

# **Inflation Monitor**

**July 2008**



**State Bank of Pakistan**

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## **Contents**

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<b>1.</b>	<b>Overview</b>	<b>1</b>
<b>2.</b>	<b>Consumer Price Index</b>	<b>4</b>
	2.1 Food Inflation	5
	2.2 Non-food Inflation	7
	2.3 City-wise Inflation	9
	2.4 Income Group-wise Inflation	11
	2.5 Services and Non-services Inflation	11
<b>3.</b>	<b>Wholesale Price Index</b>	<b>13</b>
<b>4.</b>	<b>Global Commodity Prices</b>	<b>17</b>
<b>5.</b>	<b>Sensitive Price Indicator</b>	<b>21</b>
	<b>Annexure A:</b>	<b>23</b>
	Table A1: CPI Inflation (YoY) by Groups	
	Table A2: Distribution of Price Changes of CPI Basket, July 2008 (YoY)	
	Table A3: Top Ten Contributors to YoY CPI Inflation in July 2008	
	Table A4: Distribution of YoY Price Changes - Selected CPI Items, July 2008	
	Table A5: City-wise CPI Inflation (YoY) by Income Groups July 2008	
	Table A6: Income Group-wise CPI Inflation (YoY)	
	Table A7: Distribution of Wholesale Price Changes (YoY), July 2008	
	Table A8: SPI Item-wise Price Movements for the month of July 2008	
	Table A9: Consumer Price Index Numbers by Major Groups and Selected Commodities for July 2008	
	Figure A1: CPI Non-food Inflation	
	Figure A2: Frequency Distribution of Price Changes of CPI Items July 2008	
	Figure A3: Frequency Distribution of Price Changes of WPI Items July 2008	
	<b>Annexure B: Technical Notes</b>	<b>36</b>

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## Overview

Headline CPI inflation (YoY) surged to 24.3 percent during July 2008 compared to only 6.4 percent in the same month last year. This significant rise was contributed by both food and non-food groups. Food inflation (YoY) continued upward trend and was recorded at 33.8 percent compared to 8.5 percent in July 2007. This rising trend was mainly led by increase in the prices of some key food commodities such as pulse masoor (134 percent), rice (89.5 percent), wheat (73.6 percent), and vegetable ghee (55.4 percent). Non-food inflation (YoY) also increased significantly and was recorded at 17.3 percent in July 2008 compared to 4.9 percent during the same month last year. Within CPI non-food group, inflation in *transport & communication* and *fuel & lighting* sub-group increased significantly due to recent adjustments in fuel prices and transport fares. *House rent index* (HRI) sub-group continued with uptrend seen in recent past, reflecting the impact of rising prices of metals, cement and bricks. Other measures of inflation i.e. wholesale price index (WPI) and sensitive price indicator (SPI) also rose significantly during the month (see **Table 1.1**).

Table 1.1: Inflation (YoY)							
	CPI			Core Inflation		WPI	SPI**
	General	Food	Non-food	NFNE *	Trimmed		
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
Sep-07	8.4	13.0	5.0	6.1	8.0	9.3	9.8
Oct-07	9.3	14.7	5.4	6.5	8.3	11.8	10.7
Nov-07	8.7	12.5	5.9	6.9	8.6	12.6	9.0
Dec-07	8.8	12.2	6.3	7.2	8.7	12.2	9.2
Jan-08	11.9	18.2	7.3	7.8	9.6	15.5	13.1
Feb-08	11.3	16.0	7.8	8.1	9.6	16.4	12.3
Mar-08	14.1	20.6	9.4	9.3	11.3	19.8	16.2
Apr-08	17.2	25.5	11.2	10.8	14.1	23.5	22.3
May-08	19.3	28.5	12.5	12.3	15.1	28.2	26.2
Jun-08	21.5	32.0	13.8	13.0	17.2	30.6	26.3
Jul-08	24.3	33.8	17.3	14.7	19.7	34.0	30.6

\* NFNE is Non-food non-energy; \*\*SPI for all income groups combined.

On month-on-month (MoM) basis CPI inflation was recorded at 3.3 percent compared to 1.0 percent in the same month last year. CPI food inflation (MoM) was recorded at 2.8 percent compared to 1.5 percent in July 2007. A significant increase was witnessed in non-food inflation (MoM) which rose to 3.8 percent in July 2008 compared to 0.7 percent in same month last year (see **Table 1.2**). This occurred mainly due to inflation (MoM) in *transport & communication* and *fuel & lighting* sub-groups.

Consistent and strong acceleration in core inflation (non-food non-energy and 20 percent trimmed mean) continued during July 2008. Core inflation (YoY) based on NFNE reached 14.7 percent in July 2008 compared to 6.0 percent in the same month last year. Core inflation (YoY) based on 20 percent trimmed-mean also witnessed significant increase and was recorded at 19.7 percent during July 2008 compared to 6.6 percent in July 2007.

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

	July-06	July-07	July-08	5-year average#
<b>Year-on-year (July over July)</b>				
Overall CPI	7.6	6.4	24.3	6.7
Food group	7.4	8.5	33.8	8.0
Non-food group	7.8	4.9	17.3	5.9
Core Inflation				
NFNE*	6.5	6.0	14.7	5.8
Trimmed	6.3	6.6	19.7	6.2
<b>Period average (July over July)</b>				
Overall CPI	7.6	6.4	24.3	6.7
Food group	7.4	8.5	33.8	8.0
Non-food group	7.8	4.9	17.3	5.9
Core Inflation				
NFNE*	6.5	6.0	14.7	5.8
Trimmed	6.3	6.6	19.7	6.2
<b>12-month moving average</b>				
Overall CPI	7.8	7.7	13.5	6.6
Food group	6.7	10.4	19.8	7.8
Non-food group	8.6	5.8	8.9	5.8
Core Inflation				
NFNE*	7.4	5.9	9.1	5.4
Trimmed	6.8	6.8	11.1	5.9
<b>Monthly (July over June)</b>				
Overall CPI	1.6	1.0	3.3	1.2
Food group	2.6	1.5	2.8	2.1
Non-food group	0.9	0.7	3.8	0.6
Core Inflation				
NFNE*	0.5	0.8	2.3	0.5
Trimmed	0.5	0.8	1.8	0.6

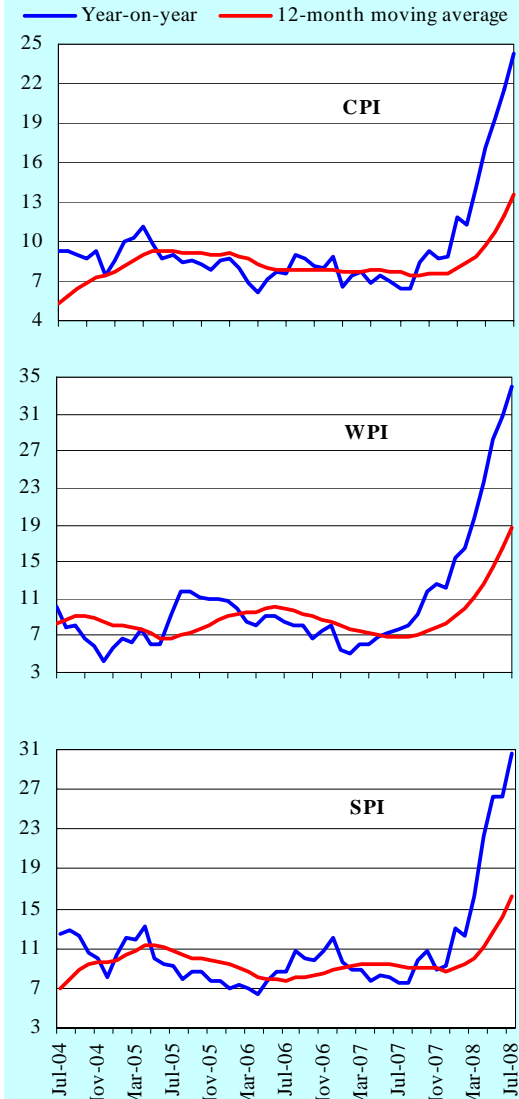
\* NFNE is Non-food non-energy inflation

# 5-year average excluding FY08

Wholesale price index (WPI) inflation continued its upward trend, witnessing a significant acceleration to 34.0 percent in July 2008 compared to 7.6 percent in July 2007. This significant increase in WPI inflation was contributed by both food and non-food groups. WPI food group inflation (YoY) was recorded at 32.5 percent compared to 11.3 percent and WPI non-food inflation (YoY) reached 35.1 percent during July 2008 compared to 5.0 percent in July 2007.

Sensitive price indicator (SPI) also showed strength and was recorded at 30.6 percent on YoY basis during July 2008 compared to 7.5 percent in the corresponding month last year (see **Figure 1.1**).

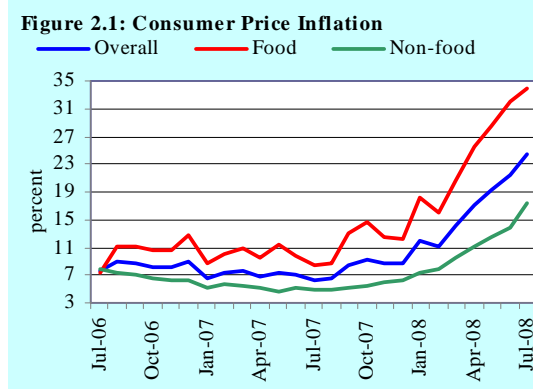
**Figure 1.1: Movements in Price Indices (percent change)**



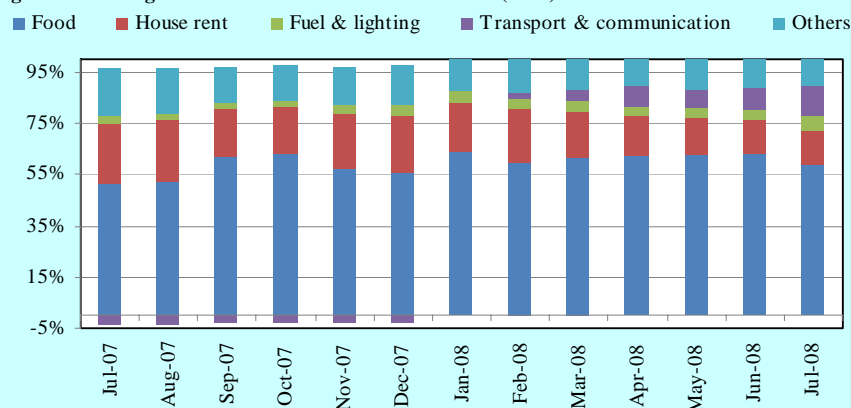
## 2. Consumer Price Index

Strong inflationary pressures persisted in the economy during the first month of FY09. The headline inflation (CPI) YoY basis was recorded at 24.3 percent in July 2008 compared to 6.4 percent in the corresponding month last year. This rise was contributed by both food and non-food groups. Food inflation was recorded at 33.8 percent compared to 8.5

percent in July 2007. Non-food inflation (YoY) also registered strong inflation (YoY) and reached 17.4 percent compared to 4.9 percent during the same month last year (see **Figure 2.1**).



