

Inflation Monitor

July 2007



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Overview

Headline CPI inflation, on an year-on-year (YoY) basis, declined to 6.4 percent in July 2007 from 7.6 percent registered in the same month last year. In July 2007, CPI food inflation increased to at 8.5 percent compared from 7.4 percent in the corresponding month of last year. This was mainly due to the rise in the prices of some key food items including vegetables, fruits, eggs, meat, different types of rice, etc., while for the same period non-food inflation declined to 4.9 percent from 7.8 percent in July 2006 (see **Table 1.1**).

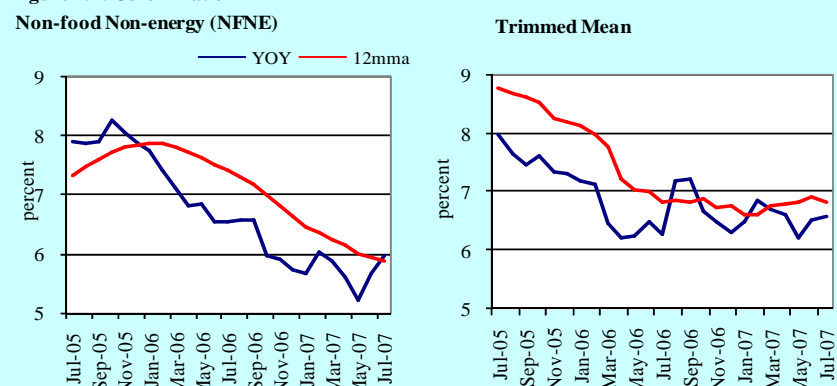
Table 1.1: Inflation (YoY)							
Percent							
	CPI			Core Inflation		WPI	SPI**
	General	Food	Non-food	NFNE *	Trimmed		
Jul-06	7.6	7.4	7.8	6.5	6.3	8.4	8.6
Aug-06	8.9	11.1	7.4	6.6	7.2	8.2	10.8
Sep-06	8.7	11.3	7.0	6.6	7.2	8.0	10.0
Oct-06	8.1	10.5	6.4	6.0	6.7	6.7	9.9
Nov-06	8.1	10.6	6.3	5.9	6.5	7.5	10.7
Dec-06	8.9	12.7	6.2	5.7	6.3	8.0	12.0
Jan-07	6.6	8.7	5.2	5.7	6.5	5.4	9.5
Feb-07	7.4	10.0	5.6	6.0	6.8	5.1	8.8
Mar-07	7.7	10.7	5.5	5.9	6.7	6.1	8.9
Apr-07	6.9	9.4	5.2	5.6	6.6	6.0	7.7
May-07	7.4	11.3	4.7	5.2	6.2	6.8	8.3
Jun-07	7.0	9.7	5.1	5.7	6.5	7.3	8.0
Jul-07	6.4	8.5	4.9	6.0	6.6	7.6	7.5

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

Similarly, 12-month moving average CPI inflation for July 2007 also showed a decline as compared to the same period last year (7.9 percent in July 2006 to 7.7 percent in July 2007). While the corresponding food inflation depicted a rise (10.3 percent in July 2006 to 10.4 percent in July 2007) and non-food inflation showed a decline (6 percent in July 2006 to 5.8 percent July 2007).

In contrast with annual CPI, monthly CPI inflation showed significant increase and was recorded at 1 percent, which was less than the five-year average of monthly increases in July. This significant increase in overall monthly CPI inflation was primarily due to a significant one-month increase in food inflation (recorded at 1.5 percent) which nevertheless showed an improvement as compared to the 2.6 percent inflation in July 2006 and the five-year monthly average food inflation of 2.1 percent. The monthly increase in non-food inflation was recorded at 0.7 percent as compared to 0.9 percent in July 2006, which was more than the five-year average (see **Table 1.2**).

Figure 1.1: Core Inflation



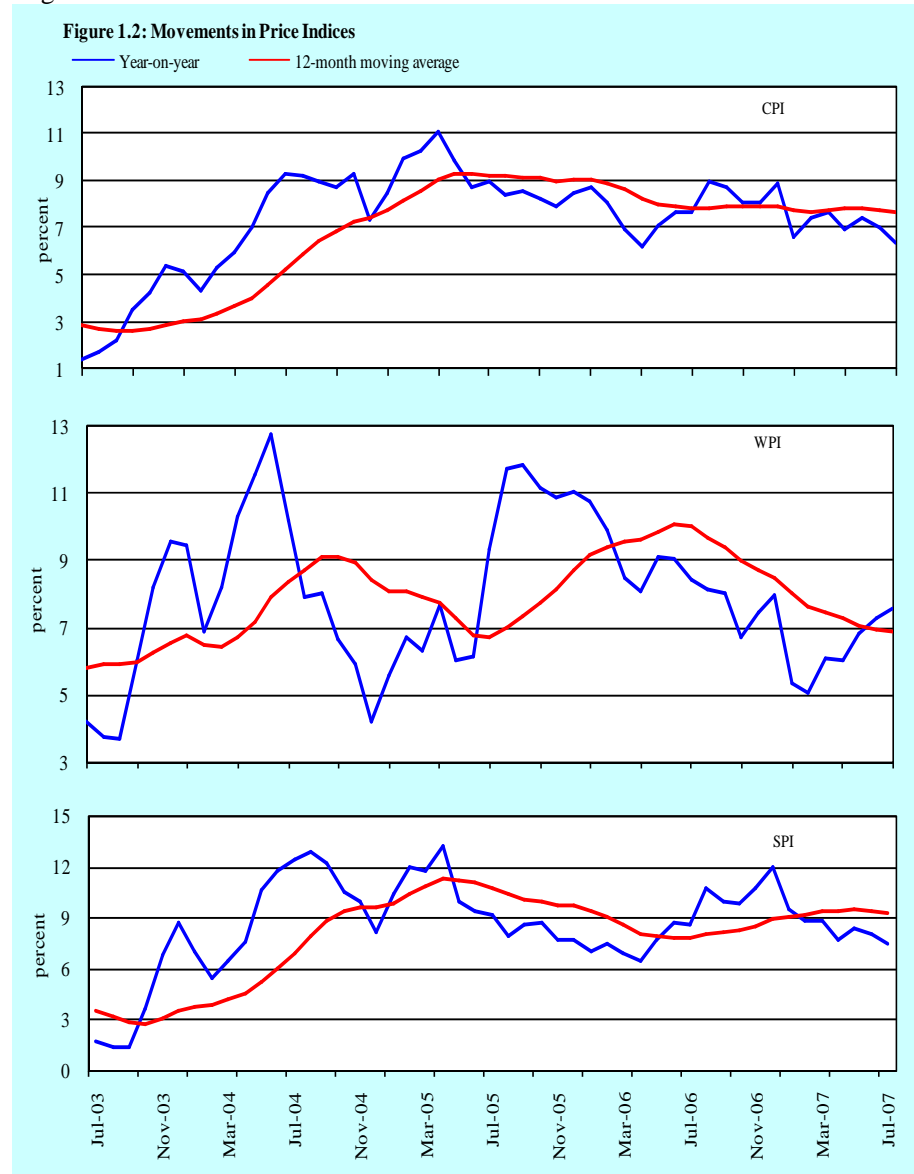
Core inflation based on NFNE (non-food non-energy) declined to 6 percent in July 2007 from 6.5 percent in July 2006 on an YoY basis. Whereas, core inflation based on 20 percent trimmed-mean showed an increase to 6.6 percent in July 2007 as compared to 6.3 percent in July 2006 (see **Figure 1.1**).

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

Table 1.2: Different Dimensions of Inflation (percent)

	July-05	July-06	July-07	5-year average
Year-on-year (July over July)				
Overall CPI	9.0	7.6	6.4	6.7
Food group	9.7	7.4	8.5	8.0
Non-food group	8.5	7.8	4.9	5.9
Core Inflation				
NFNE	7.9	6.5	6.0	5.8
Trimmed	8.0	6.3	6.6	6.1
Period average (July over July)				
Overall CPI	9.0	7.6	6.4	6.7
Food group	9.7	7.4	8.5	8.0
Non-food group	8.5	7.8	4.9	5.9
Core Inflation				
NFNE	7.9	6.5	6.0	5.8
Trimmed	8.0	6.3	6.6	6.1
12-month moving average				
Overall CPI	9.2	7.8	7.7	6.6
Food group	12.1	6.7	10.4	7.8
Non-food group	7.3	8.6	5.8	5.8
Core Inflation				
NFNE	7.3	7.4	5.9	5.4
Trimmed	8.8	6.8	6.8	5.9
Monthly (July over June)				
Overall CPI	1.6	1.6	1.0	1.2
Food group	2.9	2.6	-0.3	2.1
Non-food group	0.7	0.9	0.6	0.6
Core Inflation				
NFNE	0.5	0.5	0.8	0.5
Trimmed	0.6	0.5	0.8	0.6

mean definition of core inflation. The bottom line is that the declining trend in non-food inflation this year has so far been countered by the rising trend in food inflation, with the result that CPI inflation remained at a higher level than the target for FY07.

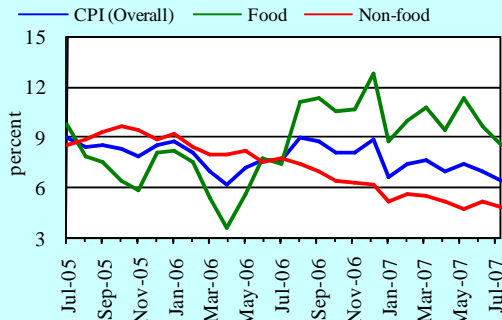


The Wholesale Price Index (WPI) inflation that had remained on a rising trend during FY06 started declining from the beginning of FY07. This decelerating trend has continued over the subsequent months of the current fiscal year (see **Figure 1.2**). WPI inflation declined to 7.6 percent in July 2007 on YoY basis from 8.4 percent in the corresponding month last year. This significant decline in WPI inflation was due to a sharp deceleration in non-food inflation during July 2007 compared to the corresponding month last year. The sensitive price indicator (SPI) decreased to 7.5 percent in June 2007 on YoY basis from 8.6 percent in the same month last year.

