

# **Inflation Monitor**

**September 2006**



**State Bank of Pakistan**

*Research Department*



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## 1. Overview

An upsurge in headline inflation has been observed for the two consecutive months of the current fiscal year (August and September) coming mainly from significant rise in food inflation. While supply disturbances due to rains and floods pushed food inflation up in the double digit range during August, demand escalation as a *Ramadan effect* caused food prices to remain at a high position in September 2006.

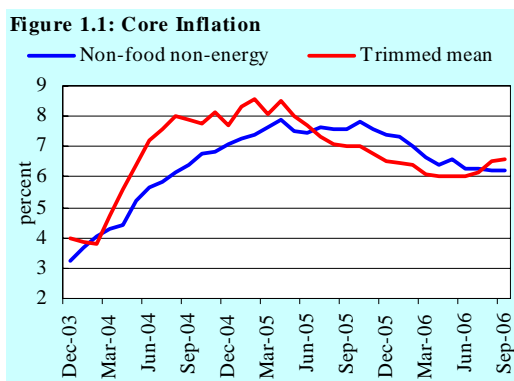
Consumer price inflation (headline inflation) has been recorded at 8.7 percent YoY in September 2006 compared with 8.9 percent in the previous month and 8.5 percent in the corresponding month of last year. Food inflation has been registered at 11.3 percent in September – the highest of the last 15 months. Non-food inflation, however, maintained its declining trend and was recorded at 7 percent in September 2006 compared with 9.3 percent in the corresponding month last year (**Table 1.1**).

	CPI			WPI			SPI	Core Inflation	
	General	Food	Non-food	General	Food	Non-food		NFNE *	Trimmed mean
Sep-05	8.5	7.5	9.3	11.9	7.5	15.2	7.0	7.6	7.0
Oct-05	8.3	6.4	9.6	11.1	7.2	14.1	6.5	7.8	7.0
Nov-05	7.9	5.8	9.4	10.9	6.4	14.3	5.4	7.6	6.8
Dec-05	8.5	8.1	8.8	11.0	7.8	13.7	6.2	7.4	6.5
Jan-06	8.8	8.2	9.2	10.8	7.2	13.8	6.0	7.3	6.5
Feb-06	8.0	7.5	8.4	9.9	6.9	12.2	7.0	7.0	6.4
Mar-06	6.9	5.4	8.0	8.5	5.9	10.4	6.8	6.7	6.1
Apr-06	6.2	3.6	8.0	8.1	4.5	10.8	6.8	6.4	6.0
May-06	7.1	5.6	8.2	9.1	5.7	11.6	8.6	6.6	6.0
Jun-06	7.6	7.8	7.5	9.0	6.7	10.7	8.9	6.3	6.0
Jul-06	7.6	7.4	7.8	8.4	5.4	10.7	8.9	6.3	6.1
Aug-06	8.9	11.1	7.4	8.2	8.2	8.2	11.0	6.2	6.5
Sep-06	8.7	11.3	7.0	8.0	9.2	7.2	11.2	6.2	6.6

\*: NFNE is Non-food non-energy inflation

The sensitive price indicator (SPI) also followed the food group of consumer price index with a YoY inflation of 11.2 percent in the month compared with an average 7 percent during the whole year of FY06. Like consumer prices, the wholesale prices of food items witnessed sharp increase in September; however, overall wholesale price index (WPI) declined during the month on the back of deceleration in WPI non-food index.

Despite rise in headline inflation during the month, core inflation measured as *non-food non-energy* remained stable at its previous month's level. However, trimmed mean core inflation continued to rise and has been recorded at 6.6 percent in September 2006 (see **Figure 1.1**). This rise in trimmed mean core inflation is due to some key food and energy items, having high weight and high inflation, like fresh milk, beef, mutton, potatoes and CNG.



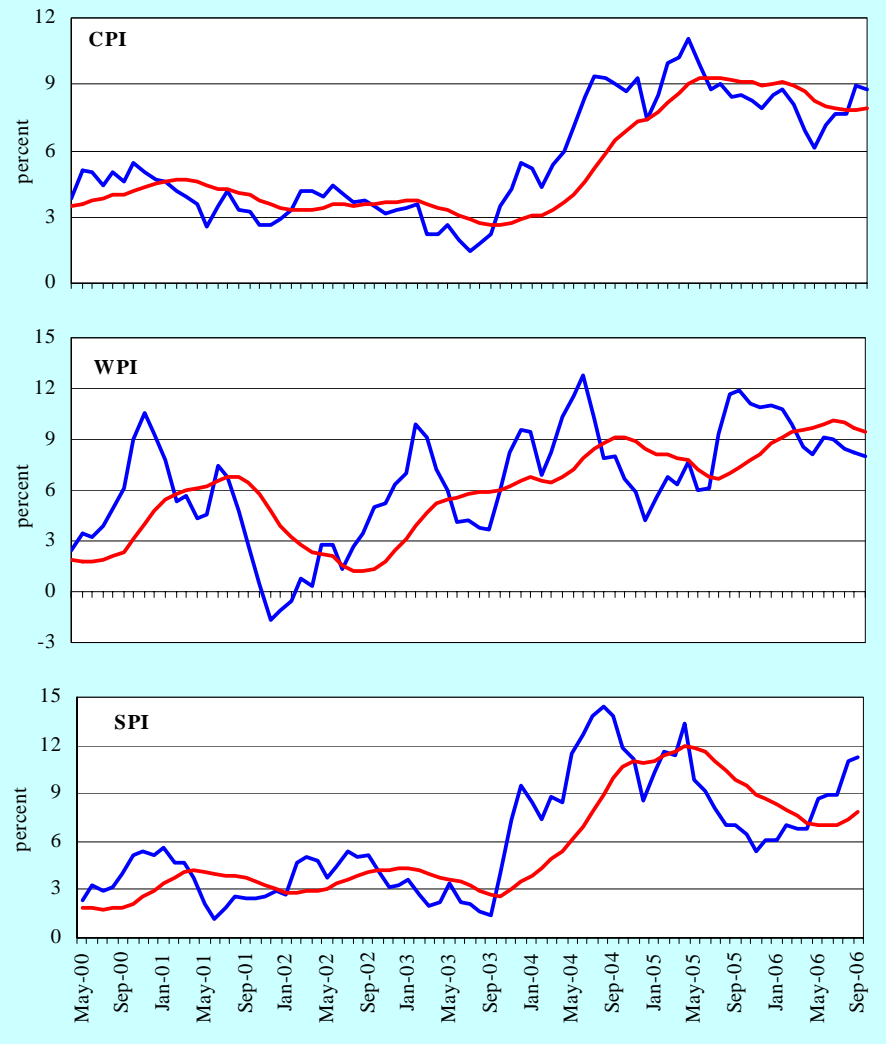
The monthly inflation, i.e. percent change of price index in September over August 2006 shows that overall CPI increased only by 0.3 percent which is lower than that in August as well as its past five years average. Monthly food inflation was also significantly lower in September as compared with August primarily due to base effect as food prices already had levitated significantly in August (see **Table 1.2**).

Table 1.2: Different Dimensions of Inflation (percent)				
	September-04	September-05	September-06	5-year average
<i>Year-on-year (Sep over Sep)</i>				
Overall CPI	9.0	8.5	8.7	6.4
Food group	13.1	7.5	11.3	7.6
Non-food group	6.3	9.3	7.0	5.6
<i>Period average (Jul-Sep over Jul-Sep)</i>				
Overall CPI	9.2	8.6	8.4	6.4
Food group	14.1	8.4	9.9	7.6
Non-food group	5.9	8.8	7.4	5.6
<i>12-month moving average</i>				
Overall CPI	6.4	9.1	7.9	5.9
Food group	9.5	11.0	7.4	6.6
Non-food group	4.4	7.8	8.3	5.5
<i>Monthly (Sep over Aug)</i>				
Overall CPI	0.4	0.5	0.3	0.4
Food group	0.3	0.0	0.1	0.4
Non-food group	0.5	0.9	0.4	0.4

In September 2006, the long run trend of CPI inflation (measured as 12-month moving average) rested at its last month's level after declining continuously for

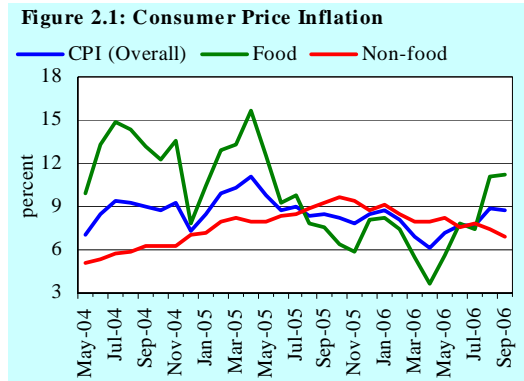
past several months. The long run trend in SPI, on the other hand, was turned up by the gravity of food inflation during the month (see **Figure 1.2**). Contrary to CPI and SPI, the wholesale price index that remained on a rising long run path during FY06, went down in the August and declined further in September due to persistent deceleration in WPI for the last several months.

**Figure 1.2: Movements in Price Indices**  
 — Year-on-year — 12-month moving average

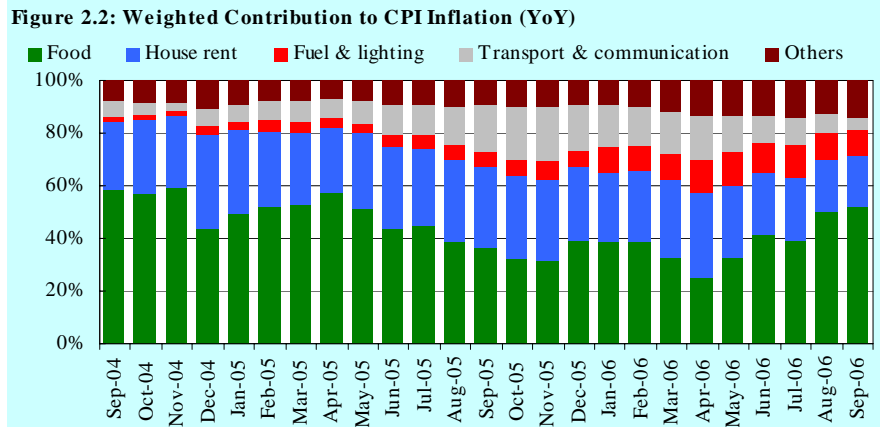


## 2. Consumer Price Inflation

The consumer price inflation in September 2006 was recorded at 8.7 percent YoY that was 0.2 percentage point less than the previous month and the same 0.2 percentage point higher than the corresponding month last year. The decline in inflation was supported by a significant fall in non-food inflation, while food group maintained its previous month level of double digit inflation. (see **Figure 2.1**).