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



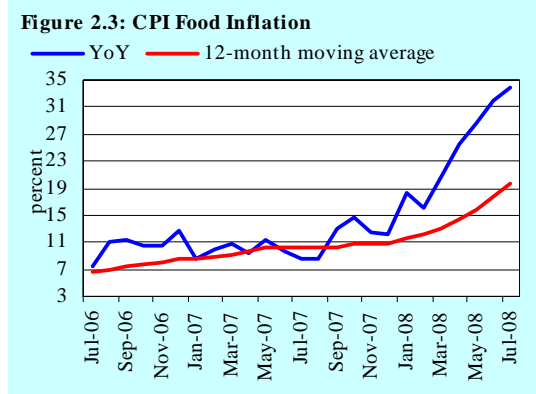
Weighted contribution of food group in overall inflation reached 59.1 percent in July 2008 compared to 55.4 percent during the same month last year.

Consequently, the weighted contribution of non-food group in overall inflation showed a decline and was recorded at 40.9 percent compared to 44.6 percent in July 2007. Within non-food group, the weighted contribution of *transport & communication* sub-group showed increase and was recorded at 11.2 percent as compared to (-) 3.9 percent during the same month last year (see **Figure 2.2**).



## 2.1 Food Inflation

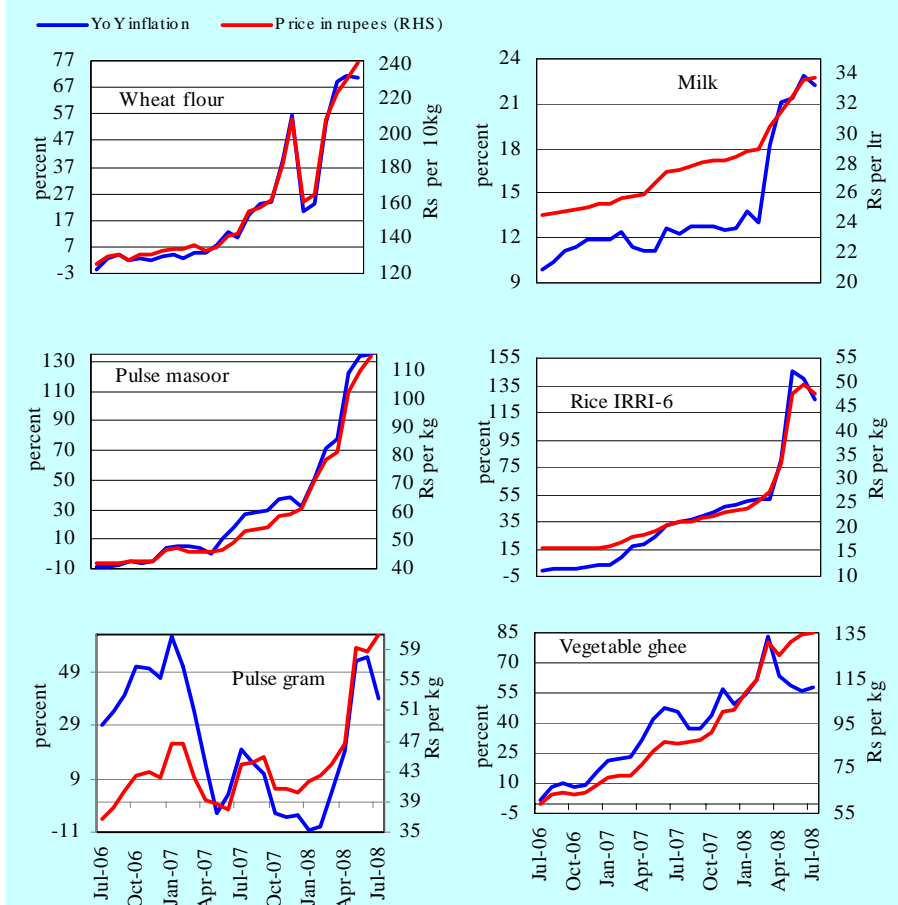
CPI food inflation (YoY) reached 33.8 percent compared to 8.5 percent in July 2007. A disaggregated analysis of CPI food basket showed that out of 111 items reported in the basket, 90 including pulse masoor, rice, chilli powder, wheat, mustard oil, vegetable ghee, cooking oil, etc. exhibited price change between 10 percent to 135 percent, 16 showed a price change between 0 to 10 percent and remaining 5 either declined or remained unchanged. A significant increase in the price of two items i.e. pulse masoor (134 percent) and rice irri-6 (125 percent), was recorded during the month under review (see **Figure 2.4** and **Table A2** in Annexure A).



Composition of food items on monthly price change (MoM) basis showed that 14 items including tomatoes, ginger, eggs, onion, potatoes green chillies etc. exhibited double digit growth in prices. Whereas prices of 12 items including arvi, apple, banana, rice irri-6, wheat flour, dates, cooking oil, etc. declined during the month under review.

According to the weighted contribution, six out of top ten items of CPI basket were from the food group during July 2008 including wheat flour, vegetable ghee, fresh milk, rice, fresh fruits and readymade food. Combined weighted contribution of these food items in the overall inflation was recorded 39.1 percent during July 2008 (see **Table A3** in the Annexure). Moreover, within food group, just four items i.e. wheat flour, vegetable ghee, milk fresh and rice contributed about 59.9 percent to the YoY food inflation.

**Figure 2.4: Price Trends in Key Food Items**



## 2.2 Non-food Inflation

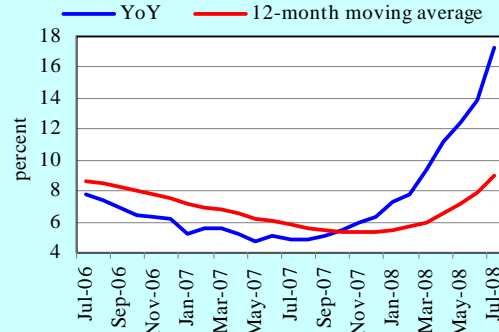
CPI non-food inflation reached 17.3 percent in July 2008, the highest level seen since July 1992 (see **Figure 2.5**). Among the non-food groups all sub-groups showed increase, but the most significant contribution was recorded by the *transport & communication* sub-group during the month under review.

Increase in domestic prices of fuel, road and rail fares led to inflation in the *transport & communication* sub-group. Inflation (YoY) in the said sub-group was recorded at 37.2 percent compared to (-) 3.1 percent in the corresponding month last year (see **Figure 2.6**).

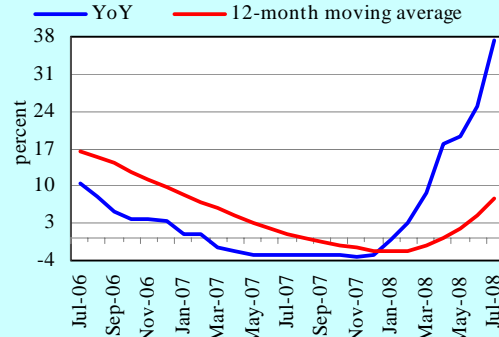
*House rent index* showed increase reaching 13.2 percent in July 2008 compared to 6.9 percent during July 2007 (see **Figure 2.7**). This increase came mainly due to rise in the prices of construction material.

Inflation (YoY) in *apparel, textile & footwear* sub-group maintained its uptrend witnessed in the recent months and marked double digit for the first time since December 1996. A detailed analysis of items in this sub-group reveals that the items such as footwear, cotton cloth, readymade

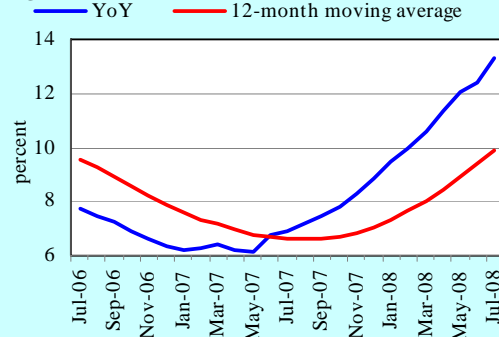
**Figure 2.5: CPI Non-food Inflation**



**Figure 2.6: Transport & Communication Inflation**



**Figure 2.7: House Rent Inflation**



garments, tailoring charges, etc. were responsible for this increase in inflation.

Inflation (YoY) in *Fuel & lighting* sub-group remained in double digits for the second consecutive month reaching 20.5 percent– highest since April 1998. The items contributing include match box, kerosene oil, gas charges, firewood whole, CNG charges, etc.

Inflation (YoY) in *household furniture & equipment* sub-group reached 11.1 percent compared to 6.2 percent in the corresponding month last year. Almost all items in this sub-group contributed to this increase.

*Recreation & entertainment* sub-group registered double digit inflation for the first time since August 2001. The inflation was recorded at 11.5 percent compared to 0.0 percent during the same month last year. This significant increase was contributed by increase in the prices of daily newspapers and magazines.

Inflation (YoY) in *cleaning, laundry & personal appearance* sub-group maintaining upward trend reached 18.2 percent compared to 5.0 percent in July 2007. The reason for this double digit inflation (YoY) was rise in prices of jewellery, washing soap, detergents, laundry charges, etc.

*Education* sub-group also recorded double digit growth and reached 10.0 percent during July 2008 compared to 6.2 percent in the corresponding month last year. This was contributed by a rise in the prices of books, school fee, pen etc.

Inflation (YoY) in *medicare* sub-group showed a decline and was recorded at 9.8 percent (YoY) compared to 14.0 percent in the corresponding month last year (see **Figure A1** in Annexure).

A detailed item-wise analysis reveals that out of 250 non-food items included in the CPI basket, 134 showed double digit price change. The commodities showing double digit price change include rail, road and air fares, kerosene oil, high speed diesel, petrol super, gold and silver tezabi, and firewood whole, etc. Further 53 commodities showed moderate price change in the range of 5 to 10 percent; all other commodities witnessed either price increase of less than 5 percent or decline ( see **Table A2** in the Annexure). The items that showed either negative or no price change included Urdu and English text books, telephone charges, a number of durable goods like computer CD rom, some medicines, etc. (see **Table A4** in the Annexure).

### 2.3 City-wise Inflation

Major cities including Islamabad, Lahore, Karachi, Quetta and Peshawar recorded higher inflation (YoY) of 17.7, 21.0, 23.4, 26.3 and 26.0 percent compared to 7.3, 6.1, 6.9, 6.4 and 5.9 percent in the corresponding month last year. Inflation (YoY) in Islamabad, Lahore and Karachi however, remained lower than the overall CPI inflation (see **Table 2.1**).

		percent				
	Over all CPI	Islamabad	Lahore	Karachi	Quetta	Peshawar
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
Sep-07	8.4	7.6	7.9	8.1	7.8	8.6
Oct-07	9.3	8.6	7.8	10.0	10.1	9.5
Nov-07	8.7	8.0	7.0	8.7	9.8	9.8
Dec-07	8.8	7.7	7.5	8.1	9.0	9.2
Jan-08	11.9	9.1	10.1	10.7	12.3	12.2
Feb-08	11.3	9.8	10.4	9.8	11.1	11.4
Mar-08	14.1	11.6	12.0	13.3	13.8	15.8
Apr-08	17.2	13.8	15.4	16.0	17.5	18.9
May-08	19.3	16.4	17.4	18.6	21.8	21.8
Jun-08	21.5	17.7	18.0	21.1	25.3	22.3
Jul-08	24.3	17.7	21.0	23.4	26.3	26.0

City-wise inflation (YoY) based on all 35 cities indicates that 24 cities fall in the category of high inflation, while remaining 11 cities recorded inflation below average CPI inflation. Loralai maintained its position as the highest inflation city with 31.9 percent, followed by Mardan (30.3 percent) and Bannu (29.9 percent). On the other hand, the lowest CPI (YoY) inflation was recorded in Multan (20.4 percent). Comparison of CPI food and non-food inflation (YoY) among 35 cities revealed that, highest food inflation (YoY) was recorded in Loralai (44.5 percent) and lowest in Multan (28.0 percent), whereas the highest non-food inflation was observed in Loralai (23.3 percent) and the lowest in Multan (14.6 percent) during July 2008 (see **Table 2.2**).