2. Consumer Price Inflation

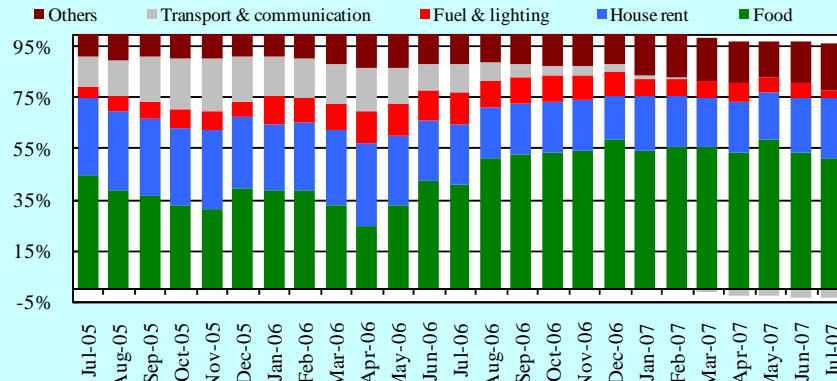
In July 2007, CPI (YoY) inflation was recorded at 6.4 percent depicting a decline of 1.3 percentage points compared to that in the corresponding month last year. On the other hand food inflation recorded a decrease of 1 percentage point in July 2007 as compared to July 2006. Similar to overall CPI and food inflation, non-food YoY inflation was recorded at 4.9 percent in July 2007, declining by 2.9 percentage points as compared to the same month last year (see **Figure 2.1**).

Figure 2.1: Consumer Price Inflation (YoY)



The contribution of the food group in overall inflation was 55.4 percent in July 2007 which is significantly higher than the 40.7 percent contribution of food group during the corresponding month last year. The contribution of house rent index (the largest item of the CPI basket) increased from 23.6 percent during the corresponding month last year to 25.3 percent in July 2007 (see **Figure 2.2**).

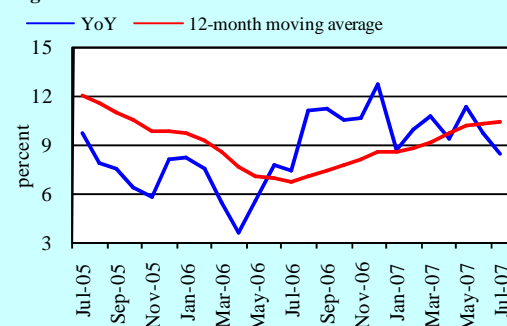
Figure 2.2: Weighted Contribution to CPI Inflation (YoY)



2.1 Food Inflation

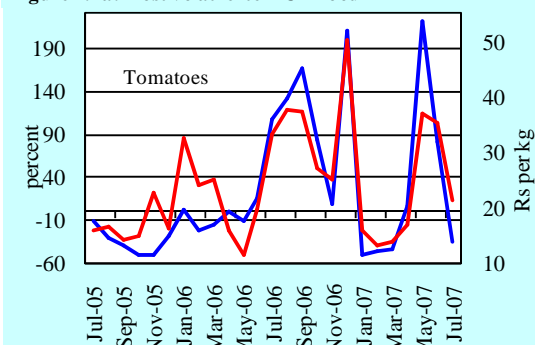
Food inflation (YoY) declined from 9.7 percent (YoY) in June 2007 to 8.5 percent (YoY) in July 2007. This significant decline is due to a decrease in the prices of some vegetables, fruits and chicken, etc. Out of the total 124 commodities included in the food group, 42 commodities including eggs, some fruits, cooking oil, different types of rice, vegetable ghee and a few vegetables, exhibited inflation (YoY) in the range of 10 to 60 percent in July 2007. The combined weight of commodities with double digit inflation was about 50 percent of the food group. Both types of basmati rice showed a significant increase in YoY inflation and crossed the 50 percent YoY inflation during the month under review. On the other hand, inflation (YoY) of 24 commodities including key staples such as tomatoes, potatoes, sugar, ginger, chicken, pulse moong, etc. either declined or remained unchanged during the month. The rest of the items, having an aggregate weight of 27 percent in the food group, exhibited subdued or moderate inflation (see **Table A2** in Annexure A).

Figure 2.3: CPI Food Inflation

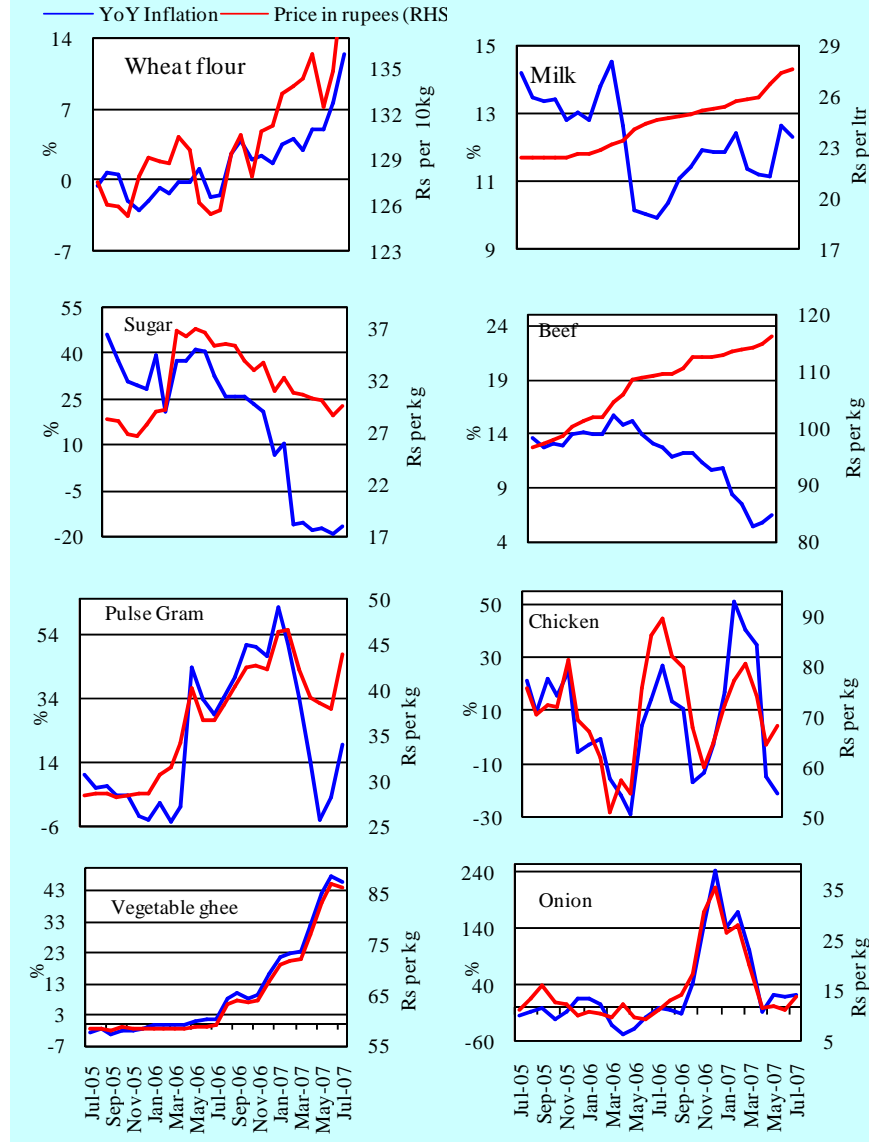


As compared to June 2007, during July 2007 there was an increase in the average price of food items including wheat flour, fresh milk, sugar, beef, pulse gram, onion and chicken whereas the prices of vegetable ghee and tomatoes showed decline. Among the selected food items, onion and tomatoes were still the most volatile¹ items over the last two years (see **Figure 2.4a** and **Figure 2.4**).

Figure 2.4a: Most volatile item CPI food



¹ The volatility is measured by standard deviation over last two years.

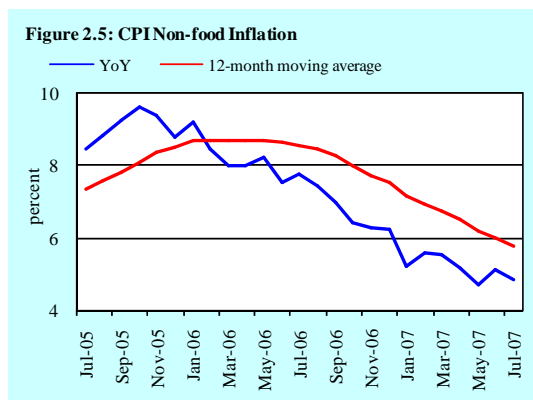
Figure 2.4: Price Trends in Key Food Items

In terms of the contribution to overall inflation (YoY), vegetable ghee and fresh milk are the second and third highest contributors (house rent index of non-food group being the first), with 15 percent and 14 percent respective shares in overall

CPI inflation (see **Table A3** in the annexure). The high contribution of vegetable ghee was due to continual increase in its price after November 2006. On the other hand, the high contribution of fresh milk was primarily due to its high weight in the CPI basket (6.66 percent).

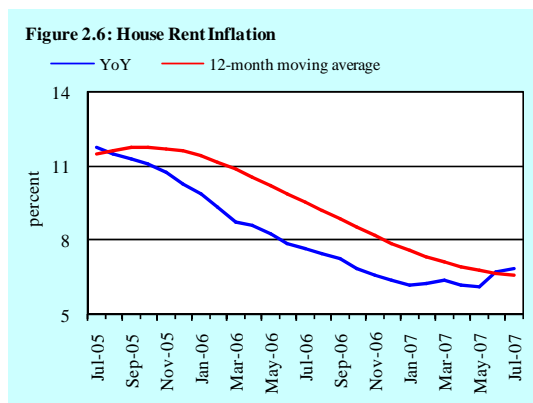
2.2 Non-food Inflation

Non-food inflation declined from 5.1 percent in June 2007 to 4.9 percent in the month of July 2007 (see **Figure 2.5**). This 0.2 percentage point decline in non-food inflation was primarily due to the significant decline in fuel & lighting subgroup of the non-food group. However the pace of this decline in non-food inflation was relatively reduced because of an increase recorded by all other sub-groups of the non-food group.