The contribution of food group in overall inflation increased significantly to 52 percent in September 2006 from 35 percent during FY06; the non food group's contribution declined accordingly in the month. Within the non-food group, the contribution of house rent index also declined from 30 percent during the last fiscal year to below 20 percent in the month under review; some reduction in contribution of other sub-indices of non-food group to overall inflation has also been observed (see **Figure 2.2**).

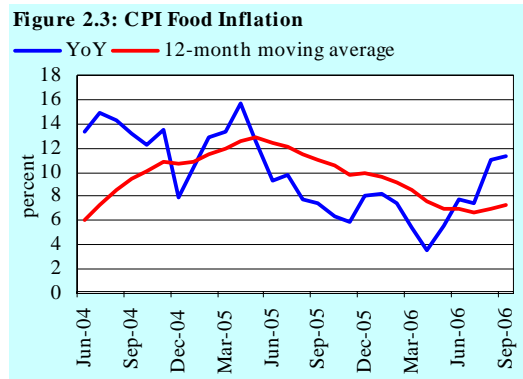


### 2.1 Food Inflation

Like August-06, food inflation was recorded in double digit at 11.3 percent YoY in September 2006, driven mainly by increase in prices of wheat flour, basen, soft



drinks, mutton, vegetables including tomatoes showing Ramadan effect, along with persistent pressure on prices of some pulses. Moreover, continuously high food inflation for two months in a row turned its declining long run trend up (see **Figure 2.3**).



A closer look at price movements of individual items included in the CPI food group

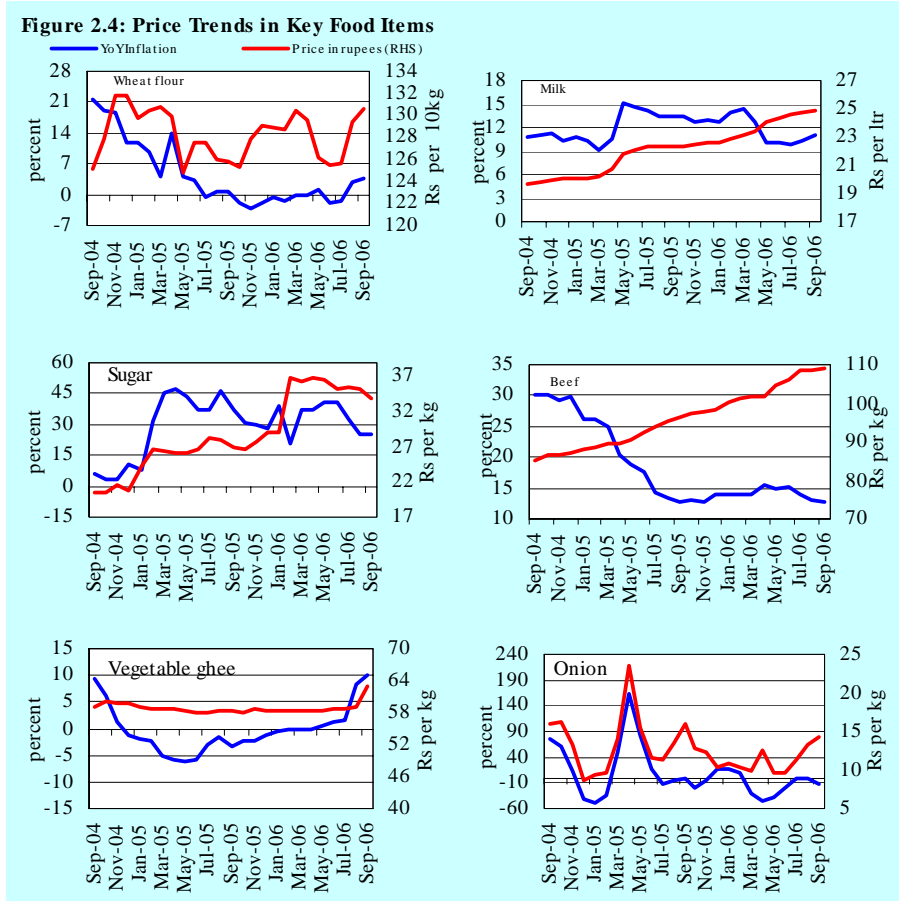
reveals that prices of 49 commodities including fresh milk, beef, sugar, chicken, pulses gram, mash and moong, cooked mutton, honey, etc. exhibited above 10 percent inflation YoY in September 2006, of which some fruits and vegetables like guava, green chillies, tomatoes etc. showed more than 30 percent inflation. The combined weight of such commodities (with double digit inflation) is about 52 percent of the food group. On the other hand, prices of 12 commodities like onion, eggs farm, rice irri-6, pulse masoor declined or remained same during the month. The rest of items, having a weight of 38 percent in food group exhibited subdued or moderate inflation (see **Table A2** in annexure).

Among the key food items, average price of wheat flour was recorded at Rs 130.63 per 10 kg bag during September 2006 which was about 1.3 percent higher than that in the previous month. Fresh milk price showed a YoY increase of 11.1 percent in the month compared with 10.4 percent in August, while increases in prices of sugar and beef were lower in September than those in the previous month (see **Figure 2.4**). The price of tomato has shown the highest increase of about 170 percent in September 2006 followed by tomato (165 percent), mash (60 percent), moong (48 percent) and basen (43 percent).

In terms of percent contribution to overall inflation, fresh milk and tomatoes were the second and third highest contributors (house rent index of non-food group being the first) with 8.3 percent and 8.27 percent share in overall YoY inflation of CPI (see **Table A4** in the Annexure).

## 2.2 Non-food Inflation

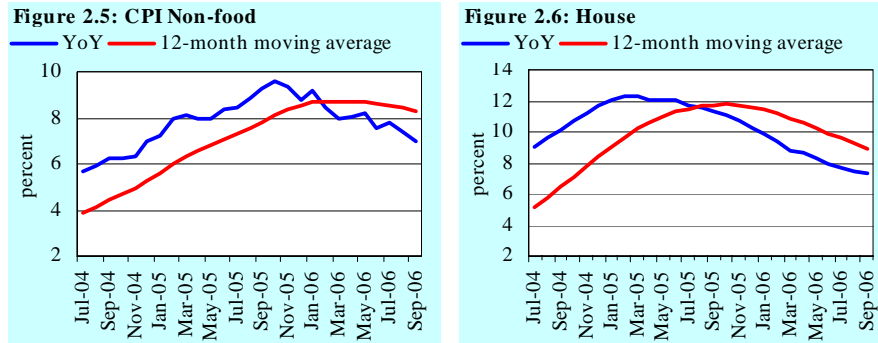
Contrary to food inflation, non-food inflation declined from 9.3 percent in September 2005 to 7.0 percent in the month under review primarily due to decline in inflation of transport & communication sub-index and continued deceleration in



house rent index. The Long run trend in CPI non-food inflation deceleration in house rent index. The long run trend in CPI non-food inflation also continued to decelerate in the month (see **Figure 2.5**).

House rent index (HRI) maintained its declining trend which started after February 2005, and recorded a moderate increase of 7.3 percent in September 2006 compared with about 11.3 percent in the corresponding month last year (see **Figure 2.6**).

In addition to HRI, sub-indices of fuel and lighting, transport and communication and cleaning laundry & personal also decelerated in the month. Transport and communication showed a YoY inflation of 5.3 percent in September 2006 as



compared with 20.7 percent in the same month of last year. Inflation of fuel and lighting increased significantly in September at 12 percent as compared with 7.6 percent YoY inflation in September 2005. The sub-indices showing acceleration in YoY changes in September included household furniture & equipment, education and medicare. The most notable increase was in medicare that registered an increase of 9.8 percent in September 2006 compared with 1.6 percent a year earlier (see **Figure A1** in annexure).

Of the 250 non-food commodities included in the CPI basket, 31 commodities witnessed double digit inflation which include items like gents shoe, gas cylinder, mattress, fares of different modes of transportation, primary school fee (English medium), gold tezabi, and doctor clinic fee, etc. There were 58 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 a number of durable goods like internet charges, computer, video cassette player, refrigerator, sewing machines, etc.

### 2.3 City-wise Inflation

The highest inflation was recorded in Okara (13%) that was primarily due to food inflation in September 2006. The capital city of Islamabad, which usually remains at top of the list in inflation ranking, was at sixth place in September with YoY inflation of 10.9 percent. The cities like Mardan, Gujranwala, Attock and Bannu experienced higher inflation compared with the capital city. The lowest inflation has been recorded in Sakkur. Of the 35 cities covered in the consumer price index, 22 cities had more than average inflation which included Islamabad, Lahore, Multan, D.G. Khan, Peshawar, Attock, etc. The cities witnessing below the average inflation included Jhang, Karachi, Hyderabad, Faisalabad, Larkana, etc. (see **Table 2.1**). The highest non-food inflation has been observed in Okara, while Faisalabad remained at the bottom for non-food inflation in the month.