**Table 2.2: City wise Inflation in CPI (YoY), July 2008**

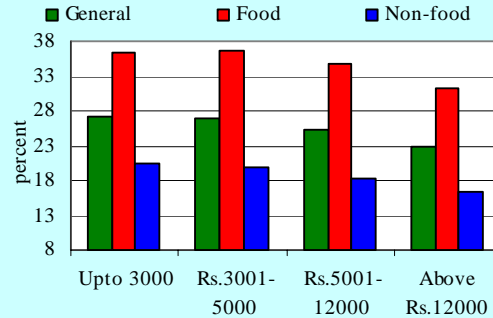
	High inflation cities				Low inflation cities		
	General	Food	Non-food		General	Food	Non-food
Loralai	31.9	44.5	23.3	Vehari	23.8	32.5	17.2
Mardan	30.3	40.3	23.1	Karachi	23.4	31.8	17.3
Bannu	29.9	43.7	20.4	Attock	23.1	30.6	17.9
Khuzdar	29.7	41.6	21.3	Faisalabad	23.1	30.1	17.6
Nawabshah	29.2	41.4	20.7	Kunri	23.0	30.0	17.6
D.I.Khan	28.3	41.5	18.9	Sialkot	22.8	31.2	16.2
Sukkur	27.9	40.0	19.4	Rawalpindi	22.3	29.9	16.9
Shahdadpur	27.7	38.1	20.1	Bahawalpur	22.2	30.8	15.5
Abbotabad	26.7	37.8	18.6	Lahore	21.0	29.1	14.7
Larkana	26.5	34.6	20.3	Islamabad	20.9	28.2	15.8
Turbat	26.4	32.7	22.1	Multan	20.4	28.0	14.6
Quetta	26.3	38.3	17.5				
Peshawar	26.0	34.9	19.5				
Hyderabad	26.0	36.4	18.2				
Samundari	25.7	33.7	20.0				
Sargodha	25.3	33.1	19.6				
Gujranwala	25.2	33.8	18.9				
Mianwali	25.2	32.6	19.8				
Bahawalnagar	25.0	31.2	20.4				
Okara	24.8	33.9	18.2				
Jhelum	24.7	35.9	17.0				
D.G. Khan	24.7	28.3	22.0				
Jhang	24.4	30.5	20.0				
Mirpur Khas	24.3	31.0	19.2				

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

## 2.4 Income Group-wise Inflation

Income group-wise inflation (YoY) showed acceleration in all income groups compared with July 2007. Moreover inflation (YoY) in all income groups, except the highest income group, was recorded higher than overall CPI inflation (YoY) (see **Figure 2.8**).

**Figure 2.8 : Income Group-wise CPI Inflation (YoY) July 2008**



The highest CPI inflation (YoY) of 27.2 percent was recorded for the lowest income group earning upto Rs. 3000 during June 2008 (7.5 percent in July 2007), followed by income group of Rs. 3001 to 5000 at 24.8 percent (7.5 percent in July 2007) and income group of Rs. 5001 to 12000 at 22.6 percent (6.9 percent in July 2007). The highest income group of above Rs. 12000 experienced lowest inflation of 19.8 percent (5.9 percent in July 2007).

Income group and city wise data on selected 17 cities indicates that the lowest overall CPI inflation (YoY) was recorded in Multan for all income groups except income group Rs. 3001 to 5000 for which Islamabad recorded lowest inflation. Whereas the highest CPI inflation (YoY) was recorded in Khuzdar for all income groups except highest income group for which Bannu recorded highest inflation during the month under review (see **Table A5** in annexure A).

## 2.5 Services and Non-services Inflation

CPI basket segregated into services<sup>1</sup> and non-services sectors showed a significant increase in inflation (YoY) in both sectors. Inflation (YoY) in services sector was recorded at 15.3 percent during the month under review compared to 5.6 percent in July 2007. Similarly, inflation (YoY) in the non-services sector was recorded higher at 31.1 percent compared to 7.1 percent in the corresponding month last year (see **Figure 2.9**).

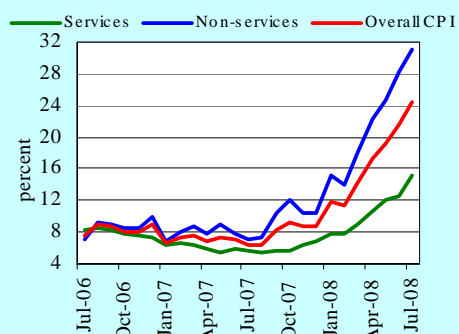
Further segregation of non-services sector into durable<sup>2</sup> and non-durable sub-groups, showed acceleration in inflation (YoY) for both of these sub-groups

<sup>1</sup> 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.

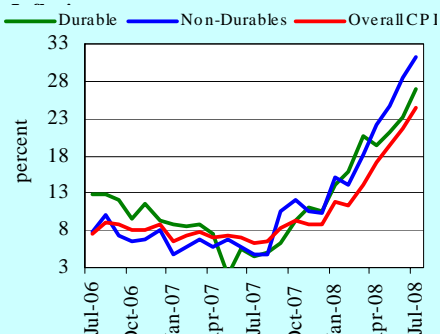
<sup>2</sup> Durable items include suitcase, furniture, electric iron, fans, washing machines, sewing machines, clocks, needles, refrigerators, air conditioners, vehicles, computer & allied products, watches and jewelry, etc.

compared to the same month last year. Inflation (YoY) in durable goods was recorded at 26.8 percent compared to 4.4 percent in July 2007. This significant increase was attributed by the rising prices of jewelry, furniture and electric fans, etc. The non-durable goods inflation (YoY) was recorded at 31.3 percent compared to 4.6 percent in the same month last year. Pulse masoor, rice, wheat flour, maida, mustard oil, spices, kerosene oil, cooking oil and vegetable ghee, etc. were the main contributors to acceleration in non-durable goods inflation (see **Figure 2.10**).

**Figure 2.9: Services & Non-services Inflation**



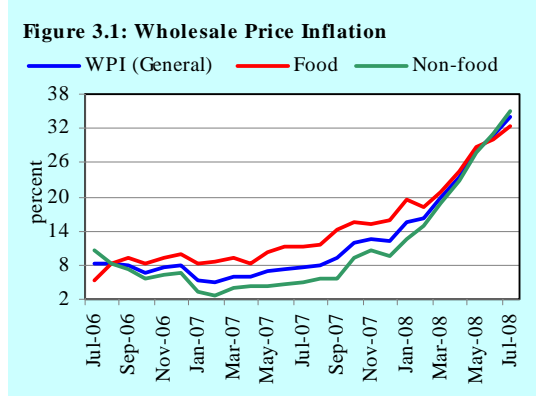
**Figure 2.10: Durables and Non-durables**



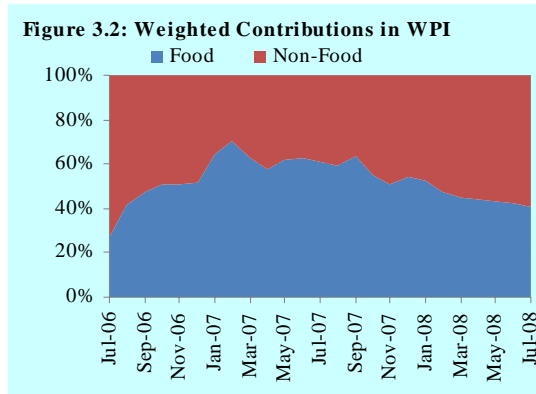


### 3. Wholesale Price Index

Inflation measured by wholesale price index (WPI) continued to show an uptrend and reached 34.0 percent (YoY) compared to 7.3 percent for the same month last year. This steep rise in inflation was contributed by both food and non-food groups of WPI. In particular WPI non-food inflation registered a significant YoY increase and was recorded at 35.1 percent, compared to 5.0 percent during the same month last year. Similarly, food group of WPI witnessed increase of 32.5 percent (YoY) during the month under review compared to 11.3 percent in July 2007 (see **Figure 3.1**).



The surge in WPI non-food inflation over the last few months has resulted in a continued increase in its weighted contribution in overall WPI inflation. The non-food group's contribution rose to 59.3 percent, compared to 38.8 percent in July 2007. Consequently, the weighted contribution of food group in overall WPI inflation came down to 40.7 percent compared to 61.2 percent in the same month last year (see **Figure 3.2**).



An item-wise break up of WPI basket reveals that 72 out of 106 items exhibited double digit YoY growth in their prices, ranging between 11 to 136.3 percent. Prices of major items displaying double digit increase include pulse masoor, coke, fertilizers, furnace oil, rice, maida, mustard/rapeseed oil, vegetable ghee, cooking oil, wheat, chemicals, etc. Fourteen items exhibited growth between 5 to 10 percent in their wholesale prices whereas nine items showed subdued increase. Prices of 11 other items either declined or showed no change (see **Table 3.1**).

WPI food group showed a growth of 32.5 percent (YoY) compared to 11.3 percent in July 2007. Major food items contributing to this steep rise include pulse masoor, bajra, rice, vegetable ghee, cooking oil, maida and wheat, etc. The highest inflation among food group was recorded in the wholesale price of pulse masoor registering increase of more than 100 percent for the third consecutive month. On the other hand, few commodities showed YoY deflation of different magnitudes in their wholesale prices including tomatoes (-22.7 percent), gur (-9.8 percent), and pulse moong (-6.7 percent), etc. (see **Table A7** & **Figure 3.3**).

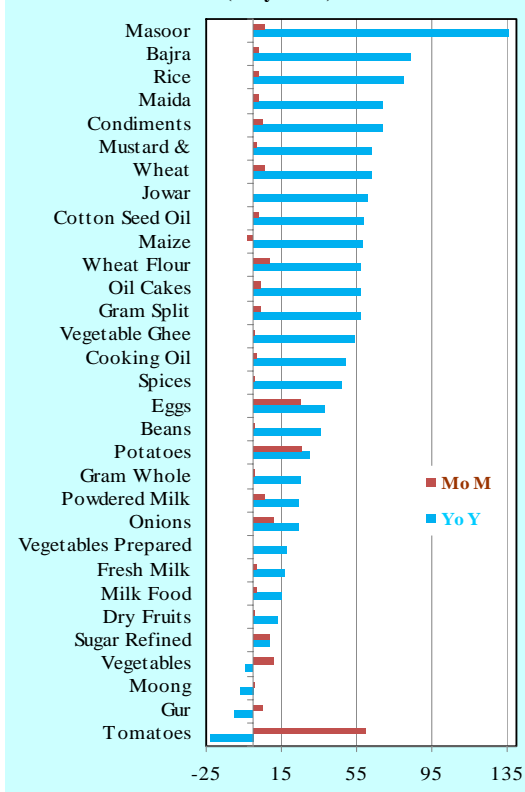
Within the WPI food group 33 of the total 43 items exhibited double digit YoY inflation. One food item (sugar refined) exhibited growth of 8.7 percent in its wholesale price, while four items recorded subdued inflation of up to 5 percent. Wholesale prices of the remaining five food items either declined or remained stable.