Inflation (YoY) in the apparel, textile & footwear sub-group was recorded at 7.41 percent in July 2007 depicting a rise of 0.16 percentage points as compared to the previous month. However, there was a rise of 3.6 percentage points as compared to the corresponding month last year. This significant increase in the sub-group was mainly due to an increase in the price of almost all types of footwear as compared to July 2006.

Inflation recorded by the house rent index (HRI) was 6.9 percent in July 2007 as compared to 6.7 percent in the previous month. However, the house rent index declined by 0.8 percentage points as compared to the corresponding month last year (see **Figure 2.6**).



The fuel & lighting sub-group witnessed a significant decline of 3.5 percentage points and was recorded at 2.6 percent in July 2007 as compared to 6.1 percent in June 2007. This decline was

mainly due to the lower price of all types of gas charges and gas cylinder as compared to July 2006. This group showed a significant decline of 10.7 percentage points compared to the corresponding month last year.

Inflation in the household furniture & equipment sub-group increased to 6.2 percent in July 2007 as compared to 5.8 percent in the preceding month. This increase of 0.4 percentage points was due to an increase in the prices of electronic commodities included in the sub-group. However, this group showed no change as compared to July 2006. Inflation in transport & communication and recreation & entertainment sub-groups showed no change in July 2007 as compared to the preceding month.

Inflation (YoY) in the medicare sub-group showed a significant increase and was recorded at 14 percent in the month under review as compared to that of 9.9 percent in the previous month. This significant increase was mainly due to an increase in prices of some medicines and increase in doctors clinic fee (see **Figure A1** in annexure).

Out of the 250 non-food commodities included in the CPI basket, 25 commodities witnessed double digit inflation which include items such as firewood, different units of electric charges, primary school fee (English medium) and doctor clinic fee, etc. There were 56 commodities that showed moderate inflation in the range of 5 to 10 percent; all other commodities witnessed either YoY deflation or inflation of less than 5 percent (see **Table A2** in the annexure). The commodities showing deflation included petrol super, a number of durable goods like telephone charges, computers, compaq CD rom, etc. A significant YoY deflation was recorded in telephone charges outside the city (34 percent) in July 2007 (see **Table A4** in the annexure).

2.3 City-wise Inflation

City-wise inflation data indicates that 19 cities out of 35 were found in the category of high inflation² cities. Inflation recorded for all cities depicted a higher level of CPI inflation (YoY) as compared to their relative positions in all three categories, i.e. general, food, and non-food, during the previous month. Out of five selected cities Karachi, Quetta and Peshawar showed an increase in YoY inflation and

Figure 2.7: CPI (YoY) inflation of selected cities

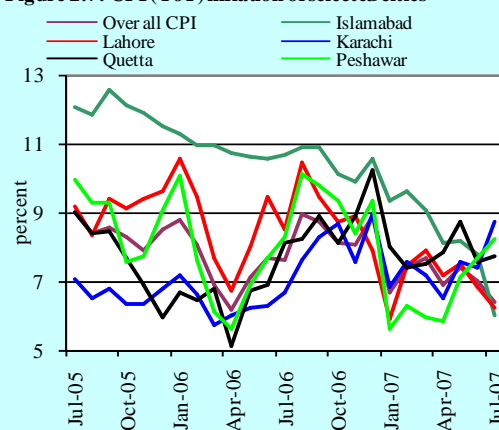


Table 2.1: City wise Inflation in CPI (YoY), July 2007

	High inflation cities				Low inflation cities		
	General	Food	Non-food		General	Food	Non-food
Nawabshah	9.6	11.6	8.2	Attock	6.3	7.9	5.2
Gujranwala	9.3	10.8	8.2	Jhang	6.3	8.0	5.1
Shahdarpur	9.2	10.8	8.1	Sialkot	6.2	10.9	2.8
Hyderabad	8.6	11.0	6.9	Mardan	6.1	6.9	5.6
Multan	8.5	11.1	6.6	Lahore	6.1	9.5	3.6
Vehari	8.4	10.0	7.2	Peshawar	5.9	7.8	4.6
Turbat	8.4	8.4	8.4	Faisalabad	5.7	10.2	2.4
Mianwali	8.2	11.1	6.1	Rawalpindi	5.6	5.4	5.8
Mirpur Khas	8.0	10.2	6.4	Khuzdar	5.6	4.6	6.3
Bannu	7.9	6.3	9.1	Jhelum	5.6	4.3	6.5
Kunri	7.8	10.1	6.1	D.G. Khan	5.1	5.6	4.7
Samundari	7.8	10.6	5.9	D.I.Khan	4.3	5.5	3.5
Sukkur	7.7	9.5	6.4	Sargodha	4.2	5.5	3.3
Bahawalnagar	7.5	9.5	6.0	Okara	4.1	5.4	3.3
Islamabad	7.3	7.1	7.5	Loralai	3.9	3.0	4.6
Larkana	7.2	10.1	5.1	Abbotabad	3.9	3.3	4.3
Karachi	6.9	11.0	4.1				
Bahawalpur	6.6	9.5	4.5				
Quetta	6.4	10.2	3.8				

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

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

was recorded at 8.5, 7.7 and 8.2 percent respectively in July 2007.

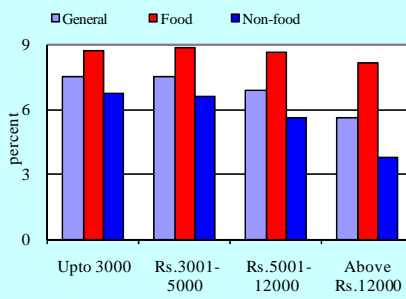
Islamabad and Lahore showed a decline in YoY inflation with figures of 6 and 6.2 percent respectively in July 2007 as compared to corresponding figures of 7.8 and 6.9 percent respectively in June 2007. Last month Islamabad, Quetta, Karachi and Peshawar were among the high inflation cities whereas in the current month Islamabad has been excluded from this category. On the other hand Lahore has maintained its position in the category of low inflation cities (see **Figure 2.7**).

The highest level of YoY inflation was recorded in Nawabshah (9.6 percent) followed by Gujranwala (9.3 percent and Shahdadpur (9.2 percent) during July 2007. On the other hand the lowest YoY inflation was recorded in Abbotabad and Loralai (3.9 percent each) in the month under review (see **Table 2.1**).

2.4 Income Group-wise Inflation

Inflation recorded for all income groups showed a decline in their CPI inflation (YoY) mainly due to a decline in food inflation while non-food inflation depicted a rising trend as compared to the last month. The data also revealed that CPI inflation (YoY) recorded for all income groups, except for the highest income group, was higher than the overall CPI (YoY) inflation (see **Figure 2.7a**).

Figure 2.7a : Income Group-wise CPI Inflation July 07



As in the previous month, the highest CPI inflation (YoY) was recorded for the income group of Rs. 3001-5000 followed by the lowest income group of up to Rs. 3000 while the highest income group of above Rs. 12000 experienced the lowest inflation. City-wise data shows that the inflation (YoY) in Sailkot was at the lowest level for all income groups. Multan and Gujranwala occupied the position of the highest level in inflation (YoY) for income groups up to 3000 and Rs. 3001-5000 and Rs. 5001-12000 and above Rs. 12000 respectively (see **Table A5** in annexure A).

2.5 Services and Non-services Inflation

Inflation in both the services³ and non-services sectors recorded a decline in July 2007 compared to June 2007. During the current month YoY inflation in the services sector was recorded at 5.6 percent as compared to 5.9 percent in the previous month. Inflation recorded for the non-services sector was 7 percent in July 2007 as compared to 7.8 percent in the previous month (see **Figure 2.8**).

Figure 2.8: Services & Non-services Inflation

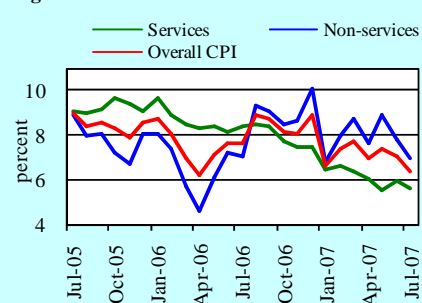
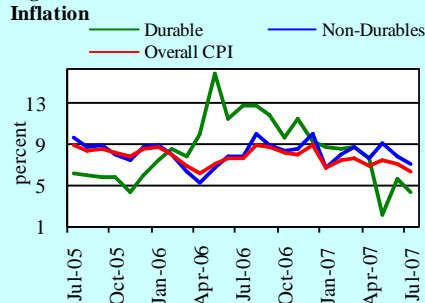


Figure 2.9: Durables and Non-durables Inflation



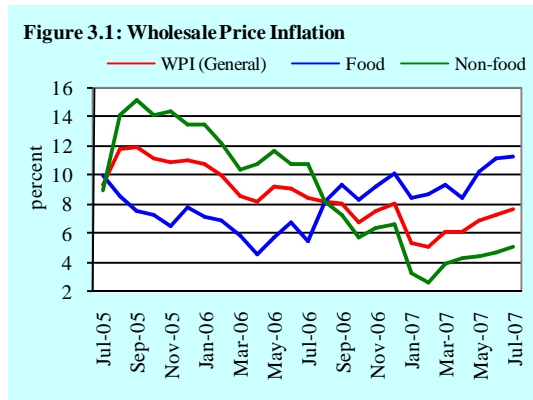
Within the non-services sector, inflation in both the durable⁴ and non-durable goods declined. The magnitude of decline in the durable goods (1.2 percentage points) is more than the non-durable goods (0.9 percentage points). YoY inflation in the durable and non-durable goods was recorded at 4.4 and 7 percent respectively in July 2007 as compared to 5.6 and 7.9 percent in June 2007. This significant decline in durable goods is due to a decrease in prices of jewelry. Jewelry has the highest weight among durable items, YoY inflation in jewelry was recorded at 4.9 percent in July 2007 as compared to 8.8 percent in June 2007 (see **Figure 2.9**).