**Table 2.1: City wise Inflation in CPI (YoY), September 2006**

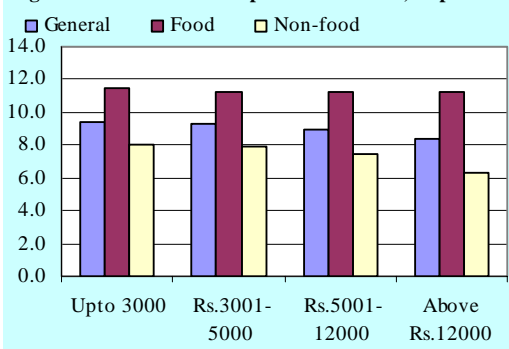
	High inflation cities				Low inflation cities		
	General	Food	Non-food		General	Food	Non-food
Okara	13.0	14.8	11.6	Abbotabad	8.6	10.9	6.9
Mardan	11.6	14.9	9.2	Khuzdar	8.6	10.7	7.1
Bannu	11.4	13.0	10.3	Hyderabad	8.4	11.5	6.2
Gujranwala	11.3	15.4	8.4	Karachi	8.3	10.9	6.5
Attock	11.1	14.7	8.7	Loralai&Cantt	8.3	12.0	5.8
Islamabad	10.9	13.9	8.8	Turbat	7.9	8.0	7.8
Kunri	10.7	16.3	6.9	Sialkot	7.8	8.4	7.4
Rawalpindi	10.7	13.7	8.6	Jhang	7.7	9.2	6.7
Mianwali	10.6	11.2	10.1	Nawabshah	7.6	8.9	6.7
Vehari	10.2	10.2	10.2	Samundari	7.0	9.5	5.4
Bahawalpur	10.1	13.9	7.4	Faisalabad	7.0	9.4	5.3
Multan	10.1	12.1	8.6	Larkana	6.3	7.1	5.7
Jehlum	9.8	12.6	8.0	Sukkur	5.8	5.0	6.4
Peshawar	9.8	13.8	7.0				
D.I.Khan	9.6	13.6	6.9				
Lahore	9.5	12.2	7.5				
Shahdadpur	9.3	12.1	7.3				
Bahawalnagar	9.0	9.8	8.5				
Mirpur Khas	9.0	11.4	7.4				
D.G. Khan	9.0	11.4	7.3				
Quetta	8.9	11.7	7.0				
Sargodha	8.8	11.0	7.3				

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

#### 2.4 Income Group-wise Inflation

Following the trend of last month, all income groups except for the highest income group experienced inflation higher than the average during September 2006 (see **Figure 2.8**). The lowest income group having monthly income up to Rs. 3000 experienced the highest inflation of 9.4 percent

**Figure 2.8: Income Group-wise Inflation, Sep-06**



with both food and non-food inflation higher than average. It is also worth noting that food inflation remained higher than non-food inflation for all income groups.

Province wise data depicts that for all income groups; NWFP experienced the highest inflation rate of all the provinces. The capital city of Islamabad, however, witnessed highest inflation for the highest income group (see **Table 2.2**). Furthermore for all income groups, the inflation of Sindh is the lowest of all provinces and this is true for not only overall inflation, but also for food and non-food inflation.

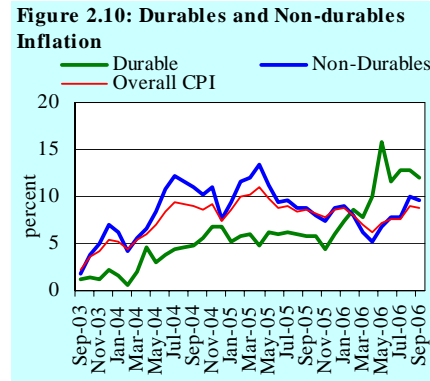
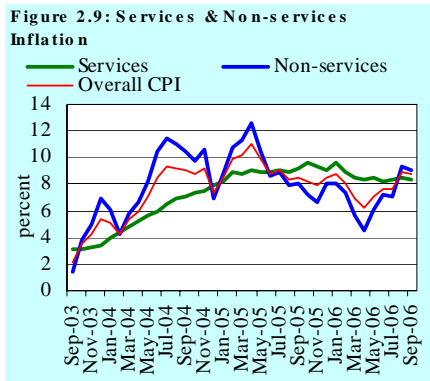
	Up to Rs.3000			Rs.3001-5000		
	General	Food	Non-Food	General	Food	Non-Food
<b>Islamabad</b>	10.5	11.5	9.8	10.6	12.3	9.5
<b>Punjab</b>	10.1	12.6	8.3	9.9	12.0	8.4
<b>Sindh</b>	7.3	8.7	6.3	7.4	8.9	6.4
<b>NWFP</b>	10.7	13.4	8.9	11.5	13.9	9.8
<b>Balochistan</b>	9.3	12.5	7.1	9.3	12.8	6.9
	Rs. 5000-12000			Above 12000		
	General	Food	Non-Food	General	Food	Non-Food
<b>Islamabad</b>	10.7	12.8	9.2	10.9	14.2	8.6
<b>Punjab</b>	9.6	11.9	8.0	8.9	12.1	6.7
<b>Sindh</b>	7.2	8.7	6.2	7.0	8.6	6.0
<b>NWFP</b>	11.0	13.6	9.1	10.0	13.1	7.8
<b>Balochistan</b>	8.6	12.3	6.0	8.2	11.6	5.9

## 2.5 Services and Non-services Inflation

Within the overall basket of consumer price index, the items related to services sector<sup>1</sup> have been showing stable inflation around 8 percent for last several months. However, a 0.3 percentage point decrease has been observed in price inflation of non-services commodities sector (see **Figure 2.9**). Non-services inflation was 9.0 percent in September 2006 compared with 9.3 percent in August and 9.2 percent in September 2005. As the commodities constitute about 57 percent of CPI basket, overall inflation in consumer price index is mostly driven by commodity inflation.

<sup>1</sup> Consumer services include item like house rent index, electricity charges, marriage hall, house hold servant, transport fare, communication, recreation, tuition fees, laundry charges, hair cut & beauty parlor charges, doctor's fee, tailoring charges etc.

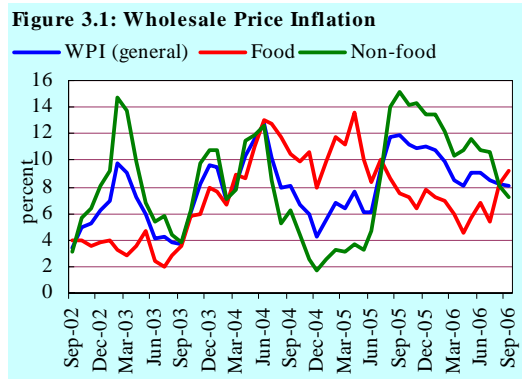
Within the non-services sector further breakup is for durables<sup>2</sup> and non-durables goods. The inflation of durable items was 12 percent in September 2006 as compared 12.9 in August 2006 and 5.8 in September 2005 (see **Figure 2.10**). On the other hand, the non-durable goods inflation was recorded at 9.7 percent in August 2006 as compared with 10 percent in August 2006 and 8.8 percent in September 2005.



<sup>2</sup> Durable items includes suitcase, furniture (ready made), electric iron, fans, washing machines, sewing machines, clocks, needles, refrigerator, air conditioners, vehicles, computer & allied products, watches and jewellery, etc.

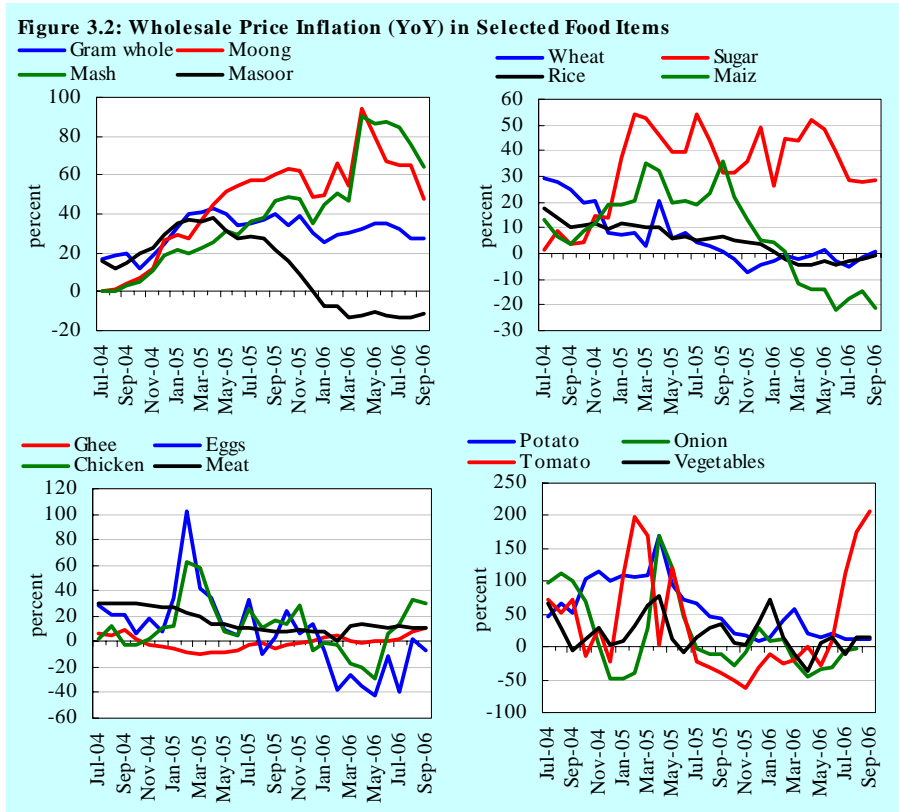
### 3. Wholesale Price Inflation

The wholesale price inflation that has been slowing down since September 2005 continued its decelerating trend in the current fiscal year and declined to 8 percent (YoY) in September 2006 – showing a drop of 3.9 percentage points from the same month of last year. This deceleration was mainly due to the decline in non-food component of WPI. WPI food inflation remained, however, at a high point and showed a rise of 1 percentage point from the previous month and 1.7 percentage points from the corresponding month of last year (see **Figure 3.1**).