The wholesale prices of WPI non-food group continued to show an uptrend and recorded YoY inflation of 35.1 percent. All sub-groups of the non-food group witnessed significantly higher YoY inflation in July

**Table 3.1: WPI Price Distribution of YoY Changes (July 2008)**

No. of Items					
Groups	Decrease or no change	Up to 5%	5%-10%	More than 10%	Total
<b>A. Food</b>	5	4	1	33	<b>43</b>
<b>B. Non-Food</b>	6	5	13	39	<b>63</b>
Raw material	1	1	1	6	9
Fuel, lighting & lubricant			1	10	11
Manufactures	4	4	9	15	32
Building material	1		2	8	11
<b>Total</b>	<b>11</b>	<b>9</b>	<b>14</b>	<b>72</b>	<b>106</b>

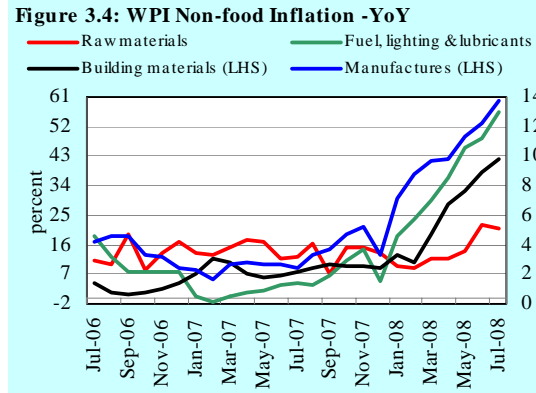
**Figure 3.3: Wholesale Price Inflation (%) in Selected Food Items (July 2008)**



2008 compared to July 2007 (see **Figure 3.4**).

Items contributing to this significant rise in WPI non-food (YoY) inflation include coke, furnace oil, fertilizers, rapeseeds, diesel, iron bars & sheets, etc. In particular, the wholesale price of coke continued to show strong growth and has recorded YoY inflation of more than 90 percent since July 2007, reflecting the impact of high international energy prices.

Prices of six non-food items, however, declined or showed no change in July 2008 including sugarcane, tiles etc. (see **Figure 3.5**).



Within WPI non-food group, the *fuel, lighting & lubricant* sub-group continued to show a significant rise in its contribution to WPI non-food inflation and was recorded at 67.9 percent compared to 38.5 percent in the same month last year (see **Table 3.2**). This increase in the weighted contribution of *fuel, lighting & lubricant* sub-group can be attributed to continuously high international crude oil prices.

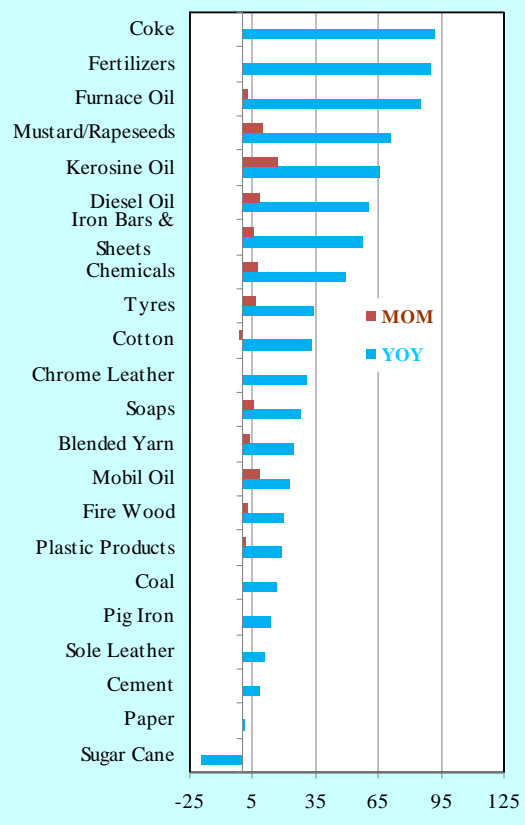
Table 3.2: Contribution of Sub-Indices to WPI Non-food Inflation	Jul-07	Dec-07	Jun-07	Jul-08
Raw materials	30.5	13.2	9.5	7.9
Fuel, lighting & lubricants	38.5	56.5	65.8	67.9
Manufactures	18.0	22.1	14.3	14.0
Building materials	12.8	8.2	10.5	10.2

A disaggregated analysis of YoY inflation recorded by various sub-indices of non-food group shows that the *fuel, lightning & lubricants* sub-group continued to show strong upward movement recording an unprecedented YoY inflation of 56.5 percent compared to only 4.5 percent inflation in July 2007. This steep rise is largely on account of high crude oil prices in the international markets that directly affect the wholesale prices of items like coke, furnace oil and mobil oil in the domestic market. Within this sub-group, prices of more than 90 percent of the items recorded double digit YoY increase. Prices of coke and furnace oil recorded more than 85 percent inflation during the month under review (see **Table A7** in Annexure A).

The *raw material* sub-group recorded increase in inflation during July 2008, and reached 20.7 percent (YoY), compared to 12.2 percent in the same month last year. In this sub-group, the wholesale prices of sugarcane declined while the wholesale prices of mustard/rapeseed, cotton and cotton seed, etc. registered double digit YoY growth during the month under review.

The *manufactures* sub-index of WPI non-food group also witnessed growth and recorded inflation of 13.7 percent, the highest since February 1997. This rise can be attributed to double-digit rise in the wholesale prices of items such as fertilizers, chemicals, chrome leather, soaps, tyres, and tubes, etc. Within the *manufactures* sub-group, wholesale prices of fertilizers continued to register high YoY growth reaching 89.9 percent reflecting high DAP<sup>3</sup> prices in the international market. The *building material* sub-index continued on its uptrend seen since February 2008 and witnessed a YoY inflation of 42.1 percent compared to 7.7 percent during the same month last year with items such as iron bars & sheets, wires & cables and cement blocks, etc. recording double digit YoY inflation during the month under review (see **Table A7** in Annexure A).

**Figure 3.5: Wholesale Prices Inflation (%) in Selected Non-food Items (July 2008)**



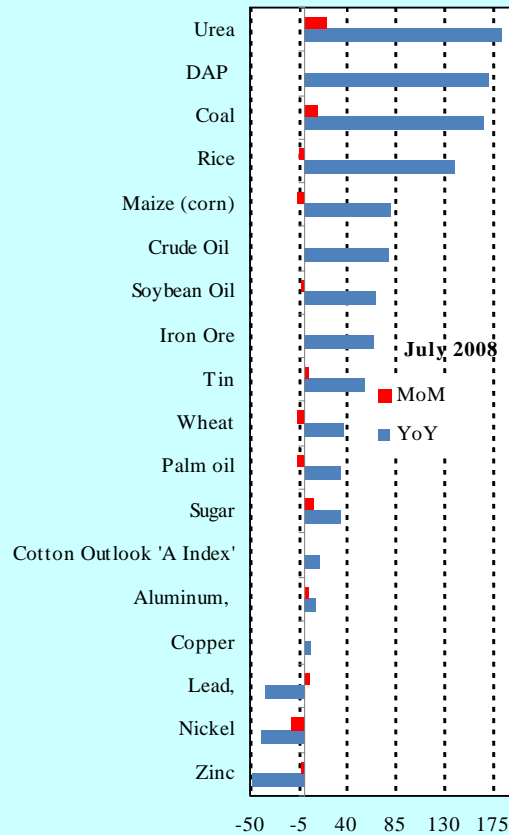
<sup>3</sup> DAP: Diammonium Phosphate

#### 4. Global Commodity Prices

Global commodity prices showed mixed trends as sharp rise in the prices of urea, DAP, coal, rice was partially offset by slowdown in the prices of lead, zinc and nickel. Inflationary pressures continued to mount on YoY basis in international commodity markets on account of higher food, fertilizers<sup>4</sup> and crude oil prices. Although the crude oil price touched new highs during the month, the prices of fertilizers and some essential food items (rice, soybean oil, wheat, corn, etc.) witnessed strong YoY growth. Particularly, prices of urea and DAP exhibited sharp upward movement and registered a YoY increase of 183.7 and 171.7 percent. This sharp rise in fertilizer prices was the result of its strong demand and expectations of increase in exports tariffs from China and Russia<sup>5</sup>.

Average crude oil price<sup>6</sup> reached US\$ 132.6 per barrel and showed 80 percent increase compared to the same month last year (see **Figure 4.1**). The IMF energy index showed strong upward movements compared to the same month last year.

**Figure 4.1: Percent Change in Price (US\$)**

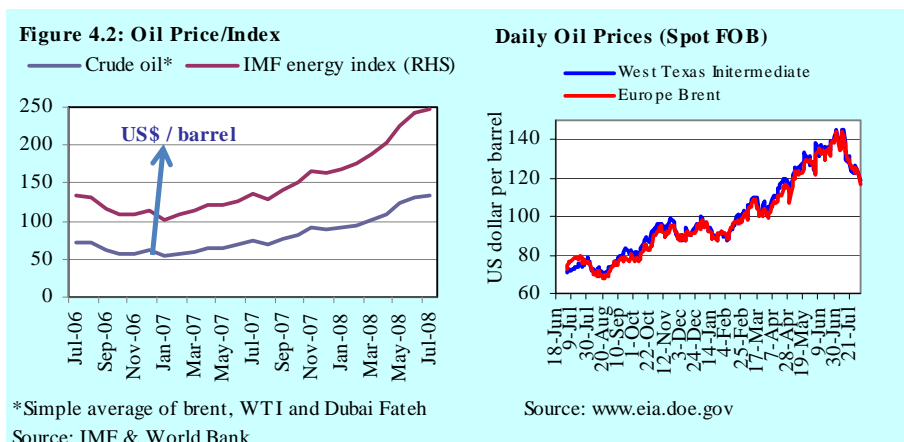


Source: IMF and World Bank

<sup>4</sup> Dia-amonium Phosphate (DAP) and Urea.