³ The services group of the CPI basket includes items like house rent index, electricity charges, marriage hall, household servant, transport fare, communication, recreation, tuition fees, laundry charges, hair cut & beauty parlor charges, doctor's fee, tailoring charges etc.

⁴ Durable items include suitcase, furniture, electric iron, fans, washing machines, sewing machines, clocks, needles, refrigerators, air conditioners, vehicles, computer & allied products, watches and jewellery, etc.

3. Wholesale Price Inflation

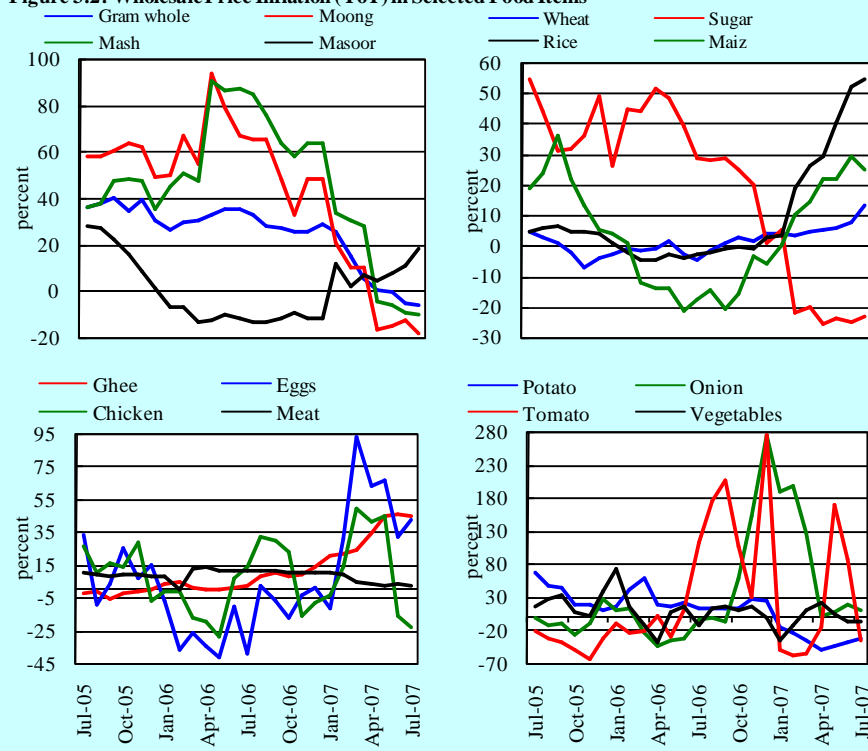
Unlike CPI inflation, WPI inflation continued to rise for the third consecutive month and depicted YoY growth of 7.6 percent during July 2007 (highest since January 2007). Both food and non-food groups of WPI inflation contributed in this upsurge. Rice, vegetable ghee, eggs, cooking oil, wheat flour, sugar cane, furnace oil, bricks etc. contributed in the rise of WPI inflation. Long-run trend of WPI inflation measured by 12-month moving average did not show any change in July 2007 as compared to the previous month.



WPI food inflation continued to show strong growth of above 11 percent in July 2007 which is more than the double of WPI inflation of the same month last year. In the food group, the wholesale price of rice, vegetable ghee, eggs and cotton seed oil exhibited a sharp increase of more than 40 percent during the month under study. The strong WPI food inflation in Pakistan can be attributed to the supply disruptions and destruction of agricultural products caused by heavy rains in the country and due to global food inflation that has been on a rise. The non-food group WPI inflation witnessed a YoY increase of 0.4 percent and stood at 5.0 percent in July 2007 as compared to 4.6 percent in June 2007 (see **Figure 3.1**). Except manufacturers, all other subgroups of the non-fuel group of WPI inflation showed higher (YoY) inflation in July 2007 as compared to the previous month and thus contributed to the acceleration of non-food inflation.

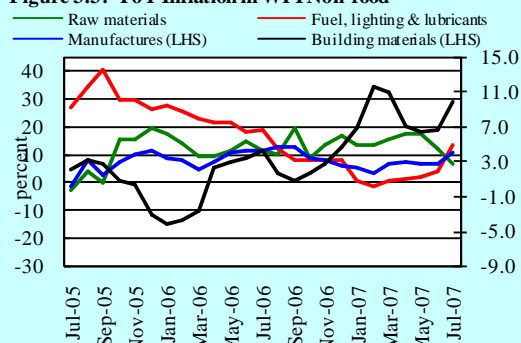
A detailed item-wise analysis of WPI food inflation showed that the wholesale prices of some important food items like masoor, wheat, rice, maize, ghee, eggs and fresh fruits remained firm and exhibited double digit YoY growth of varying magnitude ranging from 14 to 54 percent (see **Figure 3.2**). The wholesale prices of around 40 percent of items depicted YoY growth of more than 10 percent during the month under review.

Figure 3.2: Wholesale Price Inflation (YoY) in Selected Food Items



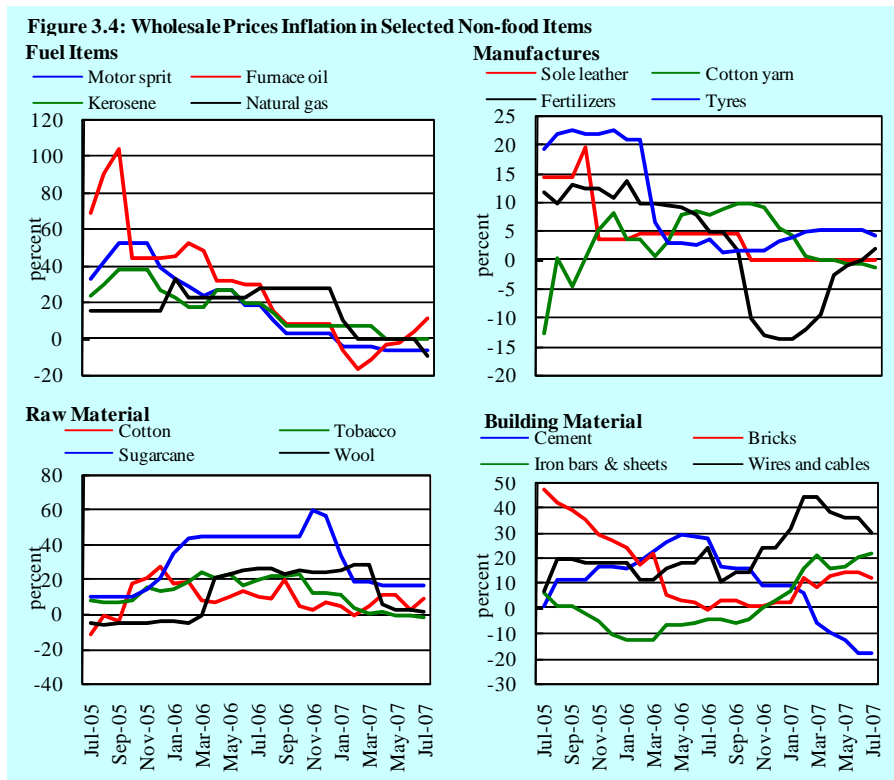
A distribution of price changes shows that 16 out of 43 food items witnessed a rise of more than 10 percent in inflation during the month under review, while 8 items recorded moderate inflation of 5 to 10 percent, while 4 items showed subdued inflation (up to 5 percent). The wholesale prices of the remaining 15 food items declined or remained stable. In case of the non-food group, the prices of 17 items revealed a positive change of up to 5 percent, 24 items showed decrease or no change, 17 items demonstrated double digit rise of above 10 percent and the remaining 5

Figure 3.3: YoY Inflation in WPI Non-food



items displayed moderate inflation, i.e. 5 to 10 percent (see **Table A7** in Annexure A).

Further classification of the non-food group reveals that except raw materials, all other subgroups, i.e. fuel, lighting and lubricant, manufactures and building material prices showed higher YoY growth during July 2007 compared to the preceding month (see **Figure 3.3**). The *fuel, lightning & lubricants* subgroup witnessed a YoY growth of 4.5 percent exhibiting the effect of record high crude oil prices in the international market during July 2007. Within this group, mobil oil, furnace oil, fire wood, coke and electricity tariff-B exhibited double digit (YoY) growth during July 2007.



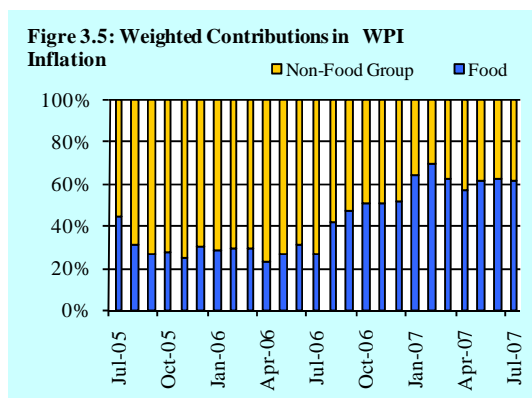
The rate of increase in raw materials' wholesale prices was recorded at 12.2 percent on YoY basis: which is 0.5 percent higher as compared to 11.7 of the previous month. By analyzing the individual commodities amongst the raw material subgroup, it was observed that all items included in the raw material subgroup showed positive (YoY) growth except tobacco. The wholesale price of

cotton, sugar cane, pig iron, hides and cotton seeds accelerated significantly and exhibited double digit YoY growth during the month under review.

The wholesale prices of the *manufactures* subgroup decelerated slightly and recorded a growth of 2.4 percent in July 2007 compared to 2.7 percent inflation in June 2007. Chemicals, foot wear, hosiery and machinery showed strong growth in this subgroup.