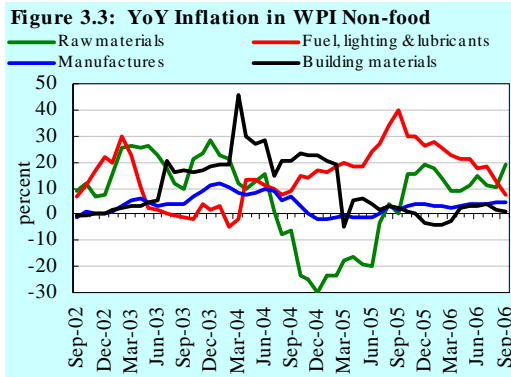


WPI food inflation that was around 7 percent during the last fiscal year, witnessed a sharp increase for the second consecutive month supported mainly by the double digit rise in whole sale prices of chicken, vegetables, salt, gram, meat, moong, mash, sugar, tomatoes, potatoes etc. Based on the anecdotal evidence, it is generally considered that the prices of necessary food items tend to rise ahead of *Ramadan* mainly due to increase in demand. Although the Ramadan effect has been observed in this September also, there were some food items whose price declined in the month including eggs, masoor, maida, onion, rice etc (see **Figure 3.2**).

WPI non-food inflation, on the other hand, declined further due to significant decline in whole sale prices of hosiery, paper, soaps, pig iron, coal, motor spirit, bricks and paints & varnish etc., notwithstanding, higher prices of some items like cotton, sugarcane, tobacco, chrome leather, iron bars & sheets, kerosene oil, cosmetics, foot wear, and plastic products. A frequency distribution of wholesale price changes suggests that 18 out of 43 food items witnessed a rise of more than 10 percent. While 6 items of food group recorded moderate inflation of 5 to 10 percent and 10 items showed subdued inflation of up to 5 percent. The wholesale prices of remaining 9 items declined or remained stable. In case of non-food group distribution of price changes, the prices of 24 items revealed a subdued rise of up to 5 percent, 15 items showed decrease or no change, 24 demonstrated double digit rise and remaining 11 items displayed a moderate inflation i.e. 5 to 10 percent (see **Table A7** in the annexure).

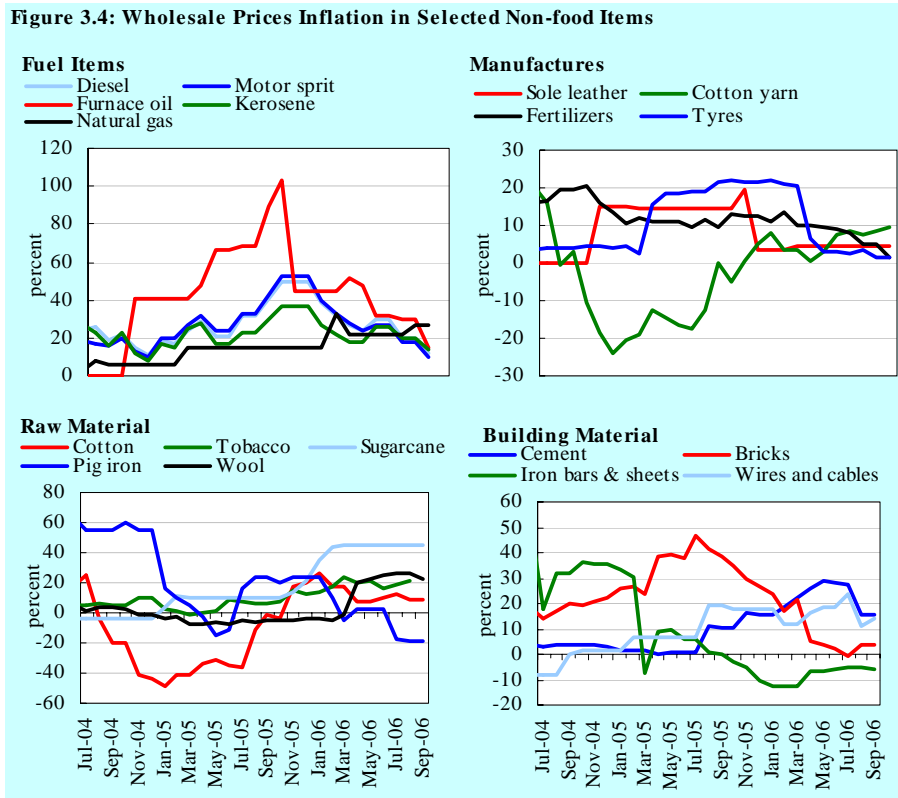


As the overall inflation in non-food group of WPI had been showing a persistent decline since last September, its sub-indices exhibited mixed trends. Sub-indices of *fuel & lightening* and *building materials* decelerated in September 2006 compared with the preceding month as well as to the corresponding month last year; whereas the *raw material* showed a steep rise and the *manufactures* maintained its previous month rate of increase.





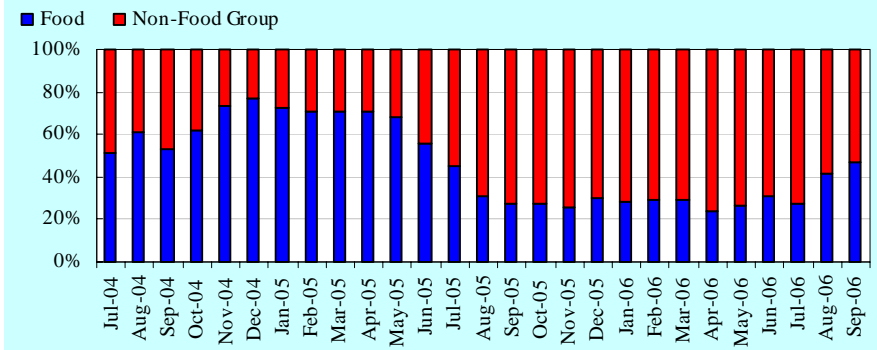
The continuous deceleration in fuel prices was a result of decline in petroleum prices in international market as well as higher base. In the fuel & lightening sub group, prices of all petroleum products slowed down and recorded single digit growth except for natural gas that grew at a faster rate of 27 percent in September 2006 compared to the growth of 14.3 percent in September 2005. This shows the rising demand of natural gas as an alternate energy source on the back of high oil prices. The steep rise in raw material index was the outcome of high growth in prices of cotton, tobacco, sugarcane and wool which outpaced the decline in prices of pig iron, hides and skin. All items under manufacturers sub group of WPI non-food recorded negative to moderate YoY growth in prices except chemicals and jute products (see **Figures 3.3 & 3.4**).



During September 2006, the weighted contribution of food group inflation increased further to 47.2 percent in overall WPI inflation that was not only

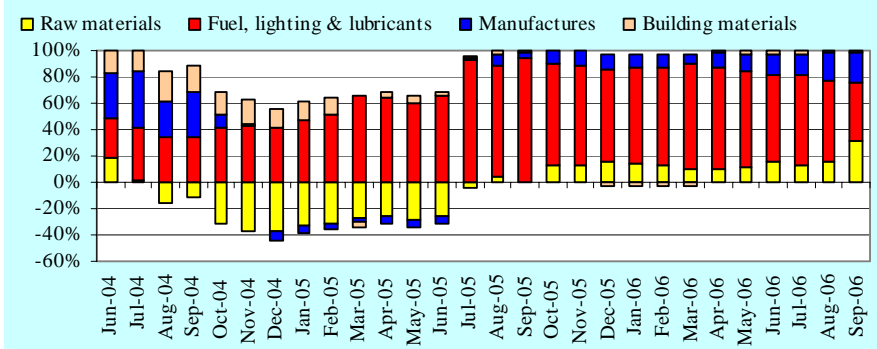
significantly higher than the previous month (41.7 percent) but also from the corresponding month of last year (27 percent). This rising contribution of food group in WPI was attributed to the increase in food inflation during the last two months (79 percent of the food items registered increase in prices). The weighted contribution of non-food inflation in WPI that remained around 70 percent during FY06 declined significantly to 52.8 percent in September 2006 (see **Figure 3.5**).

**Figure 3.5: Groups' Weighted Contribution to YoY WPI Inflation**



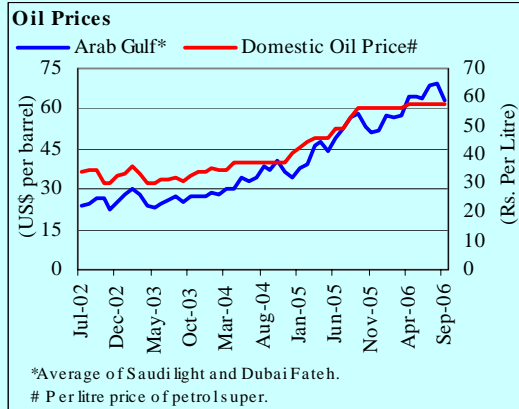
Within non-food group, the contributions of its sub groups showed mixed trend. The major shift was recorded in the fuel & lightening sub group whose contribution declined to below 50 percent after registering above 80 percent during the previous fiscal year. In contrast, the contributions of raw materials and manufactures inflation increased significantly during the month under review (see **Figure 3.6**).

**Figure 3.6: Groups' Contribution to YoY Non-Food Inflation**



**Box 1: Which international oil price is relevant to Pakistan?**

Pakistan fulfils more than 65 percent of its petroleum needs from imported resources; hence directly affected by the oil price hike in the international market. In international market various types of benchmark crude oil prices are quoted. These include West Texas Intermediate - US, Europe Brent, Saudi Light, Dubai Fateh etc. which have different implications for different regions of the world. In Pakistan, the oil price determination has been carried out by Oil and Gas Regulatory Authority (OGRA) in accordance with the formula prescribed by the federal government. According to the formula the price of oil based on average Arab Gulf prices (FOB basis) for the last fortnight is adopted and then other charges/duties are added. Therefore the most relevant international oil price for Pakistan should be the average of available most widely quoted benchmark crude oils for the region i.e. Saudi light and Dubai Fateh.



The relevance of Gulf oil for domestic oil prices is also evident from high correlation between the two. The domestic oil price is almost perfectly correlated with Arab Gulf price of oil; since Arab Gulf and WTI US are also highly correlated with each other, domestic oil prices in Pakistan also have high correlation with WTI US. However, its relationship with the Europe Brent is weak.