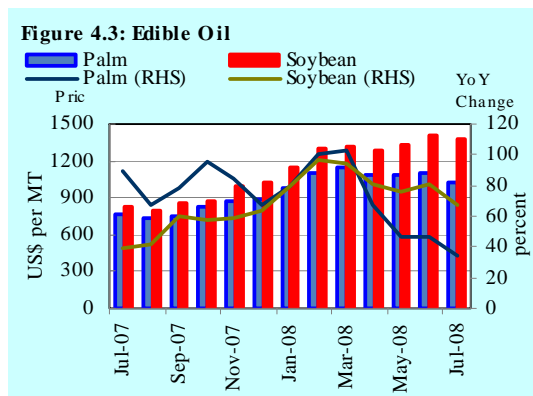
<sup>5</sup> WB Commodity Markets Review (Aug 8, 2008)

<sup>6</sup> Average of West Texas International (WTI), Brent oil and Dubai Fatah

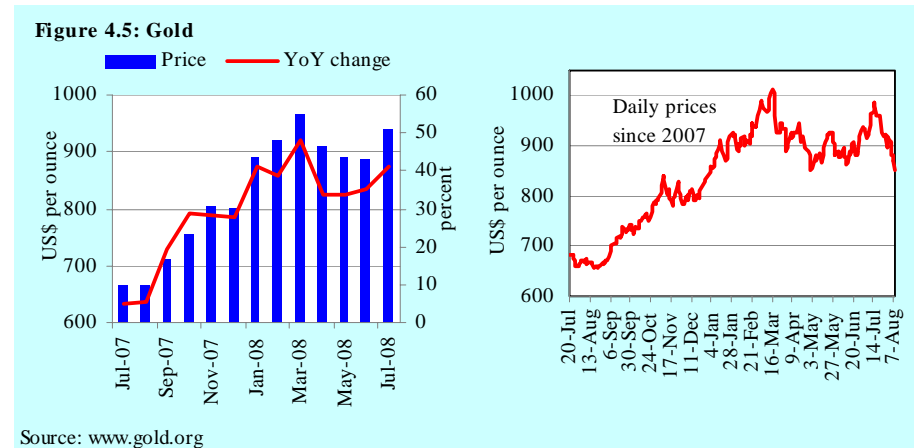
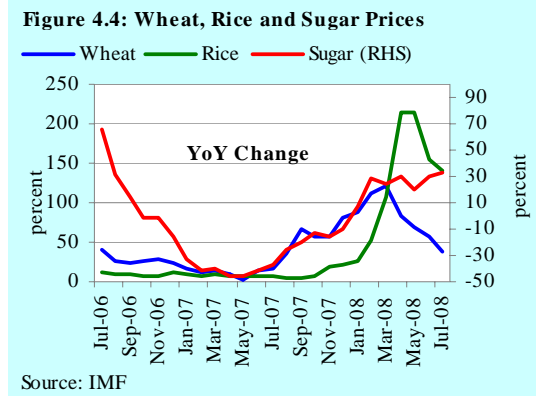


Daily crude oil prices showed fluctuations during the month and touched US\$ 147 per barrel on July 11, 2008 and then came down gradually to \$122.2 a barrel on July 29, 2008. The decline in crude oil prices was mainly on account of a number of factors such as; declining demand in US and Europe, higher OPEC production, improving stocks and prospects of rising supply growth over the next year. Security related issues however, may stop the decline in crude oil prices (see **Figure 4.2**).

Edible oil (palm and soybean) prices have shown deceleration on YoY basis since April 2008. This might be the end of a long rally of continuous price hike in international market. Palm and soybean oil prices registered lower YoY growth of 34.2 and 67.5 percent in July 2008 compared to 46.4 and 80.6 percent in June 2008. The current deceleration in palm oil prices is attributed to better supply conditions on the back of rising output in Southeast Asia. The deceleration in soybean oil prices is mainly the result of rising production in Latin America (see **Figure 4.3**).



Prices of key food items also decelerated on YoY basis except for the sugar. It is pertinent to note that the deceleration in rice and wheat prices started from March and April 2008 may be the indication of the ending of the period of rising grain prices. This YoY downtrend in the international prices of grains is mainly due to the improved supply prospects. Sugar prices increased by 33.5 percent in July 2008. The surge in sugar prices is attributed to the lower than expected output from Brazil and prospects of lower production in India due to bad weather (see **Figure 4.4**).



Gold prices raised by 41.3 percent compared to the same month last year in the international market. On MoM basis gold prices increased by 5.9 percent due to the declining dollar. However, on daily basis, after rising during the first fifteen days of July 2008, the gold prices fell sharply since mid July as a result of drop in international crude oil prices and strengthening of dollar against all major currencies of the world (see **Figure 4.5**).

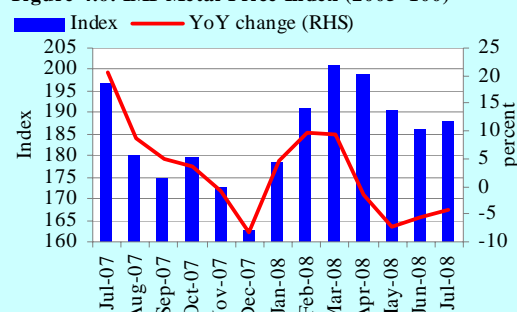
Metal prices witnessed YoY decline for the fourth consecutive month as indicated by IMF metal price index. This drop in metal price index is the result of significant decline in the prices of zinc, nickel and lead. Nickel prices fell due to cut backs in stainless steel prices (see **Figure 4.6**).

Cotton prices in international market as reflected by the cotton outlook 'A' index increased by 14.1 percent on YoY basis. Current rise in global cotton prices is the result of renewing speculation that U.S. farmers may shift acreage from fiber to corn due to the expectations of rise in the grain's prices in international market. The U.S. Department of Agriculture

reported in June that 9.25 million acres were sown with cotton this year, down from 10.8 million last year. Corn rose the most in almost four weeks on concern hot Midwest weather will reduce U.S. yields<sup>7</sup> (see **Figure 4.6**).

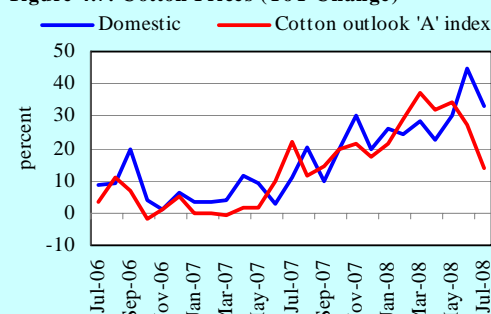
Prices of DAP and urea surged (YoY) by 171.7 and 183.7 percent in the international market. This sharp increase was mainly due to its increased demand for crop plantings in the northern hemisphere, capacity constraints and expectations that Russia and China will impose export tariffs to ensure adequate supplies for domestic use<sup>8</sup> (see **Figure 4.7**). Rising prices of DAP and urea in international markets have also impacted the domestic fertilizer prices as Pakistan imports significant amount of urea and DAP.

**Figure 4.6: IMF Metal Price Index (2005=100)**



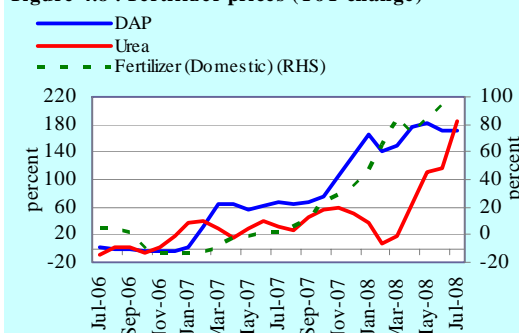
Source: IMF

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



Source: World Bank, [www.apmta.org.pk](http://www.apmta.org.pk)

**Figure 4.8 : Fertilizer prices (YoY change)**



Source: World Bank and FBS

<sup>7</sup> Bloomberg

<sup>8</sup> WB Commodity Markets Review (Aug 8, 2008)



### 5. Sensitive Price Indicator

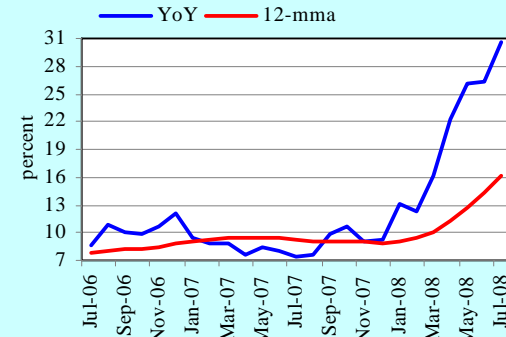
Sensitive price indicator (SPI) continued to show strong inflation (YoY) and rose by 30.6 percent compared to 7.5 percent in the same month last year. Similarly the long-run trend in SPI, indicated by 12-month moving average (12mma), also accelerated and reached 16.2 percent (see **Figure 5.1**). The rising 12mma inflation indicates that SPI inflation has remained persistently high from the start of 2008.

The strength of inflationary pressures in SPI basket can be seen from the fact that there are more individual items (40) showing double digit inflation as compared to the same month last year (22) (see **Table 5.1**). The individual items that mainly contributing to the significant increase in SPI inflation (YoY) includes pulse masoor (133.2 percent), rice irri-6 (114.7 percent), rice basmati (73.9 percent), and wheat (70.7 percent).

SPI inflation measured by month over month (MoM), also showed strength reaching 4.6 percent compared to 1.4 percent in June 2008. This can be attributed to a rise in the prices of tomatoes (105.2 percent), potatoes (24.4 percent), kerosine (21.3 percent), etc. (see **Table A8** in Annexure A).

Similar to monthly SPI inflation (YoY), weekly SPI inflation also remained strong and remained in a

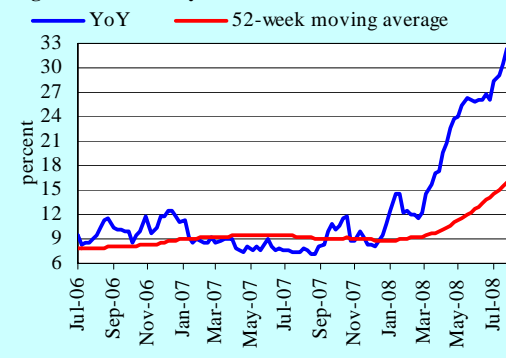
**Figure 5.1: SPI Inflation (YoY)**



**Table 5.1: Distribution of Price Changes of SPI Basket (YoY)**

Percent Change	Number of items			
	Jul-07	Dec-07	Jun-08	Jul-08
0 or less	14	14	7	6
0 to 5	9	7	3	2
5 to 10	8	8	6	5
10 or above	22	24	37	40
Minimum	-29.5	-48.8	-59.4	-29.2
Maximum	70.4	59.4	134.9	133.2

**Figure 5.2: Weekly SPI Inflation**



range of 28.4 percent to 32.2 percent (see **Figure 5.2**). The long run trend in weekly SPI inflation indicated by 52 week moving average also remained strong and reached 16.3 during the last week of July 2008 compared to 9.3 percent during the same period last year.

Income group-wise SPI data for the month under review indicates significant acceleration in SPI inflation (YoY) for all income groups compared to July 2007.

As in the previous month, the incidence of SPI inflation (YoY) was the highest for the lowest income group. The income group-wise SPI inflation further reveals that all income groups, except the highest income group, observed higher SPI inflation than the average SPI inflation during July 2008 (see **Table 5.2**).