Similarly, the growth in building material subgroup increased further and depicted a higher (YoY) growth of 7.7 percent in July 2007 compared to 6.7 percent during the last month. This was mainly due to the wholesale prices of bricks and iron bars & sheets, and wires and cables that showed double digit rise during the month under study (see **Figure 3.4**).

The weighted contribution of the food group in WPI inflation declined marginally to 61.2 percent in July 2007 from 62.8 percent in June 2007. The contribution of the non-food group moved up to 38.8 percent in July 2007 from 37.2 percent in June 2007 (see **Figure 3.5**).



4. Global Commodity Prices

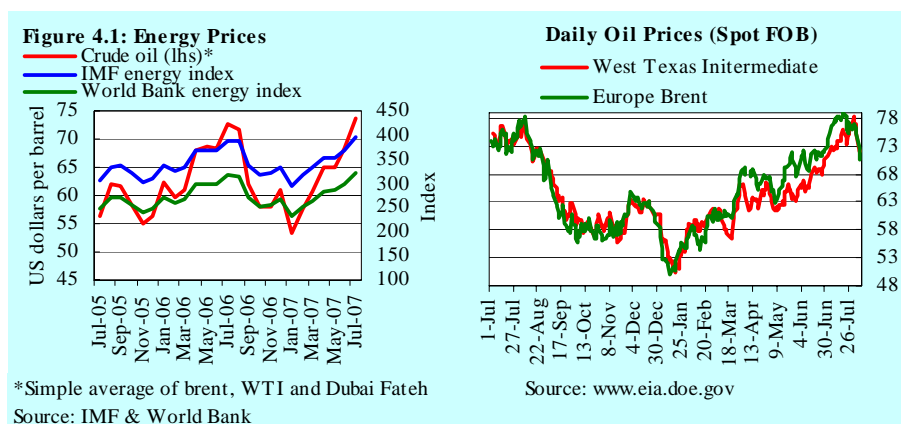
In international markets, commodity prices continued to show strength in July 2007. The rise in global commodity prices was attributed to all groups: food, energy and non-food non-energy. In energy group, the crude oil prices moved up further in July 2007 due to the expectations that global oil supplies are going to be tight.⁵ The strong energy prices are reflected by the IMF and the World Bank energy indices that showed upward movement during the month under review. In the food group, prices of all major staples including rice, wheat, palm and soybean oil also remained firm in the international market and exhibited a significantly higher YoY growth in July 2007. In the non-food non-energy group, cotton and fertilizer prices showed significant YoY increase in July 2007 (see **Table 4.1**).

Table 4.1: International Commodity Prices/Indices								
	Jul 06	Jan 07	Feb 07	Mar 07	Apr 07	May 07	Jun 07	Jul 07
Energy								
Crude Oil (US\$ per barrel)	72.5	53.4	57.6	60.6	65.1	65.1	68.2	73.7
IMF Energy Index (1995 =100)	389.5	295.4	317.3	332.0	353.0	352.8	368.4	394.6
WB Energy Index (1990=100)	316.7	233.9	251.6	264.9	284.4	284.8	298.0	321.7
Coal	56.5	55.0	56.7	59.2	60.1	56.0	60.4	60.4
Food (\$/MT)								
Rice	312.4	313.5	316.1	326.2	322.0	320.6	326.3	332.5
Wheat	202.4	196.1	200.0	199.1	198.3	195.7	223.0	238.4
Sugar	15.9	10.9	10.6	10.4	9.6	9.1	9.3	9.9
Palm Oil	404.0	550.8	553.8	566.4	645.4	740.6	748.4	764.5
Soybean Oil	586.8	635.6	664.9	679.5	714.1	756.1	782.9	819.2
Sunflower Oil	673.0	673.0	673.0	673.0	673.0	673.0	673.0	673.0
Non-Food Non-Energy								
Cotton Outlook 'A' Index [#]	56.7	132.8	128.1	128.7	126.0	122.5	133.6	150.4
WB Steel Products Index (1990=100)	135.8	131.4	132.0	132.5	133.3	133.5	133.5	132.9
DAP (\$/MT)	261.3	267.6	345.4	420.5	432.4	426.4	434.5	436.3
Urea (\$MT)	202.3	269.8	304.3	318.0	288.5	296.3	289.0	267.9
\$/MT = US\$ per metric tonne.								
 # Middling 1-3/32 inch staple, Liverpool Index "A", average of the cheapest Cts/lb five of fourteen styles, CIF Liverpool (Cotton Outlook, Liverpool). From January 1968 to May 1981 strict middling 1-1/16 inch staple. Prior to 1968, Mexican 1-1/16. 2/								
Source: IMF and World Bank.								

The price of crude oil not only touched new highs for a month but also exceeded its previous daily highs. Crude oil prices increased significantly by 8.0 percent in July 2007 compared to the preceding month and stood at US\$73.7 per barrel. This strong rise was mainly due to large inflows of investment funds on the

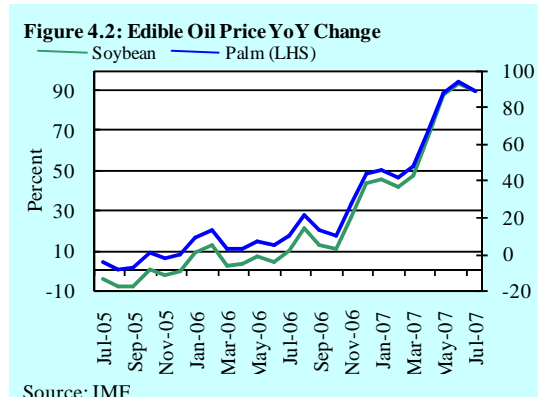
⁵ World Bank Commodity Market Review, August 07, 2007.

expectations of tight oil market and decline in US inventories during the last few weeks.⁶



Despite the high base, crude oil prices went up by 1.6 percent in July 2007 over the same month last year. Similarly, the average monthly crude oil price in the international market touched new peaks between the minimum range of US \$72.0 per barrel and the maximum range of US \$77.6 per barrel. The volatility in international crude oil prices – measured by the standard deviation (SD) – did not change during the month under review and a fluctuation around the average price during the month of July 2007 was 1.4. Reflecting the strength of international oil prices, the IMF and the World Bank energy indices for July 2007 exhibited an increase over the preceding month compared to the same month last year (see **Figure 4.1**).

In case of edible oils, soybean and palm oil prices continued to rise sharply in July 2007 on YoY basis. The palm and soybean oil prices registered a steep rise (YoY) of 89.2 and 39.6 percent respectively. The exceptionally high edible oil price due to the increasing use of soybean for feed, fuel and food coupled with the



⁶ Ibid.

lower soybean planting in USA. As a substitute to soybean, the price of palm oil has also increased (see **Figure 4.2**).

Wheat prices gained 6.9 percent in July 2007 over the previous month. This was due to the downtrend of production and export estimates for the EU, Ukraine and Canada, and because of the projected third successive year of declining stocks.⁷ Similarly the price of rice in the international market exhibited higher growth of 1.9 percent due to a strong demand in the world. Sugar prices also rose by 6.9 percent in July 2007 over the preceding month. However, average monthly sugar prices continued to decline for the tenth consecutive month on YoY basis and fell by 37.6 percent in July 2007 (see **Figure 4.3**).

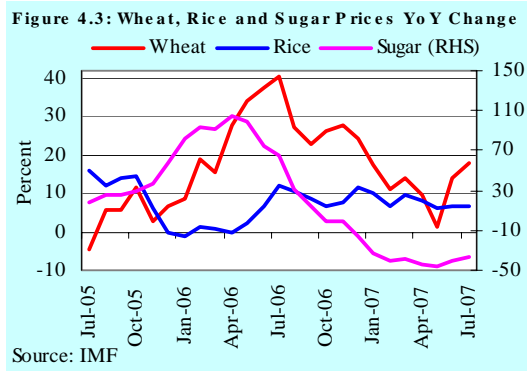
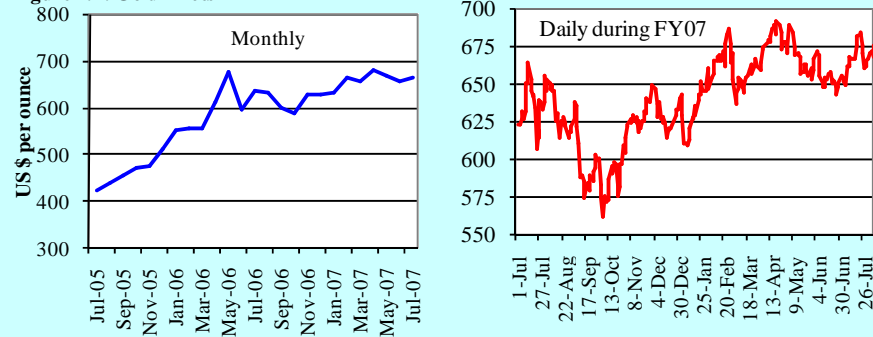


Figure 4.4: Gold Prices

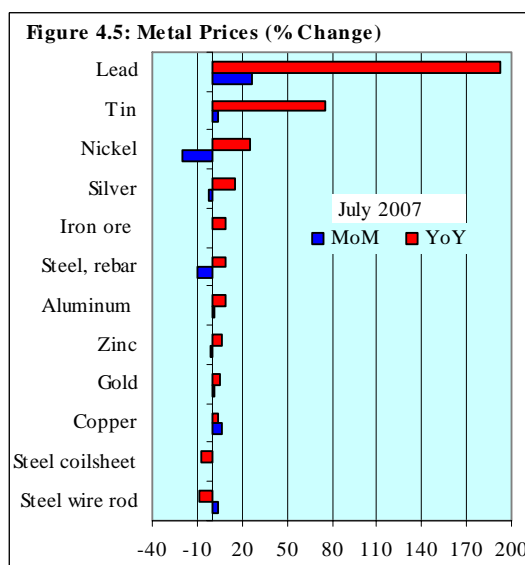


Source: www.gold.org

Unlike the last two months, gold prices showed a rise of 1.5 percent in July 2007 over the previous month while it increased significantly as compared to the same month last year. During July 2007 daily gold price in the international market remained higher and fluctuated in a wider range between \$649 per ounce and \$684 per ounce. The volatility in daily gold price – measured by the standard deviation (SD) – increased during July 2007 and exhibited higher fluctuation of 9.8 around a mean of \$665 per ounce compared to SD of 8.7 in June 2007 (see **Figure 4.4**).