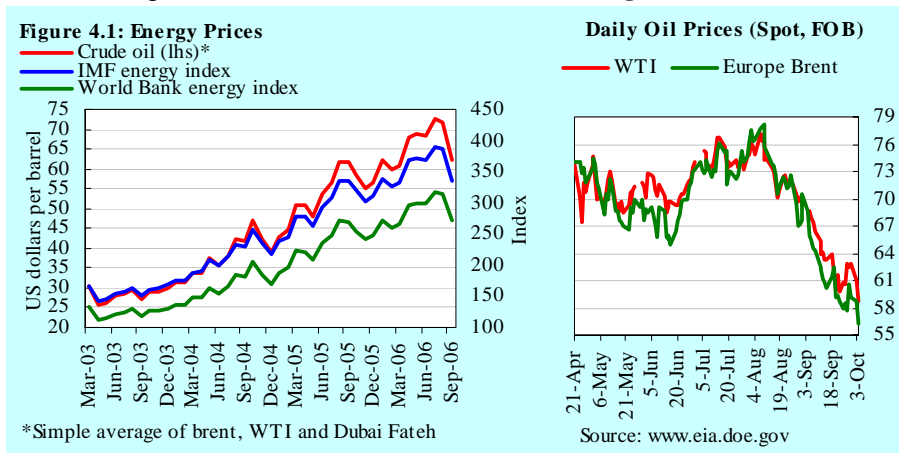
Correlation Matrix				
	Arab Gulf*	Europe Brent	WTI US	Domestic Price
Arab Gulf *	1.000			
Europe Brent	0.511	1.000		
WTI US	0.973	0.515	1.000	
Domestic Price	0.971	0.416	0.953	1.000

\* Average of Saudi Light and Dubai Fateh Crude Oil.

\* For details visit: <http://www.ogra.org.pk/images/data/downloads/1160935166.pdf>

#### 4. Global Commodity Prices

International crude oil prices declined sharply in September 2006 compared to the preceding month and reached almost at the same level as it was in September 2005. As articulated in OPEC MOMR for October,<sup>3</sup> easing tensions in the Mideast, steady OPEC supply, rebounding non-OPEC supply and high stock levels amid low demand and expectations of slower economic growth caused a sharp drop in oil prices during September. In accordance with the recent trend in oil prices, the IMF and World Bank energy indices for September 2006 also exhibited a significant fall over the month earlier (see **Figure 4.1**).



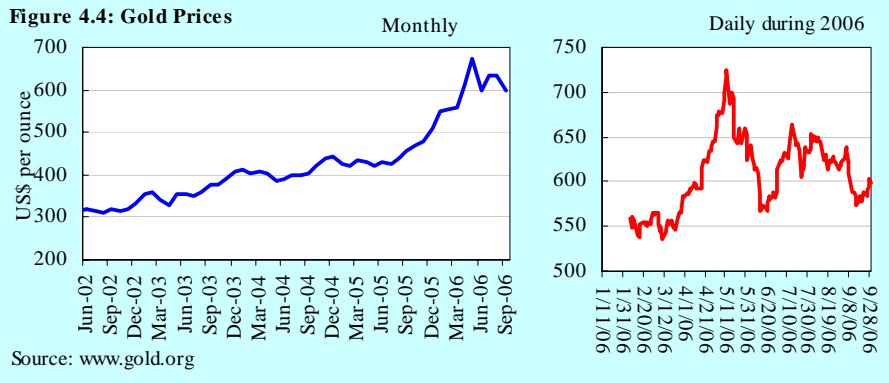
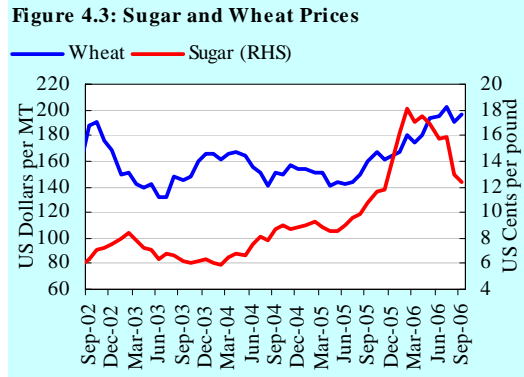
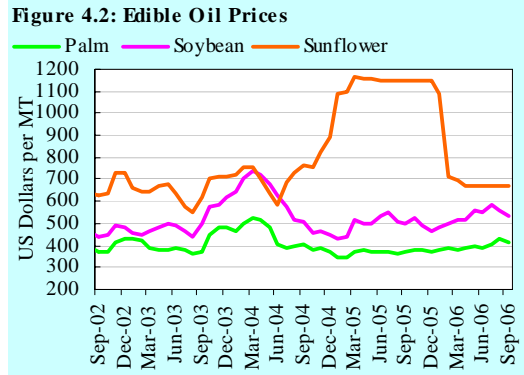
The daily crude oil prices that started downward movement during the first week of August 2006 continued their trend in September 2006. On September 19<sup>th</sup>, crude oil price fell to a 6-month low and by October 3<sup>rd</sup>, the price closed at \$57.4 per barrel, its lowest close since late-December 2005. However, after news of North Korea's successful nuclear test on October 9, 2006, oil prices once again grew higher than \$60 a barrel, but were back below \$60 the next day.

In September, edible oil prices (palm and soybean) declined from their last month level showing YoY increases of 12.7 and 7.5 percent respectively compared with 21 and 11 percent in August 2006. The price of sunflower oil, on the other hand, remained stagnant at its previous month level. (see **Figure 4.2**).

<sup>3</sup> See Monthly Oil Market Report of OPEC at [www.opec.org](http://www.opec.org).

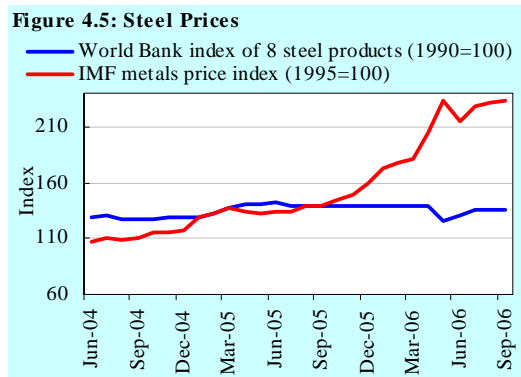
The price of wheat rose significantly by 22.7 percent in September 2006 over the corresponding month of last year due to the expectations of lower production on the back of poor weather condition in the major wheat producing countries. The sugar price growth momentum slowed down after registering more than 30 percent rise every month since November 2005 and showed a modest rise (YoY) of 13.9 percent during the month under review. On the monthly basis, sugar prices are continuously declining since April (see **Figure 4.3**).

The price of gold was declining for the last couple of months and registered a deflation of 5.4 percent in September 2006 over the preceding month (see **Figure 4.4**). Gold prices remained lower largely in reaction to a softer tone in crude oil prices. However, variation in gold prices increased significantly during September 2006 showing a standard deviation (SD) of 19.5 around a mean of US\$598.06 per ounce compared to SD of

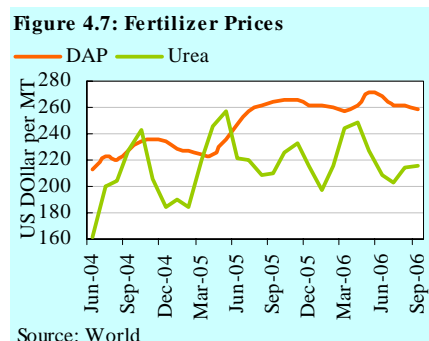
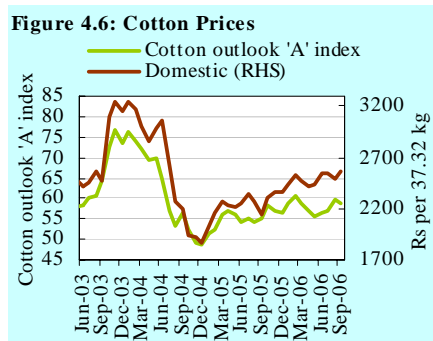


13.4 around mean of US\$632.3 per ounce a month earlier.

Other metal prices including copper, zinc, aluminum, iron ore, tin, and nickel increased further in the month mainly due to the strong demand from USA and China construction industries. The IMF metal price index maintained its YoY growth and increased by 66.8 percent in September 2006 much higher compared with 26.6 percent growth in September 2005. Steel prices, measured by the World Bank index of 8 steel products did not change for the second consecutive month (see **Figure 4.5**).



Cotton prices in international market recorded a YoY growth of 7.1 percent (cotton 'A' index) in September 2006 – which was 3.7 percentage points lower than the previous month. In domestic market, on the other hand, cotton prices witnessed a steep (YoY) rise of 19.6 percent due to the expected low cotton crop this season (see **Figure 4.6**).

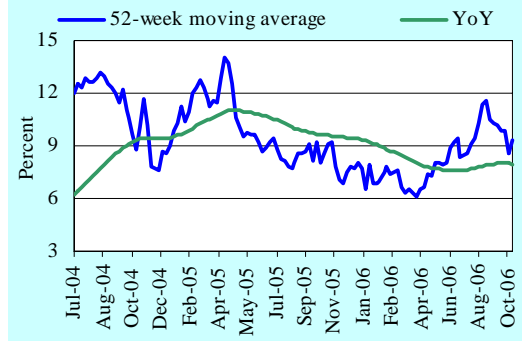


After showing negative growth from May to July 2006, urea prices recorded increase for the second consecutive month and increased by 2.5 percent in September 2006 over the same month last year. However, DAP prices declined by 2.0 percent in the month on YoY basis as against a significant increase of 16.6 percent in the corresponding month last year (see **Figure 4.7**).

## 5. Sensitive Price Indicator

After recording an increase of 11 percent in the previous month the sensitive price index further increased to 11.2 percent YoY in September 2006. However, after showing step rise in August and early September, weekly SPI remained stable around 10 percent in subsequent weeks primarily due to price control measures taken by the government in Ramazan (see **Figure 5.1**). The major items

**Figure 5.1: Weekly SPI Inflation**



contributing to SPI inflation were pulses, vegetables, gas and other liquid fuel prices. Almost half of total items in the SPI basket recorded double digit inflation during September 2006 with some of the items like moong, gram, mash, tomato, gas and electricity charges witnessing inflation of more than 30 percent (see **Table A8** in annexure).