<b>Table 5.2 : Income Group-wise SPI Inflation (YoY)</b>				
				percent
	<b>Jul-07</b>	<b>Dec-07</b>	<b>Jun-08</b>	<b>Jul-08</b>
Up to Rs. 3000	9.8	11.8	30.0	33.0
Rs. 3001-5000	9.4	11.5	29.2	32.1
Rs. 5000-12000	8.3	10.4	27.0	30.9
Above Rs. 12000	5.2	7.1	23.5	29.4
<b>All income groups</b>	<b>7.5</b>	<b>9.2</b>	<b>26.3</b>	<b>30.6</b>

## Annexure A

Table A1: CPI Inflation (YoY) by Groups

	Weights	Jul-04	Jul-05	Jul-06	Jul-07	Jul-08
<b>I. Food Group</b>	<b>40.3</b>	<b>14.9</b>	<b>9.7</b>	<b>7.4</b>	<b>8.5</b>	<b>33.8</b>
<b>II. Non-Food Group</b>	<b>59.7</b>	<b>5.7</b>	<b>8.5</b>	<b>7.8</b>	<b>4.9</b>	<b>17.3</b>
Apparel, textile, etc.	6.1	1.0	5.0	3.8	7.4	13.8
House rent	23.4	9.0	11.7	7.7	6.9	13.3
Fuel & lighting	7.3	2.7	5.8	13.2	2.6	20.5
Household furniture & equipment	3.3	5.4	5.5	6.2	6.2	11.1
Transport & com.	7.3	7.5	13.5	10.6	-3.1	37.2
Recreation & entertainment	0.8	-0.9	-0.3	0.2	0.0	11.5
Education	3.5	2.1	4.9	6.8	6.2	10.0
Cleaning, laundry, etc.	5.9	4.3	3.0	4.2	5.0	18.2
Medicare	2.1	0.9	1.3	4.1	14.0	9.8
<b>Headline</b>	<b>100</b>	<b>9.3</b>	<b>9.0</b>	<b>7.6</b>	<b>6.4</b>	<b>24.3</b>

Table A2: Distribution of Price Changes of CPI Basket, July 2008 (YoY)

Groups	% Changes	Total Number of Items	No. of Items in each Inflation Range			
			Decrease or no change (0 % or less)	Subdued increase (0 to 5%)	Moderate increase (5 to 10%)	Double digit increase (over 10%)
<b>I. Food Group</b>	<b>33.8</b>	<b>111</b>	<b>5</b>	<b>5</b>	<b>11</b>	<b>90</b>
<b>II. Non-Food Group</b>	<b>17.3</b>	<b>250</b>	<b>32</b>	<b>31</b>	<b>52</b>	<b>135</b>
Apparel, textile, etc.	13.8	42	1	5	13	23
House rent	13.3	1				1
Fuel & lighting	20.5	15	1		6	8
Household furniture & equipment	11.1	44		1	10	33
Transport & com.	37.2	43	6	1	2	34
Recreation & entertainment	11.5	16	2	5	2	7
Education	10.0	24	5	8	4	7
Cleaning, laundry, etc.	18.2	36	1	6	12	17
Medicines	9.8	29	16	5	3	5
<b>Overall</b>	<b>24.3</b>	<b>361</b>				

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

Table A3: Top Ten Contribution to YoY CPI Inflation in July 2008					
Items		weights	YoY change		Weighted Contribution
			June-07	June-08	
A. Ranked by Weighted Contribution					
1	Wheat Flour	5.11	11.82	70.35	14.79
2	House Rent Index	23.43	6.91	13.27	12.79
3	Vegetable Ghee	2.67	37.30	55.44	7.46
4	Milk Fresh	6.66	12.43	22.08	6.76
5	Rice	1.34	51.37	89.49	6.35
6	Petrol	1.73	-6.91	61.59	5.23
7	Transport Fare/Charges	2.12	1.80	35.10	3.59
8	Natural Gas	2.05	-6.93	29.97	3.52
9	Fresh Fruits	1.62	7.74	25.86	1.90
10	Readymade Food	1.68	7.54	24.08	1.81
Total		48.40			64.21
B. Ranked by Percentage Change					
1	Pulse Masoor	0.22	17.70	134.44	1.13
2	Match Box	0.13	0.00	100.00	0.36
3	Rice	1.34	51.37	89.49	6.35
4	Kerosene	0.14	0.00	85.66	0.77
5	Wheat	0.48	10.67	73.61	1.44
6	Maida	0.11	7.25	72.48	0.30
7	Diesel	0.21	-2.56	71.05	0.98
8	Wheat Flour	5.11	11.82	70.35	14.79
9	Mustard Oil	0.05	32.48	69.56	0.14
10	Petrol	1.73	-6.91	61.59	5.23
		9.50			31.51
C. Ranked by Weights					
1	House Rent Index	23.43	6.91	13.27	12.79
2	Milk Fresh	6.66	12.43	22.08	6.76
3	Wheat Flour	5.11	11.82	70.35	14.79
4	Electricity	4.37	10.07	6.44	0.94
5	Bakery & Confectionary	2.98	2.72	14.16	1.41
6	Meat	2.70	6.61	10.47	1.74
7	Vegetable Ghee	2.67	37.30	55.44	7.46
8	Tution Fees	2.36	7.44	9.60	0.92
9	Transport Fare/Charges	2.12	1.80	35.10	3.59
10	Natural Gas	2.05	-6.93	29.97	3.52
		54.45			53.93
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 24.3 percent in July 2008.					

Table A4: Distribution of Price Changes - Selected CPI Items, July 2008

Groups	Decrease or no change	Subdued increase (upto 5%)	Moderate increase (5 to 10%)	Increase of over 10%
<b>Food Group</b>	Chowkelate Candy (Small Size, Pulse Moong (Washed) Garlic, Arvi, Gur Av.Qlty	Toffee (Hilal) Fish-Rahu Medium Size Pulse Mash (Washed) Chillies Green Coffee-Nescafe 75 Gm.	Sugar Refined Mutton Av.Qlty. Cigarettes Gold Leaf 20'S, Jam Ahmed /Mitchelles, Rooh Afza, Squash-Mitchelles, Betel Nuts Milo 200 Gm.	Milk Fresh (Unboiled) Wheat Flour Bag Beef With Bone Av.Qlty., Vegetable Ghee Tin, Wheat Flour Fine/Superior. Pulse Masoor, Chicken Farm Broiler (Live), Cooking Oil (Dalda), Rice Basmati Broken Av.Qlty
<b>Apparel &amp; Textile</b>	Gents Sandal Bata	School Uni. Kameez,Shal.Girl School Uni. Kameez,Shal.Boys Pullover Ladies Oxford/Bon.	Pullover Gents Oxford/Bon. Tailoring Coat-Pant Suit, School Uni. Pant,Shirt Boys	Brassier Av.Qlty. Lawn Av.Qlty. Long Cloth Av.Qlty.
<b>House Rent Index</b>	--	--	--	House Rent Index
<b>Fuel &amp; Lighting</b>	Elect.Charges Upto 50 Units		Elect.Charges Above 1000 Uni, Elect. Charges 301 - 1000 Uni, Gas Chrg 3.3719 - 6.7438 Mmb	Gas Chrg Upto 3.3719 Mmbtu, Elect.Charges 101 - 300 Unit Kerosene Oil
<b>H/hold Furniture</b>	--	Carpet Plain Av. Qlty	Household Servant Female P/T Tea Set Pak. Chinaware 21 Pc Blanket (90" X 54")	Quilt (Lihaf) 3 Kg. Cotton, Bedsheet Single Bed Sup.Qlty Celing Fan 48" Super Qlty
<b>Transport &amp; Comm.</b>	Telephone Charges Local Call, Tel Charges Out Side City, Car Tax For 800CC To 1300CC Plateform Ticket	Motorcycle Yamaha 100CC.	Motorcycle Honda Cd-70., Tyre Car With Tube General	Petrol Super, A/C Bus Fare Outside City, Bus Fare Outside City Car Service Charges
<b>Recreation &amp; Entertainment</b>	V.C.P. Panasonic/Lg/Nat Tv.Licence Feedomestic	T.V. 20" Colored With R/Cont, Video Game Sega 16 Byte, Radio With C.Player National	Cinema A/C. Highest Class, Cinema Non-A/C High Class	Daily "Jang" Daily "Nawa-E-Waqt" Daily "Dawn"
<b>Education</b>	Govt. College Fee Ist. Year, Govt. College Fee 4Th. Year, English Book Class VI	Eng. Book Ist.Yr Complete Se Urdu Book Ist.Year/Inter English Book Class Ix Or X	Maths Book Ist.Year (T.B.B), Govt. University Fee Msc. Fountin Pen Youth China	School Fee 2Nd-Ry Eng.Med., School Fee Primary Eng.Med. Paper Foolscape (27"X17")
<b>Cleaning &amp; Laundry</b>	Toothpaste Macklines 70 Grm	Hair-Colour Begin (6 Gms), Brylcreem 210 Ml., Lipstick S.Miss/Medora Perfume Med.Size Medora/Broa	Shampoo Plain Medora 200 Ml. Beauty Porl Hair Styl Charge, Nail Polish S.Miss/Medora Wrist Watch Gents Citizen	Tissu Paper Perfumed 100 Pcs, Finis 500 Ml Disposable Razor Gillet-II, Washing Powder 1000 Grm
<b>Medicare</b>	Calpol Syrup 60 Ml. Amoxil, Capsule 250 Mg.S Ventolin Tab. 2Mg.	Daonil Tab. 5 Mg. Flagyl Tab. 200 Mg. Septran Tablets	Cotton Bandage 2" - 4", Brufen Tabs 200-Mg.,O.R.S. (Nimcol)	Doctor (MBBS) Clinic Fee, Galxos-D (450 Grms), Disprin Tab.

<b>Table A5: City-wise Inflation (YoY) by Income Groups, July 2008</b>							
		<b>Upto Rs:3000</b>			<b>Rs 3001-5000</b>		
		<b>General</b>	<b>Food</b>	<b>Non-Food</b>	<b>General</b>	<b>Food</b>	<b>Non-Food</b>
1	Lahore	23.2	30.9	18.0	22.9	31.5	17.1
2	Faisalabad	23.9	31.2	19.0	25.0	31.7	20.5
3	Rawalpindi	22.5	29.1	18.0	23.0	31.9	17.1
4	Multan	21.3	29.4	15.8	21.4	29.6	15.8
5	Gujranwala	26.8	35.5	20.9	27.6	37.0	21.3
6	Islamabad	21.4	30.0	15.6	21.1	30.3	14.9
7	Sargodha	26.2	35.1	20.1	25.7	34.9	19.4
8	Sialkot	23.3	31.2	17.9	23.1	32.3	17.0
9	Bahawalpur	23.3	30.9	18.1	23.6	31.8	18.0
10	Karachi	25.6	33.8	20.0	25.0	34.1	18.9
11	Hyderabad	27.0	37.0	20.2	26.2	36.2	19.4
12	Sukkur	26.4	38.1	18.5	29.2	42.6	20.2
13	Larkana	27.0	35.5	21.3	26.5	34.3	21.3
14	Peshawar	24.3	30.7	20.0	28.2	37.5	21.9
15	Bannu	31.8	43.0	24.2	30.7	43.4	22.1
16	Quetta	25.9	34.1	20.4	26.6	39.6	17.7
17	Khuzdar	37.8	51.2	28.8	35.7	48.3	27.2
		<b>Rs 5001-12000</b>			<b>above Rs 12000</b>		
		<b>General</b>	<b>Food</b>	<b>Non-Food</b>	<b>General</b>	<b>Food</b>	<b>Non-Food</b>
1	Lahore	21.7	30.7	15.7	20.0	26.7	15.4
2	Faisalabad	24.2	31.4	19.4	21.9	28.5	17.4
3	Rawalpindi	22.3	30.6	16.7	22.3	28.7	17.9
4	Multan	21.0	28.9	15.7	19.1	25.2	14.9
5	Gujranwala	25.7	34.4	19.9	22.3	29.3	17.6
6	Islamabad	21.3	30.9	14.8	20.8	27.5	16.3
7	Sargodha	25.5	33.3	20.2	24.8	31.4	20.4
8	Sialkot	23.3	32.0	17.4	22.5	30.4	17.1
9	Bahawalpur	22.4	31.4	16.3	20.8	28.9	15.2
10	Karachi	24.5	32.5	19.1	22.2	30.5	16.6
11	Hyderabad	26.4	37.2	19.1	24.7	34.0	18.5
12	Sukkur	28.1	40.3	19.8	26.8	37.3	19.8
13	Larkana	26.1	33.9	20.8	27.9	37.4	21.6
14	Peshawar	26.7	36.7	19.9	25.0	32.3	20.0
15	Bannu	29.6	44.0	19.9	29.6	43.6	20.1
16	Quetta	26.5	39.4	17.8	26.0	36.6	18.9
17	Khuzdar	30.8	45.7	20.7	27.3	39.5	19.0