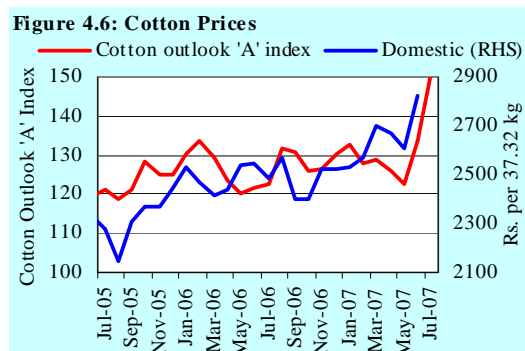
⁷ World Bank Commodity Market Review, August 7, 2007.

In the metal group, lead prices showed a sharp increase of 27.1 percent in July 2007 over the previous month on account of continued suspension of production in Australia because of environmental issues at ports, and lower exports from China.⁸ Moreover, tin and copper prices rose by 4.5 and 6.7 percent respectively in July 2007 over June 2007. While the rise in copper prices was due to falling stocks on the back of supply disruptions in major copper producing countries, tin prices rose mainly due to the strong battery demand in China according to a World Bank report. On the other hand nickel prices showed a significant decline of 19.9 percent during the month under review mainly on account of rising stocks and the substitution effect of low grade nickel in China (see **Figure 4.5**).



Source: World Bank

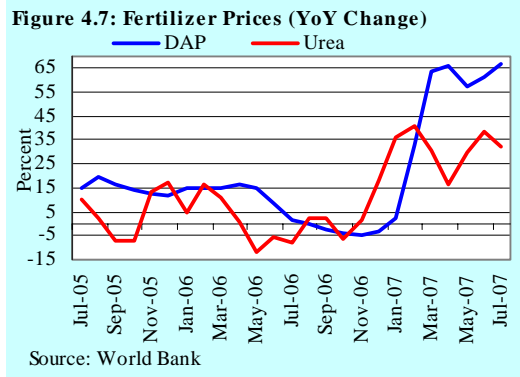
Cotton prices showed further strength during July 2007 in the international markets and increased significantly by 12.5 percent due to a strong demand in China and expectations of lower output due to flooding in Texas. Following the pattern of international cotton prices, cotton prices in the domestic market also rose significantly by 8.1 percent in July 2007 over the preceding month (see **Figure 4.6**).



Source: IMF, www.apmta.org

⁸ World Bank Commodity Market Review, August 7, 2007.

Urea prices showed a decline of 7.3 percent in July 2007 due to slowing down of import demand from India and rise in its stocks. However, the prices of urea were 32 percent higher than the same month last year. Whereas the prices of DAP⁹ remained slightly higher in July 2007 compared to its prices in June 2007 in the international market (see **Figure 4.7**).



⁹ DAP: Diammonium Phosphate

5. Sensitive Price Indicator

The YoY inflation under sensitive price indicator (SPI) continued to decline for the second consecutive month and was recorded at 7.5 percent, which is lower than 8 percent inflation recorded in the previous month. This 7.5 percent YoY inflation is also lower than the 8.6 percent inflation recorded in the corresponding month last year.

Similarly the long-run trend indicated by 12-month moving average showed a slight decrease in the month under review: 9.3 percent as compared to 9.4 percent in the previous month (see **Figure 5.1**).

Figure 5.1: SPI Inflation (YoY)

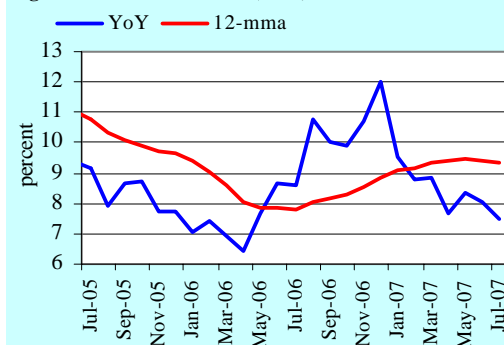
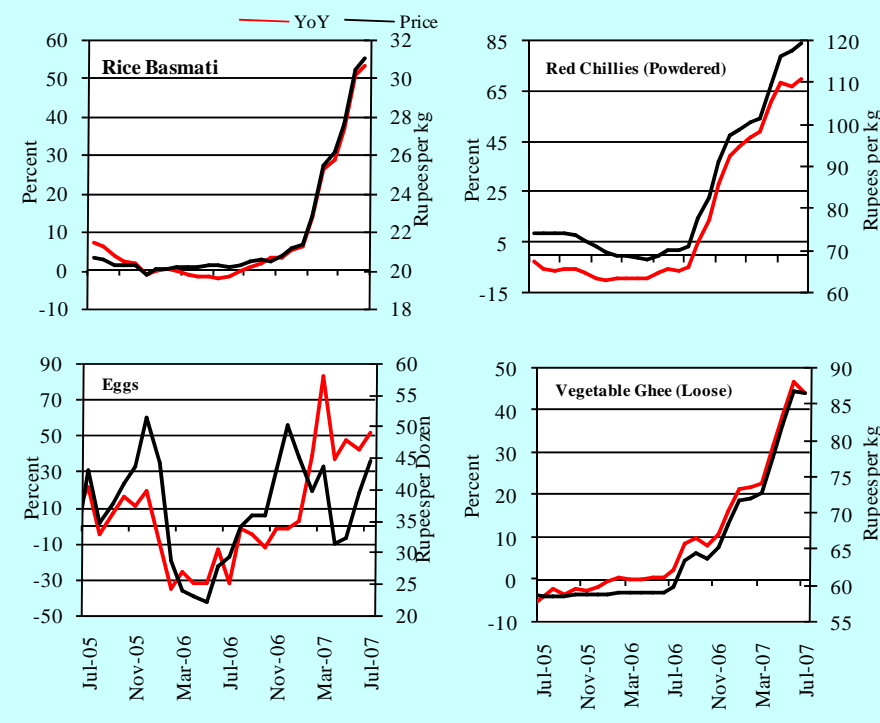


Figure 5.2: SPI Inflation (YoY) in selected Items

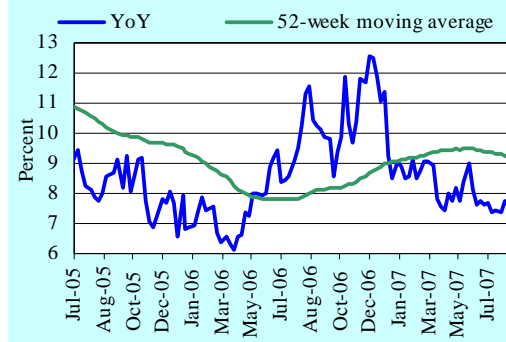


The major items contributing to SPI inflation were rice, eggs, vegetable ghee, cooking oil and red chilies (see **Figure 5.2**). In the SPI basket, 25 items recorded YoY inflation higher than the average level of 7.5 percent during June 2007. The remaining 28 items recorded YoY inflation lesser than the average level with 11 items including sugar, potatoes, pulses, gur, potatoes, tomatoes, garlic and chicken showing negative growth.

Compared with the prices of the previous month, almost 40 percent items included in the SPI basket witnessed a decline or no change in the price level. On the other hand three items, i.e. potatoes, onions and eggs showed double digit growth in inflation compared with the previous month (see **Table A8** in Annexure A).

Weekly SPI generally showed stable YoY inflation during the month under review. Thus, after recording weekly YoY SPI inflation of 7.7 percent in the first week of July 2007, inflation declined to 7.4 percent in the second week of July and remained at that level during the rest of the month. The long-run trend indicated by 52-week moving average has shown a slight decrease in inflation since June 2007 (see **Figure 5.3**).

Figure 5.3: Weekly SPI Inflation



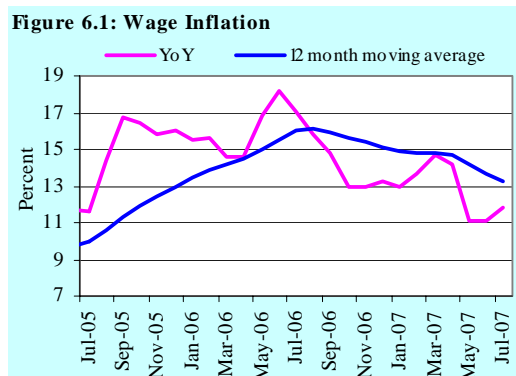
As in the previous month, the incidence of SPI inflation was the highest in the lowest income group. On the other end, the least affected group was the highest income group with YoY inflation maintaining single digit growth for the seventh consecutive month in July 2007 (see **Table 5.1**). This is because most of the items showing higher inflation are from the food group and thus are more significant for the lowest income group as compared to other income groups. Moreover, income group-wise SPI inflation reveals that apart from the lowest income group, income group wise inflation has decreased for all the other groups.