## 6. Wage Inflation

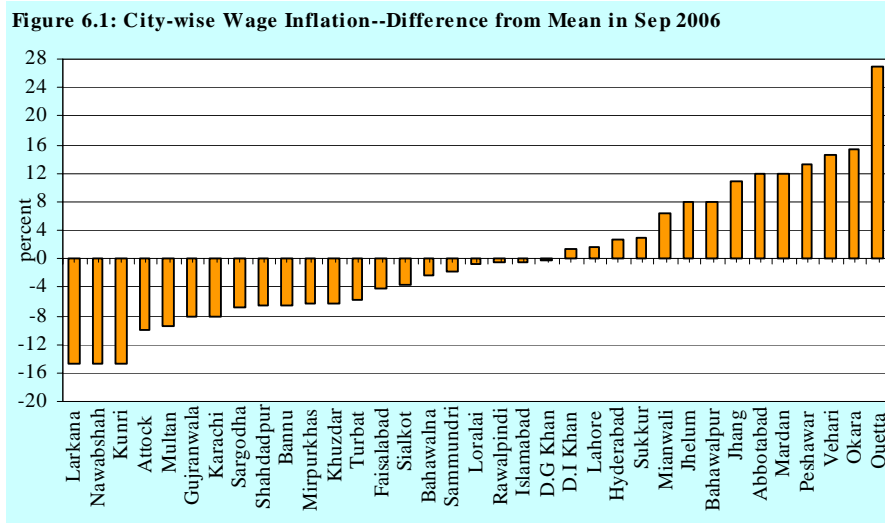
Following the pattern of first two months of FY06, wage inflation continued its decelerating trend in September 2006 resulting from lower demand due to low construction activities in Ramazan. Average wages of construction workers registered a YoY growth of 14.8 percent compared with 15.9 percent in the preceding month and 16.7 percent in the corresponding month last year. Both skilled and unskilled labour wage inflation contributed in this deceleration. Further disaggregation of skilled and unskilled workers' wage inflation reflected that all sub-categories exhibited deceleration in wage inflation during September 2006 (see **Table 6.1**).

**Table 6.1: Wage Inflation**

	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06
<b>Overall</b>	15.5	15.6	14.6	14.6	16.9	18.2	17.0	15.9	14.8
<b>Skilled:</b>	15.0	15.2	14.0	14.0	16.5	18.1	16.8	15.7	14.6
Carpenter	14.7	15.8	14.4	14.9	14.6	15.9	15.0	13.4	13.3
Mason	18.2	17.2	16.0	16.4	17.2	19.7	18.4	17.8	15.2
Plumber	16.4	17.0	15.1	13.9	14.0	15.2	14.0	13.2	12.1
Electrician	10.4	10.4	10.3	10.8	20.2	21.4	19.8	18.6	17.8
<b>Unskilled:</b>	19.6	19.3	19.0	18.6	19.9	19.5	18.5	16.9	16.4
Laborer	19.6	19.3	19.0	18.6	19.9	19.5	18.5	16.9	16.4

The growth in average real wages slowed down further due to deceleration in average nominal wages and high CPI inflation. Skilled as well as unskilled workers depicted slow down in real wage inflation growth of 5.8 and 7.6 percent respectively compared to 7.4 and 14.1 percent growth in the corresponding month of last year.

**Figure 6.1** presents the picture of city wise deviation in wages from mean during the month under study. Out of 35 cities, 14 recorded higher than average wage inflation and 21 cities witnessed lower than average inflation during the month. The highest wage inflation was evidenced in Quetta followed by Okara and Vehari whereas Larkana, Nawabshah, Kunri etc. showed lower changes in wages. **Table 6.2** shows that average wages of construction workers lie between Rs 173.7 rupees per day for labour and Rs 338.2 rupee per day for meson.





<b>Table 6.2: Daily Labor Wages (Rs. per day)--Average in 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
Monthly averages						
Jan-05	248.5	263.3	130.4	245.8	242.8	226.1
Feb-05	248.2	265.6	130.9	245.7	242.8	226.6
Mar-05	250.5	269.2	132.5	250.0	244.3	229.3
Apr-05	253.3	269.8	134.4	255.4	247.7	232.1
May-05	256.0	273.1	136.5	256.8	247.7	234.0
Jun-05	258.1	275.2	138.5	258.6	248.8	235.8
Jul-05	264.2	280.9	142.5	264.6	252.1	240.8
Aug-05	269.9	284.1	145.8	270.2	256.0	245.2
Sep-05	275.8	293.6	149.3	276.6	257.7	250.6
Oct-05	280.8	302.1	152.2	280.4	263.8	255.9
Nov-05	281.5	304.2	152.9	281.3	265.5	257.1
Dec-05	283.8	308.6	154.7	282.5	266.8	259.3
Jan-06	284.9	311.2	156.0	286.1	267.9	261.2
Feb-06	287.4	311.4	156.2	287.4	267.9	262.1
Mar-06	286.5	312.1	157.7	287.8	269.6	262.8
Apr-06	290.9	313.9	159.4	291.0	274.3	265.9
May-06	293.4	319.9	163.6	292.7	297.7	273.5
Jun-06	299.2	329.4	165.6	297.8	302.0	278.8
Jul-06	303.9	332.7	168.9	301.7	302.0	281.8
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

Source: Federal Bureau of Statistics

**Annexure A**

	Weights	Sep-02	Sep-03	Sep-04	Sep-05	Sep-06
<b>I. Food Group</b>	<b>40.3</b>	<b>4.9</b>	<b>1.4</b>	<b>13.1</b>	<b>6.4</b>	<b>11.3</b>
<b>II. Non-Food Group</b>	<b>59.7</b>	<b>3.0</b>	<b>2.7</b>	<b>6.3</b>	<b>9.6</b>	<b>7.0</b>
Apparel, textile, etc.	6.1	2.3	4.0	2.4	4.3	4.0
House rent	23.4	0.8	2.3	10.2	11.1	7.3
Fuel & lighting	7.3	8.8	3.3	2.8	7.6	12.1
Household furniture & equipt	3.3	2.2	3.1	5.7	5.5	6.7
Transport & com.	7.3	3.6	1.0	6.8	22.7	5.3
Recreation & entert.	0.8	0.7	-0.6	-0.2	-0.4	0.2
Education	3.5	4.4	4.6	2.9	6.6	7.2
Cleaning, laundry, etc.	5.9	3.7	4.3	4.2	2.8	4.1
Medicines	2.1	4.5	1.1	1.0	1.6	9.8
<b>Headline</b>	<b>100</b>	<b>3.7</b>	<b>2.2</b>	<b>9.0</b>	<b>8.3</b>	<b>8.7</b>

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>11.3</b>	<b>112</b>	<b>12</b>	<b>26</b>	<b>25</b>	<b>49</b>
<b>II. Non-Food Group</b>	<b>7.0</b>	<b>250</b>	<b>70</b>	<b>91</b>	<b>54</b>	<b>35</b>
Apparel, textile, etc.	4.0	42	7	21	12	2
House rent	7.3	1	0	0	1	0
Fuel & lighting	12.1	15	7	1	1	6
Household furniture & equipt	6.7	44	2	23	17	2
Transport & com.	5.3	43	11	7	9	16
Recreation & entert.	0.2	16	11	3	2	0
Education	7.2	24	8	10	2	4
Cleaning, laundry, etc.	4.1	36	8	17	7	4
Medicines	9.8	29	16	9	3	1
<b>Overall</b>	<b>8.7</b>	<b>362</b>	<b>82</b>	<b>117</b>	<b>79</b>	<b>84</b>

Note: Prices of 12 seasonal items were not reported during the month.

**Table A3: Distribution of Price Changes - Selected CPI Items, September 2006**

Groups	Decrease or no change	Subdued increase (upto 5%)	Moderate increase (5 to 10%)	Increase of over 10%
<b>Food Group</b>	Ginger; Onion; Cardamom Small; Biscuits-Packed Rice Irri-6 (Sindh/Punjab)	Wheat Flour Fine/Superior; Honey Langanese 500 Gm. Turmeric Powd.National Vermicelli Wheat Flour Bag	Cornflaks Fauji 225 Gm. Milk Powder Rusk (Papay) Mustard Oil Av.Qlty. Toffee (Hilal)	Sugar Refined; Cooked Mutton (Av. Hotel) Tea Prepared (Ordinary) Pulse Moong (Washed) Pulse Mash (Washed) Tomatoes,
	Apparel & Textile	Boot Polish , Cherry/Kiwi Ladies Sandal Bata Child Shoe Power Lite Bata	Long Cloth Av.Qlty. Lawn Av.Qlty.	Tailoring Coat-Pant Suit Shirting Av.Qlty. Gents Shoe, Art 1109 Service Nylon Jogger 27 Size 2-5
<b>House Rent Index</b>			HRI	
<b>Fuel &amp; Lighting</b>	Bulb Philips 100-Watts, Tube Light Philips 40 Watts Elect.Charges Upto 50 Units			Kerosene Oil Gas Chrg Upto 3.3719 Mmbtu Gas Cylinder Stand. Size
<b>H/hold Furniture</b>	Sewing Machine(Singer) Refg. Dawlence 10 Cft. D.Doo	Elect. Iron Philips Mdl.1120 Tea Set Pak. Chinaware 21 Pc Bedsheet Single Bed Sup.Qlty	Bucket(Balti) Plastic Med.Si Ceiling Fan 48" Super Qty Household Servant Female P/T	Matress Single(4"Thick) Pedestal Fan 22" Super Qty
	<b>Transport &amp; Comm.</b>	Internet Charges Car Suzuki 800 Cc (W/O. A/C) Telephone Charges Local Call Postal Envelope Domestic	Motorcycle Yamaha 100Cc. Petrol Super Motor Cycle Service Charges Bus Fare Outside City	Auto Rickshaw Fares Tyre Car With Tube General Bus Fare Max (Within City) Tyre Car With Tube General
<b>Recreation</b>	Video Game Sega 16 Byte Radio With C.Player National Daily "Dawn"	T.V. 20" Colored With R/Cont Tape Recorder Cassette Blan Cinema Non-A/C High Class	Dry Cell 1.5 Volt(Local) Cinema A/C. Highest Class	
<b>Education</b>	English Book Class V1, Pen Ink Dollor 57 Ml Bottle Govt. College Fee Ist. Year	Pencilgoldfish/Deer, Paper Foolscape (27"X17"), Exercise.Book Lined 80/100 P	English Book Class Ix School Fee 2Nd-Ry Eng.Med.	School Fee Primary Eng.Med. Maths Book Ist.Year Eng. Book Ist.Yr Complete Set
<b>Cleaning &amp; Laundry</b>	Toilet Soap Lux 95 Grams, Shaving Cream Touch-Me/Adm., Surf (Medium) 160 Grm Toothpaste Macklines 70 Grm	Toilet Soap Lifebouy 140 Grm Washing Soap Nyl(135-160Gms) Washing Powder 1000 Grm Shampoo Plain Medora 200 Ml.	Artificial Jewellery Set Wrist Watch Ladies Citizen Haircut Charges For Men Dry Cleaning Suit Coat Pant	Washing Ch. (Kamiz-Shalwar) Washing Ch. Shirt Gold Tezabi 24 Ct Silver Tezabi 24 Ct
<b>Medicare</b>	Cac. 1000 Tab Betnesol Eye Drops Hydryllin Syrup 120 Ml.	Amoxil Capsole 250 Mg.S Renitec Tab. 5 Mg. Thermometer China	Jouhar Joshanda Galxos-D (450 Grms)	Doctor (Mbbs) Clinic Fee