Table A6 : Income Group-wise Inflation (YoY)								percent
	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08
<u>Up to Rs. 3000</u>								
General	10.4	14.7	13.4	17.0	20.2	23.2	25.3	27.2
Food	12.4	20.0	17.2	22.5	27.4	31.5	34.7	36.4
Non-food	9.0	10.9	10.7	13.0	15.1	17.1	18.6	20.6
<u>Rs. 3001-5000</u>								
General	10.4	14.5	13.0	16.6	19.9	22.6	24.8	26.9
Food	12.8	20.3	17.2	22.6	27.6	31.4	34.8	36.6
Non-food	8.7	10.5	10.0	12.4	14.5	16.3	17.8	19.8
<u>Rs. 5000-12000</u>								
General	9.5	13.0	12.0	14.9	18.1	20.4	22.6	25.3
Food	12.5	19.0	16.5	21.3	26.3	29.5	33.0	34.8
Non-food	7.4	8.6	8.7	10.2	12.2	13.7	14.9	18.2
<u>Above Rs. 12000</u>								
General	7.7	10.2	10.1	12.8	15.7	17.4	19.8	22.8
Food	11.8	16.6	15.0	18.8	23.6	26.1	29.8	31.4
Non-food	4.7	5.5	6.6	8.2	9.7	10.8	12.4	16.5
<u>All income groups</u>								
General	8.8	11.9	11.3	14.1	17.2	19.3	21.5	24.3
Food	12.2	18.2	16.0	20.6	25.5	28.5	32.0	33.8
Non-food	6.3	7.3	7.8	9.4	11.2	12.5	13.8	17.3

Table A7: Distribution of Price Change (YoY) - WPI Items: July 2008				
Groups	Decrease or no change	Subdued increase (upto 5%)	Moderate increase (5 to 10%)	More than 10% increase
Food				Meat, Fruit Prepared /Preserved Beverages, Fresh Fruits, Dry Fruits Milk Food, Fresh Milk, Vegetables Prepared/ Preserved, Tea, Onions Powdered Milk, Gram Whole, Chicken, Potatoes, Beans, Eggs, Spices, Cooking Oil, Besan, Vegetable Ghee Gram Split, Oil Cakes, Wheat Flour, Maize, Cotton Seed Oil, Jowar, Wheat, Mustard & Rapeseed Oil, Condiments, Maida, Rice, Bajra, Masoor
	Tomatoes Gur, Moong Vegetables Fish	Sugar Confectionary Mash, Mineral Water Salt	Sugar Refined	
Raw material	Sugar Cane	Hides	Wool	Pig Iron, Tobacco Skins, Cotton Seeds Cotton, Mustard/Rapeseeds
Fuel & lighting	--	--	Elec. Agriculture Tariff-D	Electricity Ind. Supply Tariff-B Coal, Fire Wood Mobil Oil, Natural Gas, Diesel Oil Motor Sprit, Kerosine Oil, Furnace Oil,Coke
Manufactures	Drugs & Medicines Cotton Yarn Audio-Visual Instruments Foot Wear	Cosmetics Paper Ready Made Garments Nylon Yarn	Dying Materials Other Electrical Goods,Cigarettes Glass Products Woolen Textiles Jute Manufactures Cotton Textiles Mattresses Transports	Sole Leather, Hosiery Silk & Reyon Textiles Pesticides & Insecticides, Machinery Matches, Utensils Plastic Products Blended Yarn, Soaps Chrome Leather, Tubes, Tyres, Chemicals Fertilizers
Building material	Tiles	--	Bricks Cement	Timber, Sanitary Wares Glass Sheets, Paints & Varnishes, Pipe Fittings Wires And Cables Cement Blocks Iron Bars & Sheets



Table A8: SPI Item-wise Price Movements

S.No	Items	Unit	Price July-08	Percentage change	
				YoY	Monthly
1	Wheat	Kg.	21.2	70.7	5.2
2	Wheat flour average quality.	Kg.	23.9	63.2	5.9
3	Rice basmati broken	Kg.	54.0	73.9	-0.1
4	Rice irri-6	Kg.	48.1	114.7	-1.7
5	Masur pulse washed	Kg.	117.4	133.2	5.3
6	Moong pulse washed	Kg.	55.4	-1.2	0.6
7	Mash pulse washed	Kg.	73.5	2.7	1.2
8	Gram pulse washed	Kg.	61.2	52.4	3.4
9	Beef	Kg.	133.1	10.3	1.4
10	Mutton	Kg.	248.7	7.5	0.9
11	Egg Hen (farm)	Doz.	56.5	27.0	17.8
12	Bread plain	Each	22.1	41.9	1.8
13	Sugar	Kg.	31.4	7.7	5.9
14	Gur	Kg.	33.0	-5.2	3.8
15	Milk fresh	Litr	34.6	19.4	1.6
16	Milk powdered Nido	400g	160.0	18.6	0.7
17	Curd	Kg.	40.7	20.0	1.9
18	Veg.ghee tin	2.5k	395.0	52.3	1.9
19	Veg.ghee loose	Kg.	135.1	56.1	0.8
20	Mustard oil	Kg.	148.7	67.6	2.4
21	Cooking oil	2.5L	398.0	53.4	1.3
22	Potatoes	Kg.	23.5	40.7	24.4
23	Onions	Kg.	17.5	24.4	12.5
24	Tomatoes	Kg.	25.9	16.1	105.2
25	Bananas	Doz.	46.7	37.1	-9.3
26	Salt powdered	Kg.	5.6	18.3	2.4
27	Red chillies (powder)	Kg.	185.9	55.7	-5.2
28	Garlic	Kg.	36.7	-29.2	5.2
29	Tea packet	250g	83.0	27.7	4.7
30	Tea (prepared)	Cup	7.7	18.2	2.9

continued

Table A8 (continued)

**Table A8: SPI Item-wise Price Movements**

S.No	Items	Unit	Price July-08	Percentage change	
				YoY	Monthly
31	Cooked beef plate	Each	36.8	18.4	0.8
32	Cooked dal plate	Each	24.0	28.9	1.8
33	Cigarettes K-2	10's	8.7	4.3	3.3
34	Coarse latha	Mtr.	43.1	19.7	2.0
35	Lawn (avg.+s.qlty)	Mtr.	90.9	7.9	0.3
36	Voil printed	Mtr.	45.1	15.8	0.7
37	Shirting	Mtr.	74.5	11.0	0.5
38	Sandel gents bata	Pair	499.0	0.0	0.0
39	Sandel ladies bata	Pair	299.0	0.0	0.0
40	Chappal spng. Bata	Pair	109.0	10.1	0.0
41	Kerosene	Litr	66.1	69.0	21.3
42	Firewood	40kg	244.7	21.4	2.8
43	Elec. Bulb 60-wats	Each	13.2	9.4	0.5
44	Match box	Each	1.0	23.5	0.0
45	Washing soap	Cake	11.8	36.4	4.2
46	Bath soap lifebuoy	Cake	20.0	33.3	0.5
47	Chicken (farm)	Kg.	93.6	41.2	11.9
48	Gas chrg. All clb. Comb	D.mmbt	260.0	15.7	8.6
49	LPG.(cylinder 11kg.)	Each	770.6	42.1	12.8
50	Elec.chrg.all slabs com	Bd. Unit	5.5	8.2	0.0
51	Petrol	Litr	80.3	49.2	16.3
52	Diesel	Litr	59.2	56.3	17.7
53	Telephone local	Call	2.3	0.0	0.0
<b>Maximum</b>				<b>133.2</b>	<b>105.2</b>
<b>Median</b>				<b>21.4</b>	<b>1.9</b>
<b>Minimum</b>				<b>-29.2</b>	<b>-9.3</b>

Table A9: Consumer Price Index Numbers by Major Groups and Selected Commodities

Item and Specification	Weights	Index	
		Jul-07	Jul-08
<b>GENERAL</b>	<b>100.0012</b>	<b>146.70</b>	<b>176.50</b>
<b>FOOD &amp; BEVERAGES.</b>	<b>40.3418</b>	<b>154.58</b>	<b>206.85</b>
1 WHEAT	0.4830	144.62	251.08
2 WHEAT FLOUR	5.1122	146.77	250.03
3 MAIDA	0.1059	138.24	238.43
4 BESAN	0.1320	145.76	213.11
5 RICE	1.3369	189.58	359.23
6 PULSE MASOOR	0.2214	136.04	318.93
7 PULSE MOONG	0.2230	186.50	185.07
8 PULSE MASH	0.2017	156.07	162.47
9 PULSE GRAM	0.4272	138.23	210.32
10 GRAM WHOLE	0.1491	134.47	161.57
11 MUSTARD OIL	0.0456	159.21	269.96
12 COOKING OIL	0.6858	163.14	250.00
13 VEGETABLE GHEE	2.6672	179.99	279.78
14 SUGAR	1.9467	107.42	115.60
15 GUR	0.0735	135.37	126.26
16 TEA	1.2559	109.15	135.15
17 MILK FRESH	6.6615	164.04	200.26
18 MILK POWDER	0.1105	160.27	192.85
19 MILK PRODUCTS	0.5607	148.49	181.27
20 HONEY	0.0358	130.45	144.13
21 CEREALS	0.0878	136.56	192.94
22 JAM,TOMATO,PICKLES & VINEGAR	0.2472	132.16	149.31
23 BEVERAGES	0.7286	138.40	166.55
24 CONDIMENTS	0.3392	119.52	191.27
25 SPICES	0.6008	125.57	199.32
26 DRY FRUIT	0.2760	220.87	260.51
27 BAKERY & CONFECTIONARY	2.9837	119.14	136.01
28 CIGARETTES	0.9527	157.08	169.84
29 BETEL LEAVES & NUTS	0.1851	142.90	159.16
30 READYMADE FOOD	1.6833	159.22	197.56
31 SWEETMEAT & NIMCO	0.3846	158.81	205.38
32 FISH	0.2703	147.98	154.64
33 MEAT	2.6981	219.91	242.93
34 CHICKEN FARM	0.9158	130.07	173.97
35 EGGS	0.4119	162.18	216.65
36 POTATOES	0.5806	178.80	245.95
37 ONIONS	0.6237	136.52	173.74
38 TOMATOES	0.4833	125.02	146.84
39 VEGETABLES	1.8377	151.11	172.85
40 FRESH FRUITS	1.6158	162.67	204.74
<b>APPAREL, TEXTILE &amp; FOOTWEAR.</b>	<b>6.0977</b>	<b>129.06</b>	<b>146.84</b>
41 COTTON CLOTH	1.6197	132.24	150.51
42 SILK,LINEN,WOOLEN/CLOTH	0.5766	128.56	144.19
43 TAILORING CHARGES	0.8636	131.44	145.69
44 HOSIERY	0.1528	138.29	151.90
45 READYMADE GARMENTS	1.2038	123.25	132.55
46 WOOLEN READYMADE GARMENTS	0.1485	137.10	158.18
47 FOOTWEAR	1.5327	127.42	154.22
<b>HOUSE RENT.</b>	<b>23.4298</b>	<b>146.85</b>	<b>166.34</b>
<b>48 HOUSE RENT INDEX (Combined)</b>	<b>23.4298</b>	<b>146.85</b>	<b>166.34</b>

(continued)

