.85</b>	<b>129.08</b>
82 WASHING SOAP & DETERGENT	1.5535	113.38	120.73
83 TOILET SOAP	0.7436	118.33	127.15
84 TOOTH PASTE	0.4036	104.61	107.71
85 SHAVING ARTICLES	0.3480	108.13	115.63
86 COSMETICS	1.4272	121.95	125.93
87 WATCHES	0.0552	118.84	121.56
88 JEWELLERY	0.3936	189.91	200.79
89 LAUNDRY CHARGES	0.2207	136.97	146.08
90 HAIR CUT & BEAUTY PARLOUR CHARGES	0.7334	126.27	129.94
<b>MEDICARE.</b>	<b>2.0728</b>	<b>117.75</b>	<b>129.26</b>
91 DRUGS & MEDICARES	1.0752	106.53	106.83
92 DOCTOR'S FEE	0.9976	129.84	153.45

Figure A1: CPI Non-food Sub-indexes' Inflation

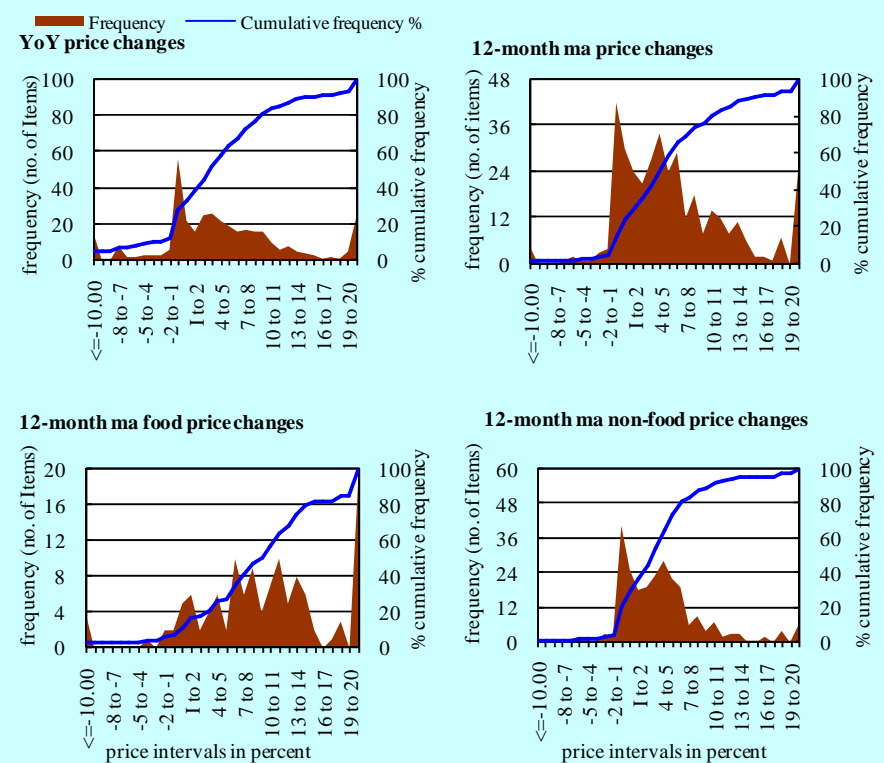




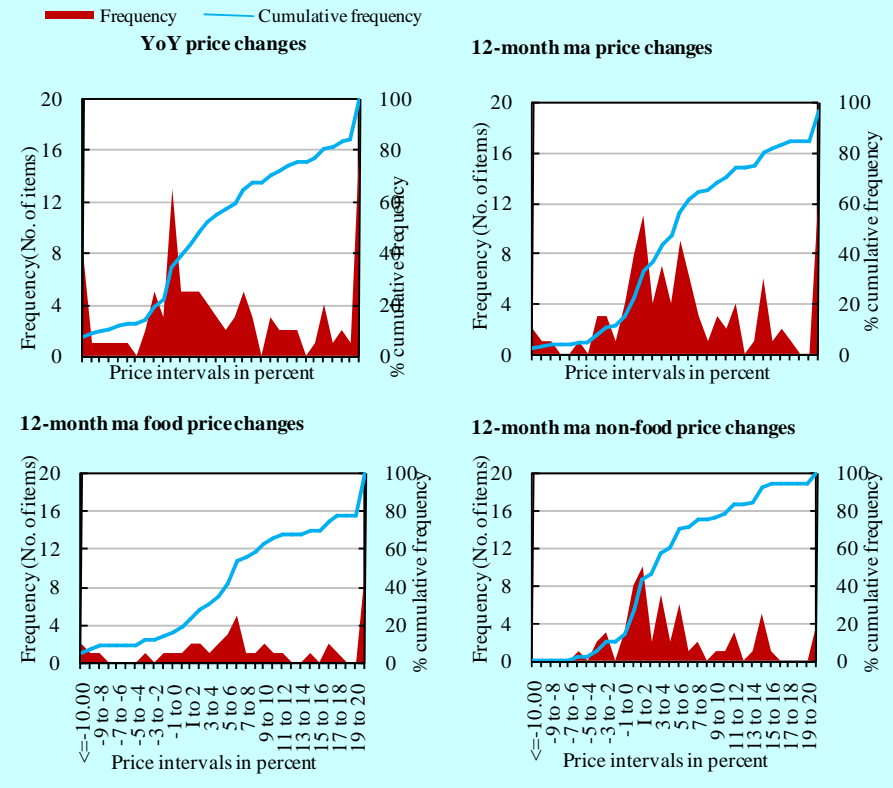
**Figure A3: Wholesale Prices Inflation in Selected Non-food Items**



**Figure A4: Frequency Distribution of Price Changes of CPI Items, August 2007**



**Figure A5: Frequency Distribution of Price Changes of WPI Items, August 2007**



## **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