<b>Table A4: Top Ten CPI Items (Ranked by Inflation Contribution)</b>							
Items	Unit	weights	Price Sep-06	YoY change		Weighted Contribution	
				Sep-05	Sep-06		
<b>A. Ranked by Weighted Contribution</b>							
1	House Rent Index	Month	23.43	138.90	11.29	7.28	19.52
2	Milk Fresh (Unboiled)	Ltr.	6.53	24.84	13.33	11.09	8.30
3	Tomatoes	Kg	0.44	37.18	-38.99	165.19	8.27
4	Sugar Refined	Kg.	1.95	33.79	30.83	25.99	5.79
5	Gas Chrg 10.1157 - 13.4876Mmb	Mmbtu	0.93	387.90	14.54	27.00	2.88
6	Gas Cylinder Stand. Size	Each	0.68	639.34	6.89	30.20	2.36
7	Beef With Bone Av.Qlty.	Kg	1.61	109.62	13.00	11.81	2.18
8	Pulse Gram	Kg.	0.43	40.44	6.56	40.71	1.99
9	Gas Chrg Upto 3.3719 Mmbtu	Mmbtu	0.84	102.38	0.00	20.39	1.95
10	Train Fare Eco. > 500 Km.	P/Km.	0.48	0.51	5.56	34.21	1.89
<b>Total</b>			<b>37.3</b>				<b>55.1</b>
<b>B. Ranked by Percentage Change</b>							
1	Tomatoes	Kg	0.44	37.18	-38.99	165.19	8.27
2	Pulse Mash (Washed)	Kg. 10	0.20	69.94	26.72	59.61	1.38
3	Silver Tezabi 24 Ct	Gm.	0.03	222.28	12.66	49.16	0.16
4	Pulse Moong (Washed)	Kg.	0.22	59.82	46.58	48.40	1.24
5	Besan Av. Qlty.	Kg.	0.13	44.44	9.75	42.48	0.64
6	Pulse Gram	Kg. 10	0.43	40.44 12090.	6.56	40.71	1.99
7	Gold Tezabi 24 Ct	Gm.	0.20	40	11.42	40.21	0.94
8	Air Fare Economy Class.	P/Km.	0.10	8.05	-4.96	40.00	0.45
9	Chillies Green	Kg	0.14	29.63	-0.37	37.37	0.62
10	Guava	Kg	0.11	25.65	5.33	36.58	0.45
<b>Total</b>			<b>2.0</b>				<b>16.1</b>

<b>Table A5: City-wise Inflation (YoY) by Income Groups, September 2006</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	10.5	13.4	8.4	10.3	12.6	8.6
2	Faisalabad	6.9	9.2	5.3	7.2	9.2	5.7
3	Rawalpindi	10.7	13.4	8.8	10.7	13.0	9.0
4	Multan	11.2	12.3	10.5	10.8	12.0	10.0
5	Gujranwala	11.8	16.8	8.3	11.4	15.1	8.8
6	Islamabad	10.5	11.5	9.8	10.6	12.3	9.5
7	Sargodha	10.4	13.1	8.4	9.7	11.9	8.1
8	Sialkot	8.0	8.4	7.7	8.3	8.7	8.0
9	Bahawalpur	11.0	13.8	9.1	11.0	13.7	9.1
10	Karachi	8.1	11.0	6.1	8.3	11.0	6.5
11	Hyderabad	9.1	11.8	7.2	9.0	12.0	6.8
12	Sukkur	5.4	4.6	6.0	5.8	5.0	6.4
13	Larkana	6.5	7.3	5.9	6.6	7.6	5.9
14	Peshawar	10.9	15.2	7.8	11.3	15.1	8.8
15	Bannu	10.6	11.6	9.9	11.7	12.8	10.9
16	Quetta	9.9	12.2	8.2	9.6	13.0	7.3
17	Khuzdar	8.8	12.8	6.0	9.0	12.6	6.5
		<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	9.8	12.2	8.1	9.0	12.2	6.7
2	Faisalabad	7.3	9.5	5.7	6.8	9.4	5.0
3	Rawalpindi	10.7	13.4	8.8	10.7	14.1	8.4
4	Multan	10.2	11.8	9.0	9.5	12.6	7.4
5	Gujranwala	11.3	15.3	8.6	11.1	15.8	7.8
6	Islamabad	10.7	12.8	9.2	10.9	14.2	8.6
7	Sargodha	9.1	11.0	7.8	7.7	10.6	5.7
8	Sialkot	8.0	8.4	7.7	7.7	8.4	7.1
9	Bahawalpur	10.5	13.9	8.0	8.9	13.9	5.4
10	Karachi	8.4	11.1	6.5	8.3	10.8	6.6
11	Hyderabad	8.4	11.4	6.3	8.2	11.8	5.7
12	Sukkur	5.8	5.0	6.3	6.0	5.2	6.6
13	Larkana	6.4	7.1	5.8	5.7	6.7	5.1
14	Peshawar	10.3	14.0	7.8	8.9	13.1	6.1
15	Bannu	11.6	13.3	10.4	11.0	13.0	9.5
16	Quetta	9.0	11.9	7.0	8.6	11.2	6.9
17	Khuzdar	8.2	12.7	5.1	7.8	11.9	4.9

<b>Table A6 : Income Group-wise Inflation (YoY)</b>							
	<b>Mar-06</b>	<b>Apr-06</b>	<b>May-06</b>	<b>Jun-06</b>	<b>Jul-06</b>	<b>Aug-06</b>	<b>Sep-06</b>
<u>Up to Rs. 3000</u>							
General	6.9	6.0	7.5	8.0	7.6	9.3	9.4
Food	6.2	4.5	7.2	8.4	7.8	11.0	11.5
Non-food	7.4	7.1	7.7	7.6	7.6	8.1	8.0
<u>Rs. 3001-5000</u>							
General	6.7	5.8	7.1	7.7	7.5	9.2	9.3
Food	5.7	4.0	6.5	8.0	7.5	10.9	11.3
Non-food	7.4	7.1	7.6	7.5	7.5	8.1	7.9
<u>Rs. 5000-12000</u>							
General	6.7	5.8	6.9	7.6	7.5	9.0	9.0
Food	5.5	3.8	5.9	7.9	7.4	11.0	11.2
Non-food	7.6	7.3	7.6	7.3	7.5	7.7	7.5
<u>Above Rs. 12000</u>							
General	7.1	6.5	7.3	7.7	7.8	8.7	8.3
Food	5.1	3.2	4.8	7.6	7.4	11.3	11.3
Non-food	8.5	9.0	9.2	7.8	8.1	7.0	6.3
<u>All income groups</u>							
General	6.9	6.2	7.1	7.6	7.6	8.9	8.7
Food	5.4	3.6	5.6	7.8	7.4	11.1	11.3
Non-food	8.0	8.0	8.2	7.5	7.8	7.4	7.0

Table A7: Distribution of Price Change (YoY)--WPI Items: September 2006

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

S.No	Items	Unit	Price Sep 2006	Percentage change in Sep-06 over	
				Sep-05	Aug-06
1	Wheat	Kg.	11.7	2.7	0.9
2	Wheat flour a.qlt.	Kg.	13.4	2.8	0.4
3	Rice basmti.broken	Kg.	20.6	1.6	0.8
4	Rice irri-6	Kg.	16.2	0.0	0.3
5	Masur pulse washed	Kg.	41.5	-9.5	0.3
6	Moong pulse washed	Kg.	59.2	44.4	-2.8
7	Mash pulse washed	Kg.	70.2	57.6	-0.5
8	Gram pulse washed	Kg.	40.7	42.5	4.4
9	Beef	Kg.	115.7	13.0	0.2
10	Mutton	Kg.	220.9	13.9	-0.2
11	Egg hen (farm)	Doz.	35.7	-5.0	5.3
12	Bread plain m.s.	Each	15.2	8.7	1.1
13	Sugar	Kg.	33.4	25.4	-4.4
14	Gur	Kg.	43.9	19.5	2.6
15	Milk fresh	Litr	25.9	10.6	0.8
16	Milk powdered nido	400g	110.9	2.7	-0.1
17	Curd	Kg.	30.6	10.2	0.5
18	Veg.ghee tin	2.5k	211.3	3.7	2.2
19	Veg.ghee loose	Kg.	64.5	10.1	1.3
20	Mustard oil	Kg.	70.5	6.7	0.9
21	Cooking oil	2.5l	211.6	3.5	2.3
22	Potatoes	Kg.	22.1	19.8	2.3
23	Onions	Kg.	15.7	-2.5	12.8
24	Tomatoes	Kg.	33.2	124.6	-22.5
25	Bananas	Doz.	32.5	26.1	0.1
26	Salt powdered	Kg.	4.6	21.4	3.4
27	Red chillies(powd)	Kg.	77.8	5.4	9.6
28	Garlic	Kg.	57.8	7.2	2.2
29	Tea packet	250g	69.1	11.8	2.4
30	Tea (prepared)	Cup	6.2	11.1	1.0
31	Cooked beef plate	Each	29.4	15.2	2.1