Table 5.1 : Income Group-wise SPI Inflation (YoY)					
	percent				
	Up to Rs. 3000	Rs. 3001-5000	Rs. 5000-12000	Above Rs. 12000	All income groups
Jul-06	8.9	8.6	8.8	9.9	8.6
Aug-06	11.0	10.7	11.1	12.0	10.8
Sep-06	11.2	10.8	10.8	10.6	10.0
Oct-06	11.8	11.3	11.2	9.8	9.9
Nov-06	13.4	12.7	12.2	10.1	10.7
Dec-06	14.5	14.0	13.6	11.2	12.0
Jan-07	12.1	11.3	10.7	8.5	9.5
Feb-07	10.6	10.0	9.7	7.8	8.8
Mar-07	9.7	9.5	9.4	8.0	8.9
Apr-07	8.3	8.3	8.2	6.9	7.7
May-07	9.1	9.3	9.0	7.0	8.3
Jun-07	9.7	9.6	8.9	6.2	8.0
Jul-07	9.8	9.4	8.3	5.2	7.5

6. Wage Inflation in the Construction Sector

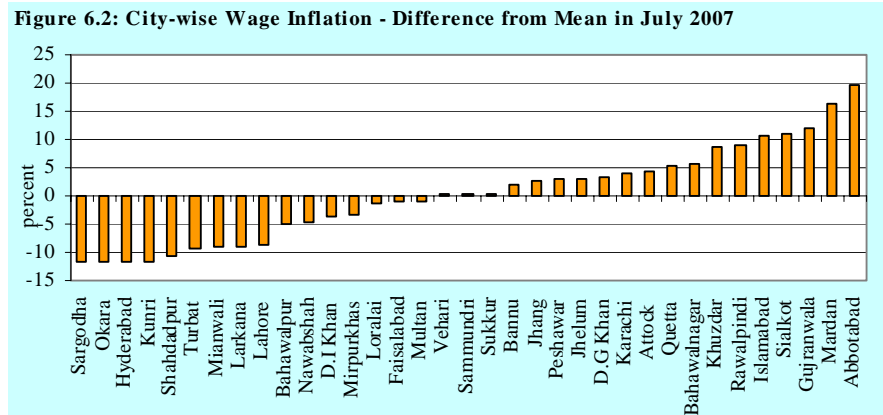
Wage inflation accelerated for the first time in July 2007 after continuously decreasing since March 2007. Wage inflation was recorded at 11.8 percent on YoY basis in July 2007 compared to 11.1 percent in the preceding month. However, this 11.8 percent YoY wage inflation in July 2007 is still less than the 17 percent wage inflation recorded in the same month last year. This

acceleration in inflation was the result of an increase in nominal wages of all types of workers i.e. skilled and unskilled in the month of July 2007. The long run trend of nominal wage inflation measured by 12 month moving average continued on its downward trend due to generally declining nominal wage inflation during the last 12 months (see **Figure 6.1** and **Table 6.1**).



	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07
Overall	13.0	13.0	13.3	12.9	13.7	14.6	14.2	11.1	11.1	11.8
Skilled:	12.6	12.5	12.9	12.5	13.3	14.3	13.8	10.5	10.4	11.4
Carpenter	11.8	11.9	12.1	12.4	12.8	14.6	13.7	12.8	11.9	11.9
Mason	12.6	12.5	12.6	12.1	13.9	15.2	16.0	14.2	13.5	13.4
Plumber	10.7	10.8	11.7	10.6	11.3	11.7	11.2	9.8	10.9	12.1
Electrician	15.1	14.8	15.0	14.9	15.1	15.6	14.1	5.2	5.3	8.1
Unskilled:	16.2	16.6	16.8	16.3	17.1	17.3	16.8	14.9	15.6	14.8
Laborer	16.2	16.6	16.8	16.3	17.1	17.3	16.8	14.9	15.6	14.8

The month wise average wages of all types of workers increased by 11.8 percent during July 2007 over the corresponding month last year and remained within the range of Rs 221.9 per day and Rs 443.8 per day (see **Table A9** in Annexure 'A'). Figure 6.2 presents the picture of city-wise deviation in wages from mean during the month of July 2007. Out of 35 cities, 19 recorded higher than average wage inflation and the remaining 16 cities witnessed lower than average inflation. The highest wage inflation was observed in Abbottabad followed by Mardan and Gujranwala whereas Sargodha, Okara, Hyderabad, etc., showed the lowest YoY changes in wages during the month under review.



Special Section: Computation of Core Inflation

State Bank of Pakistan computes two different measures of core inflation that are both based on the Consumer Price Index (base year 2000-2001) compiled and released monthly by the Federal Bureau of Statistics (FBS). CPI is based on a basket of 374 items of consumption and SBP had been using individual weights of all 374 items to compute non-food non-energy (NFNE) as well as 20% weighted trimmed mean measures of core inflation.

The FBS does not publish individual-item weights, but shares these with SBP to support it in monitoring inflation. Due to non-availability of individual weights to the public, it is not possible for the people interested in calculating core inflation to do so at their own. Since one of the desirable properties of a good core inflation measure is also its verifiability by general public (as established by Roger 1997)¹⁰, the current series of core inflation has a drawback. The non-verifiability is of more concern in case of the trimmed mean¹¹ which is a better measure of core inflation according to a recent research at SBP (Lodhi 2007)¹².

SBP believes there is a need to provide a better understanding of the process of calculating core inflation to the public. Therefore SBP has decided to compute the core inflation by using composite commodity sub-indices that the FBS publishes. It is important to note that these 92 composite commodities sub-indices encompass all the 374 items of the original CPI basket in coverage (see **Table S1**). The advantage of using these sub-indices is that their weights are regularly published by FBS in its Monthly Bulletin of

Table S1: CPI Consumption Basket			
	Groups	Composite Commodities Sub-indices	No. of Individual Items in Group
1.	Food & Beverages	40	124
2.	Apparel, Textile & Footwear.	7	42
3.	House Rent.	1	1
4.	Fuel and Lighting.	6	15
5.	H. Hold. Furniture & Equipment Etc.	11	44
6.	Transport & Communication.	10	43
7.	Recreation & Entertainment.	2	16
8.	Education.	4	24
9.	Cleaning Laundry & Per. Appearance.	9	36
10.	Medicare.	2	29
	Total	92	374

¹⁰ Roger, Scott. (1997). "A Robust Measure of Core Inflation in New Zealand, 1949-96." Reserve Bank of New Zealand, discussion paper series No. G97/7.

¹¹ This is because a proxy for the NFNE core inflation could be obtained using the CPI sub-groups information that is publicly disclosed by FBS.

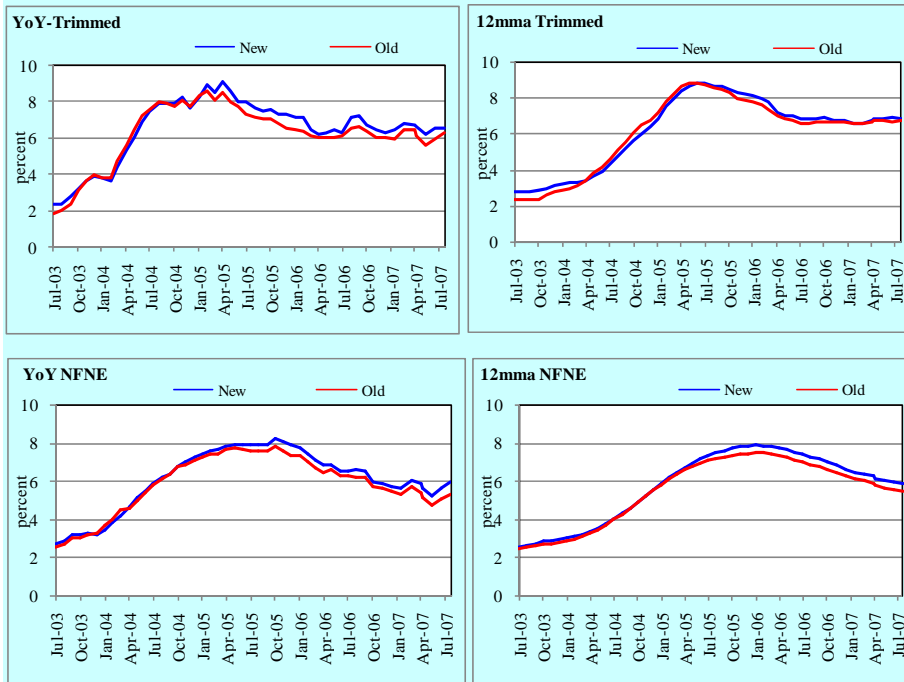
¹² Lodhi, Amin (2007). "Evaluating Core Inflation Measures in Pakistan." State Bank of Pakistan, working paper series No. 18.

Statistics and any measure of core inflation based on these is easily verifiable.

Table S2 shows the complete 374-item basket of CPI and 92 composite-items with corresponding weights.

Adopting the 92 sub-indices allows SBP to fully explain each step of computation of NFNE and 20% weighted trimmed core inflation. The information in this section will enable interested readers to replicate this computation exercise, if they so desire. Although the resulting new (92-sub-indices based) core inflation figures differ from the old (374-item based) figures because of the differences in input-detail, the outcomes are very similar. **Table S3** reports both series of core inflation (NFNE as well as Trim) based on 374 individual items and 92 composite sub-indices. Both, the year-on-year and 12-month moving average rates of two core inflation measures are shown for a full comparison. Data series exhibited in **Figure S1** clearly show not only a close proximity between the two (old and new) series, but also reveal full correspondence in turning points. Hence, the new series of core inflation (NFNE as well as Trim) meets the four desirable characteristics identified in the research by Roger (1997); timelines, credibility, variability and understanding by general public.

Figure S1



The computation methodology of core inflation has been made clearer for the interested readers with the help of the two examples. It may be noted that computations of core inflation in the following examples is based on weights of 92 composite items for July 2007. For other months, weights change for five composite commodities that show seasonal variations (see **Table S4**).

1. Computation of Core (NFNE) Inflation with 92 Sub-Indices of CPI

Core (NFNE) inflation measure excludes all food commodities and six energy items. More specifically, from original 92 sub-indices of CPI, sub indices numbered from 01 to 40 in **Table S5** (i.e. all food items), sub-index 49 (kerosene), sub-index 53 (electricity), sub-index 54 (natural gas), sub-index 66 (petrol), sub-index 67 (diesel) and sub-index 68 (CNG filling charges) are excluded. Hence, weight of the excluded items amount to 48.99 and the weight of included items in NFNE basket become 51.01.