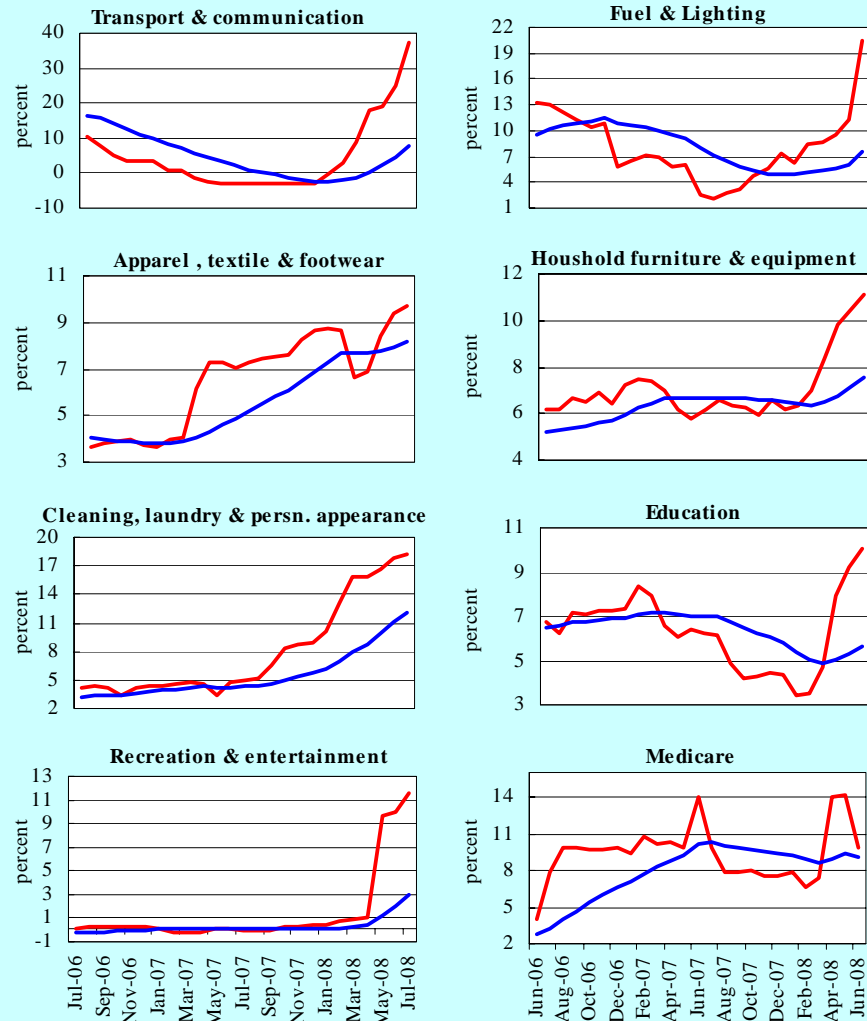
(continued)

**Table A9: Consumer Price Index Numbers by Major Groups and Selected Commodities**

Item and Specification	Weights	Index	
		Jul-07	Jul-08
<b>FUEL AND LIGHTING.</b>	<b>7.2912</b>	<b>151.16</b>	<b>182.14</b>
49 KEROSENE	0.1366	235.87	437.92
50 FIREWOOD	0.4778	217.56	269.99
51 MATCH BOX	0.1301	100.00	200.00
52 BULB & TUBE	0.1311	86.73	93.52
53 ELECTRICITY	4.3698	119.53	127.23
54 NATURAL GAS	2.0458	204.95	266.38
<b>H.HOLD.FURNITURE &amp; EQUIPMENT ETC.</b>	<b>3.2862</b>	<b>135.99</b>	<b>151.13</b>
55 UTENSILS	0.3690	122.09	134.74
56 PLASTIC PRODUCTS	0.1055	140.85	168.72
57 SUITCASE	0.0470	126.17	138.94
58 HOUSE HOLD EQUIPMENTS	0.0953	121.72	138.51
59 FURNITURE (Ready Made)	0.3054	134.94	161.33
60 FURNISHING	0.6362	130.46	143.93
61 ELECT.IRON FANS & WASHING MACHINE	0.1889	124.46	144.89
62 SEWING MACHINE,CLOCK AND NEEDLES	0.1270	118.58	128.74
63 REFRIGERATOR & AIRCONDITIONER	0.1756	100.00	114.75
64 MARRIAGE HALL	0.0445	145.62	173.71
65 HOUSE HOLD SERVANT	1.1918	153.25	165.25
<b>TRANSPORT &amp; COMMUNICATION.</b>	<b>7.3222</b>	<b>146.24</b>	<b>200.61</b>
66 PETROL	1.7253	175.59	283.74
67 DIESEL	0.2070	238.74	408.36
68 CNG. FILLING CHARGES	0.1649	142.39	200.49
69 SERVICE CHARGES	0.3835	132.72	154.92
70 VEHICLES	0.2596	100.04	112.90
71 TYRE & TUBE	0.2831	123.60	134.58
72 TRANSPORT FARE/CHARGES	2.1236	172.09	232.49
73 TRAIN FARE	0.1514	170.01	253.24
74 AIR FARE	0.0983	253.00	342.93
75 COMMUNICATION	1.9255	86.74	87.87
<b>RECREATION &amp; ENTERTAINMENT.</b>	<b>0.8259</b>	<b>105.79</b>	<b>117.96</b>
76 RECREATION	0.3399	100.97	128.36
77 ENTERTAINMENT	0.4860	109.16	110.68
<b>EDUCATION.</b>	<b>3.4548</b>	<b>137.76</b>	<b>151.59</b>
78 TUTION FEES	2.3629	144.22	158.06
79 STATIONERY	0.3500	126.34	149.63
80 TEXT BOOKS	0.6894	125.67	135.71
81 COMPUTER & ALLIED PRODUCTS	0.0525	82.29	82.10
<b>CLEANING LAUNDRY &amp; PER.APPEARANCE.</b>	<b>5.8788</b>	<b>128.60</b>	<b>151.98</b>
82 WASHING SOAP & DETERGENT	1.5535	120.33	142.13
83 TOILET SOAP	0.7436	126.71	169.54
84 TOOTH PASTE	0.4036	107.41	111.12
85 SHAVING ARTICLES	0.3480	114.60	132.99
86 COSMETICS	1.4272	125.90	134.13
87 WATCHES	0.0552	121.56	130.62
88 JEWELLERY	0.3936	198.53	296.01
89 LAUNDRY CHARGES	0.2207	145.17	166.15
90 HAIR CUT & BEAUTY PARLOUR CHARGES	0.7334	129.66	141.36
<b>MEDICARE.</b>	<b>2.0728</b>	<b>129.23</b>	<b>141.93</b>
91 DRUGS & MEDICARES	1.0752	106.76	112.52
92 DOCTOR'S FEE	0.9976	153.45	173.63

**Figure A1: CPI Non-food Inflation**

— YoY — 12-month moving average



**Figure A2: Frequency Distribution of Price Changes of CPI Items, July 2008**

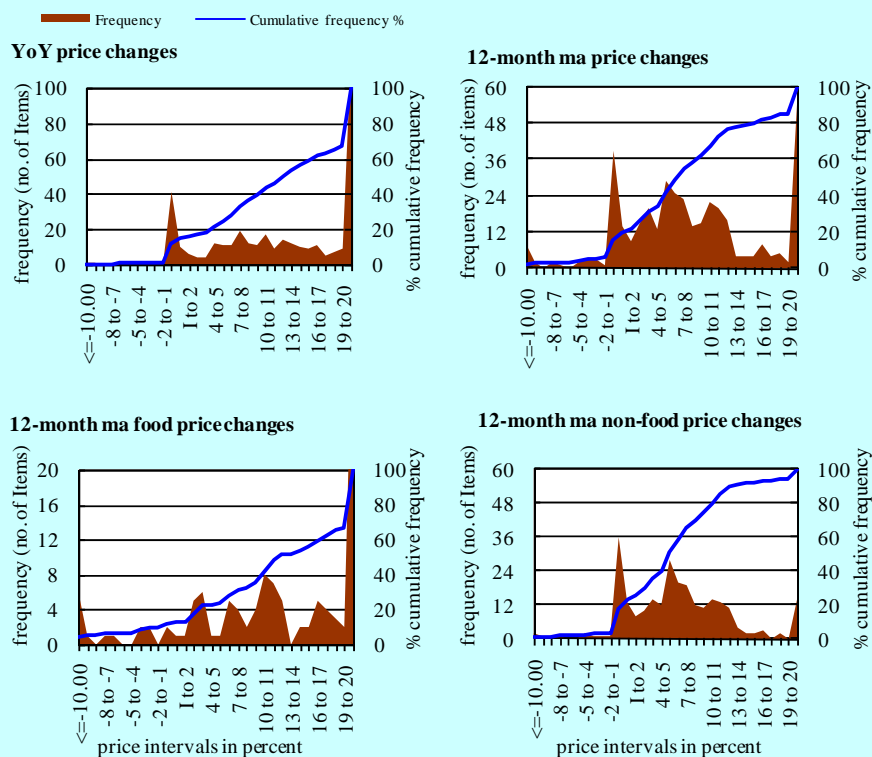
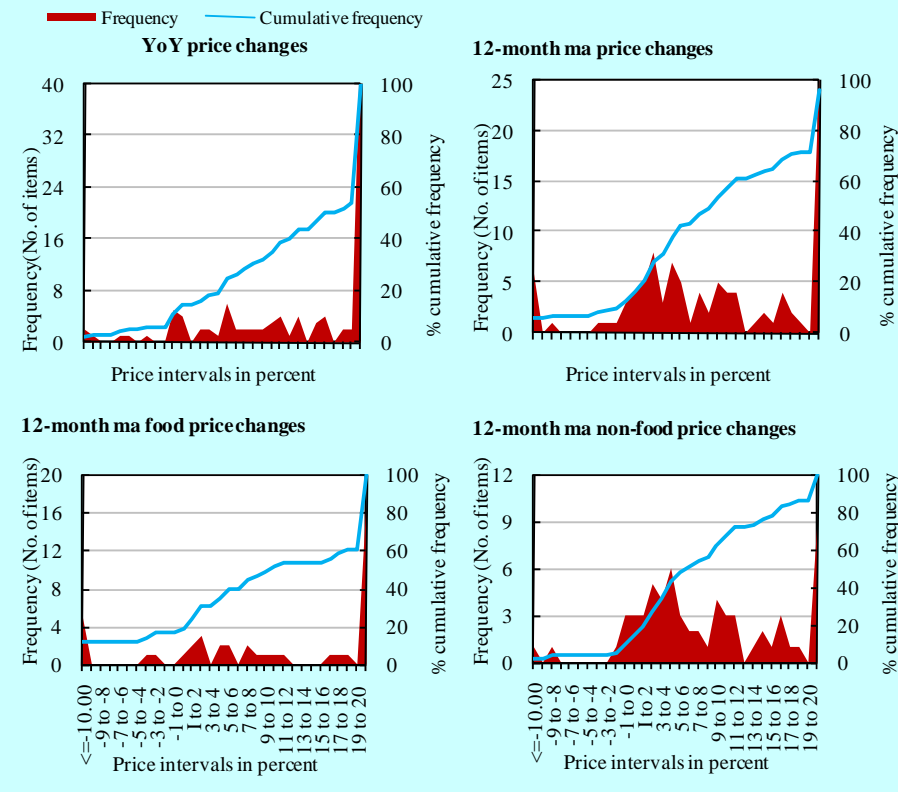


Figure A3: Frequency Distribution of Price Changes of WPI Items, July 2008



## **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