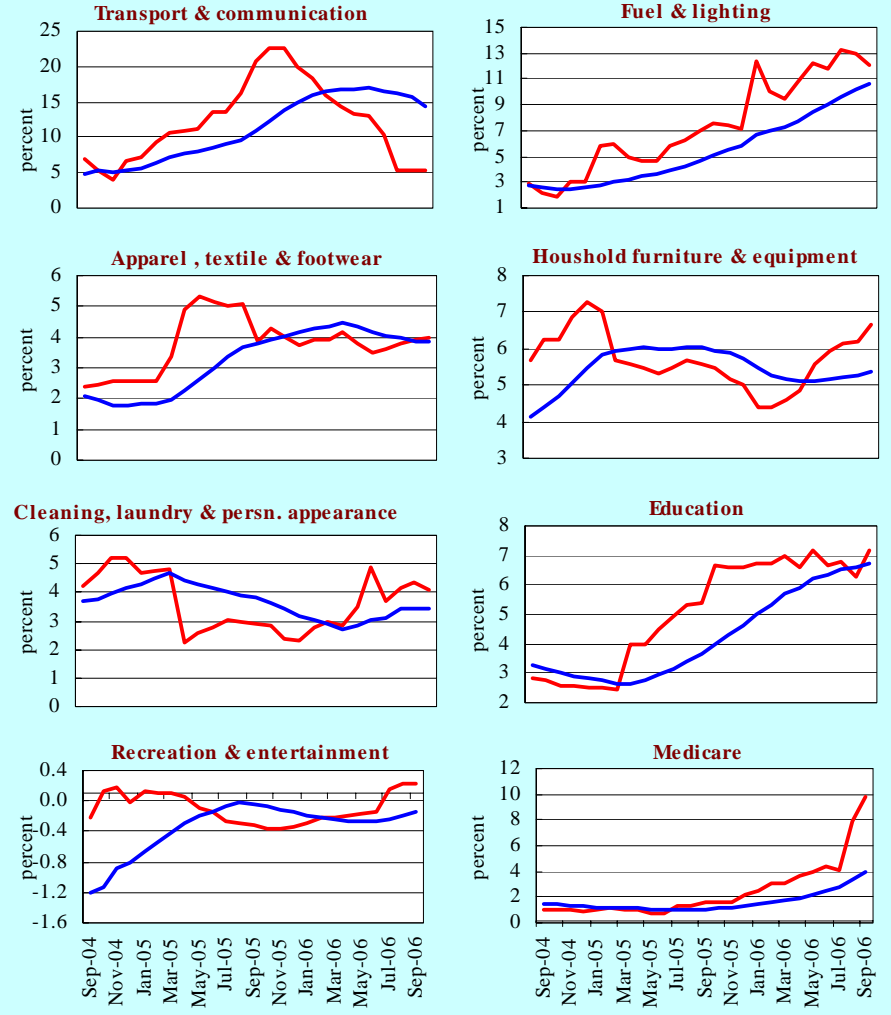
Continude



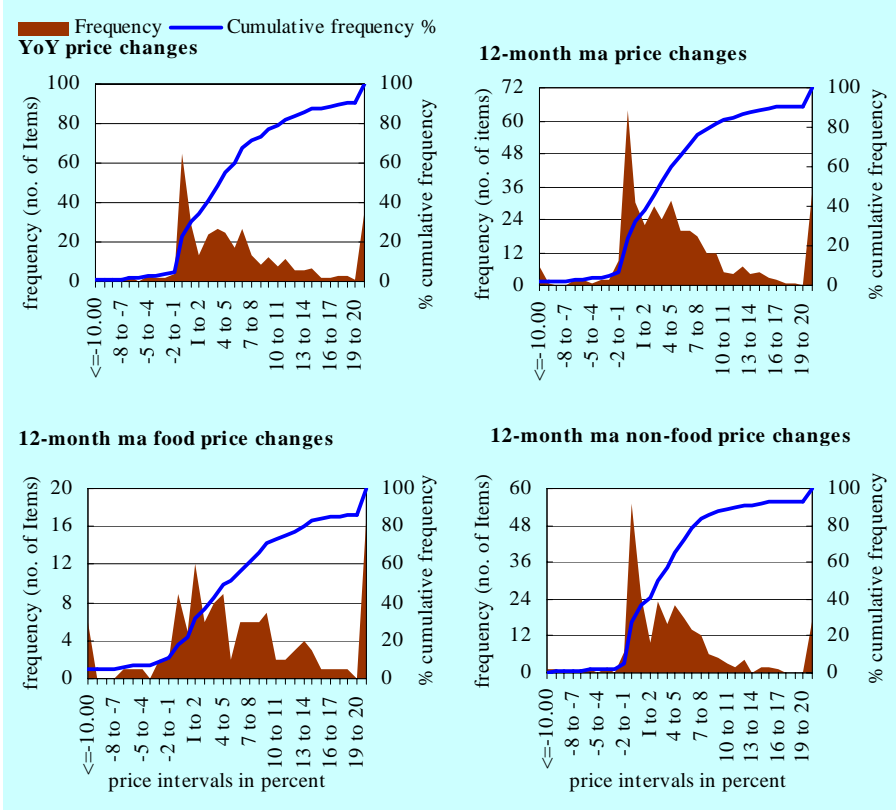
S.No	Items	Unit	Price Sep 2006	Percentage change in Sep-06 over	
				Sep-05	Aug-06
32	Cooked dal plate	Each	17.7	16.3	1.9
33	Cigarettes k-2	10's	7.9	8.9	0.0
34	Coarse latha	Mtr.	34.9	4.2	0.3
35	Lawn (avg.+s.qlty)	Mtr.	78.8	4.1	-1.7
36	Voil printed	Mtr.	37.9	3.6	-0.8
37	Shirting	Mtr.	65.4	6.5	0.1
38	Sandel gents bata	Pair	399.0	0.0	0.0
39	Sandel ladies bata	Pair	299.0	0.0	0.0
40	Chappal spng. Bata	Pair	89.0	0.0	0.0
41	Kerosene	Litr	39.1	13.6	0.0
42	Firewood	40kg	183.8	22.2	1.5
43	Elec. Bulb 60-wats	Each	12.0	3.9	3.3
44	Match box	Each	0.7	11.5	4.6
45	Washing soap	Cake	8.1	6.2	0.0
46	Bath soap lifebuoy	Cake	13.9	0.1	0.0
47	Chicken (farm)	Kg.	80.3	11.6	-9.6
48	Gas chrg. All clb. Comb	D.mmbt	243.7	186.6	0.0
49	L.p.g.(cylinder 11kg.)	Each	635.1	27.0	7.2
50	Elec.chrg.all slabs com	Bd. Unit	4.7	93.4	0.0
51	Petrol	Litr	57.8	9.7	0.0
52	Diesel	Litr	38.9	11.9	0.0
53	Telephone local	Call	2.3	0.0	0.0
<b>Max:</b>				<b>186.6</b>	<b>12.8</b>
<b>Median</b>				<b>9.7</b>	<b>0.3</b>
<b>Min:</b>				<b>-9.5</b>	<b>-22.5</b>

**Figure A1: CPI Non-food Sub-indices' Inflation**

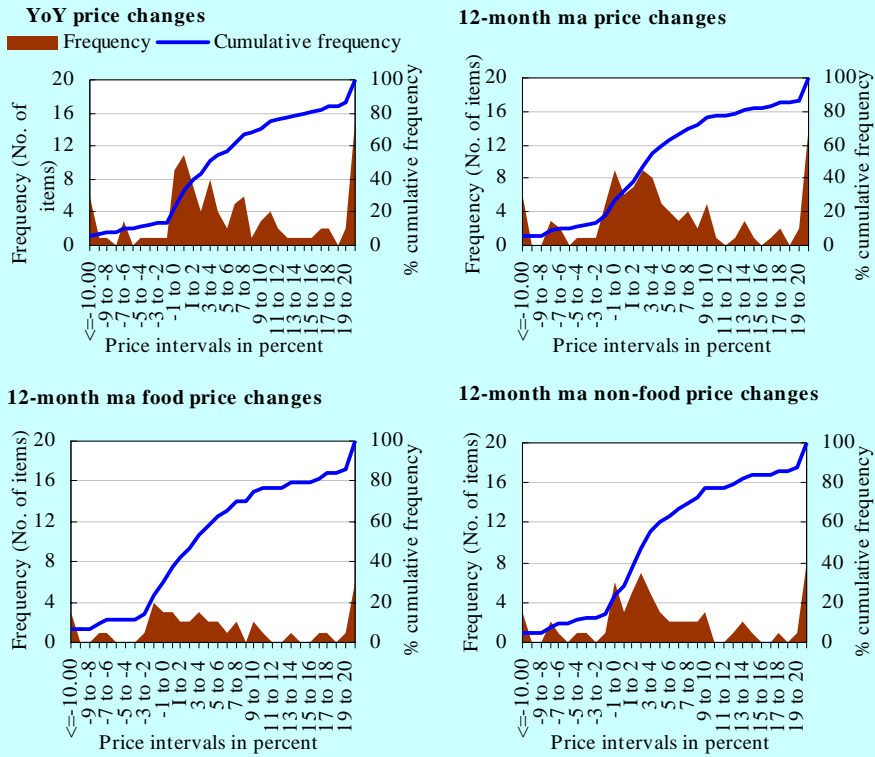
— YoY — 12-month moving average



**Figure A2: Frequency Distribution of Price Changes of CPI Items, September 2006**



**Figure A3: Frequency Distribution of Price Changes of WPI Items, Sep 2006**



## 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, list of which is given in Table A3.
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. 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:

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

7. 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 and energy items 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 changes in their prices 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 price changes of the rest of the items is core inflation.