Table S6 explains the computation of YoY core (NFNE) inflation for July 2007 with the help of the following 6 steps:

1. Exclude food and energy items from the overall CPI basket of 92 composite items.
2. Calculate the relevant price change¹³ for all sub-indices of CPI included in NFNE. This is shown in the 3rd column of **Table S6**.
3. Multiply the relevant price change with the corresponding weight of each item and divide the result by 51.01 which is the total weight of NFNE basket. Weights are shown in the fourth column and weighted percentage changes are shown in fifth column of the same table.
4. Calculate the ratio of same commodity's sub-index and the overall index of included items in the reference period. This is shown in 6th column.
5. Multiply the weighted change of each item with the ratio. This is shown in 7th column.
6. The sum of all the results in step 5 will be the core NFNE inflation measure for the month. This is the sum of column 7.

2. Computation of 20% Weighted Trimmed Measure of Core Inflation

This measure excludes some of the items from 92 composite item basket of CPI in such a way that ordered 10% cumulative weight each from the top and bottom of the list is removed so that the original CPI basket is trimmed by 20%. Weighted

¹³ Price change can be on the basis of year-on-year (YoY), 12-month moving average (12mma), period average (PA) or consecutive months.

average of sub-index changes from the reduced basket then reveals the core inflation.

Table S7 explains the computation of YoY core inflation for July 2007 in terms of 20% weighted trimmed measure of CPI.

1. Calculate the relevant price change (see footnote 13) for all 92 sub-indices of CPI (**Table S5**).
2. Arrange data in ascending order according to the price change such that cumulative weights are also shown in adjacent column. This is done by sorting the % change column in **Table S5** and then cumulating weights in adjacent column, which is shown in **Table S7**.
3. Cumulative weight column will not necessarily show exact 10% or 90% cumulative weights which are required for exact 10% - 10% trimming from the sorted top 10% and bottom 10% portion of the CPI basket. Next four steps (4 to 7) impose this exactness by rule-based adjustments.
4. Find the first item for which the cumulative weight exceeds 10. Then subtract 10 from this cumulative weight to find the excess weight. In this example this value is 1.7572. [i.e. $11.7572 - 10 = 1.7572$, corresponding item is vegetables in **Table S7**].
5. Adjust the weight of the next item with cumulative weight greater than 10 by adding its weight with the result obtained in step 4. [i.e. $0.2070 + 1.7572 = 1.9642$, corresponding item is diesel].
6. Find the first item for which the cumulative weight exceeds 90. Then subtract 90 from this cumulative weight to find the excess weight. In this example this value is 0.1456. [i.e. $90.1456 - 90 = 0.1456$, the corresponding item is milk fresh in **Table S7**].
7. Adjust the weight of the first item whose cumulative weight exceeds 90 by subtracting the result obtained in step 6 from its weight. [i.e. $6.6615 - 0.1456 = 6.5159$].
8. Keep intact the same weights for all the items in between the adjusted weights of the items in steps 5 and 7 and thus obtain an adjusted series of the weights of the items to be included in the trimmed basket. (check: sum of the adjusted weights should be 80).
9. Multiply the adjusted weight of the trimmed basket with relevant price changes and divide the result by 80 to obtain weighted change for each item. [for instance in case of diesel, $(1.9642 * -2.56) / 80 = -0.0629$].
10. Calculate the ratio of same commodity's sub-index and the overall index of included items in the reference period. [i.e. $245.02 / 137.92 = 1.7765$]
11. Multiply the weighted change of each item obtained in step 9 with ratio of same commodity's sub-index and the overall index of included items in the reference period obtained in step 10. [i.e. for diesel, $-0.0629 * 1.7765 = -0.1118$].

12. The sum of all the results in step 11 will be the trimmed measure of core inflation.

It is to be noted that the exact items of which weights are to be adjusted in steps 4, 5 and 6 may be different in different months.

Table S2: CPI Basket of 374 Individual Items and 92 Composite Items

Group No.	Item No.	Composite Items	Individual Items	Weights
I.	FOOD & BEVERAGES.			40.3418
	01	Wheat	Wheat	0.4830
	02	Wheat Flour	Wheat Flour Fine/Superior. Wheat Flour Bag	5.1122
	03	Maida	Maida	0.1059
	04	Besan	Besan	0.1320
	05	Rice	Rice Basmati Sup. Qlty. Rice Basmati 385/386 Rice Basmati Broken Av. Qlty Rice Irri-6 (Sindh/Punjab)	1.3369
	06	Pulse Masoor	Pulse Masoor	0.2214
	07	Pulse Moong	Pulse Moong	0.2230
	08	Pulse Mash	Pulse Mash	0.2017
	09	Pulse Gram	Pulse Gram	0.4272
	10	Gram Whole	Gram Whole	0.1491
	11	Mustard Oil	Mustard Oil	0.0456
	12	Cooking Oil	Cooking Oil	0.6858
	13	Vegetable Ghee	Vegetable Ghee Tin Vegetable Ghee (Loose)	2.6672
	14	Sugar	Sugar	1.9467
	15	Gur	Gur	0.0735
	16	Tea	Tea Brookbond Supreme 250Gm. Tea Lipton Yellow Label 200Gm. Tea Loose Kenya Av. Qlty 250Gm. Coffee-Nescafe 75 Gm.	1.2559
	17	Milk Fresh	Milk Fresh (Unboiled) Milk Tetra Pack 1/2 Ltr.	6.6615
	18	Milk Powder	Lactogen 400 Grams Powder Milk Nido 400Gm. Milk Powder Loose/Packed Milo 200 Gm.	0.1105

(continued)

Table S2 (continued)

Group No.	Item No.	Composite Items	Individual Items	Weights
	19	Milk Products	Curd Butter Local Packed	0.5607
	20	Honey	Honey	0.0358
	21	Cereals	Cornflaks Fauji 225 Gm. Vermicelli Custard Powder Rafhan 300 Gm.	0.0878
	22	Jam, Tomato, Pickles & Vinegar	Jam Ahmed/Mitchelles Tomato Ketchup Ahmed/Mitchl Pickles Ahmed/Mitchelles Vinegar Synthetic (Sirka)	0.2472
	23	Beverages	Squash-Mitchelles Rooh Afza Cold Drink (Standard Siz) Fruit Juice Tetra Pack Ice Cream Walls Ice	0.7286
	24	Condiments	Cinamon Loose Av. Qty Cuminseed White National Pepper Black National Cloves Loose Av. Qty Curry Powd. National 200 Gm Corriander Seed Powd. National	0.3392
	25	Spices	Cardamom Large Loose Av. Qty Cardamom Small Av. Qty Salt-Powdered (Lahori) Loose Chillies Powd. National 200Gm Turmeric Powd. National 50Gm	0.6008
	26	Dry Fruit	Coconut Dry Av. Qty. Dates Av. Qty. Pistachio Av. Qty. Almonds Whole Av. Qty. Raisins Av. Qty. Groundnuts (With Shell)	0.2760

(continued)

Table S2 (continued)

Group No.	Item No.	Composite Items	Individual Items	Weights
	27	Bakery & Confectionary	Bread Plain Medium Size Rusk (Papay) Biscuits-Packed Biscuit-Bakery (Loose) Toffee (Hilal) Chowkelate Candy (Small Size) Pastry Av.Qlty. Patties (Vegatables)	2.9837
	28	Cigarettes	Cigarettes K-2 10'S Cigarettes Capstan 10'S Cigarettes Gold Leaf 20'S Cigarettes Morven Gold 20'S	0.9527
	29	Betel Leaves & Nuts	Betel Leaves Betel Nuts	0.1851
	30	Readymade Food	Bread Tandoori St. Size Cooked Mutton (Av. Hotel) Cooked Beef (Av. Hotel) Cooked Dal (Av. Hotel) Tea Prepared (Ordinary)	1.6833
	31	Sweetmeat & Nimco	Samosa (Vegatable) Sweetmeat (Mixed)	0.3846
	32	Fish	Fish	0.2703
	33	Meat	Beef With Bone Av.Qlty. Mutton Av.Qlty.	2.6981
	34	Chicken Farm	Chicken Farm	0.9158
	35	Eggs	Eggs	0.4119
	36	Potatoes	Potatoes	0.5806
	37	Onions	Onions	0.6237
	38	Tomatoes	Tomatoes	0.4833

(continued)

Table S2 (continued)

Group No.	Item No.	Composite Items	Individual Items	Weights
	39	Vegetables	Turnip Radish Cabbage Cauliflower Brinjal Pumpkin Bottlegourd Lady Finger Peas Spinach Tinda Turai Karaila Arvi Chillies Green Carrot Ginger Garlic Cucumber (Kheera)	1.8377
	40	Fresh Fruits	Malta/Mosambi Kinnu Apple Aloo Bukhara Pomegranate (Annar) Grapes Bananas Mango Kalmi Guava Watermelon (Turbooz) Muskmelon (Kharbooza) Sweetmelon (Sarda) Sweetmelon (Garma)	1.6158
II.	APPAREL, TEXTILE & FOOTWEAR.			6.0977
	41	Cotton Cloth	Long Cloth Av.Qlty. Shirting Av.Qlty. Pant Cloth W & Wear Av.Qlty Lawn Av.Qlty. Voil Av.Qlty. Lungi/Dhoti(Cotton) Avg. Qlty	1.6197

(continued)

Table S2 (continued)

Group No.	Item No.	Composite Items	Individual Items	Weights
	42	Silk,Linen,Woolen/Cloth	Georgette Av.Qlty Linen Av.Qlty Heavy Wt. Suiting Law.Pur Tropical Suiting Law.Pur	0.5766
	43	Tailoring Charges	Tailoring Shirt Tailoring Coat-Pant Suit Tailoring Awami-Suit (Male) Tailoring Suit Female	0.8636
	44	Hosiery	Brassier Av.Qlty. Underwear Av.Qlty Medium Size Vest For Men Av.Qlty. Socks Nylon (Pakistani)	0.1528
	45	Readymade Garments	Dopatta Georgette Av.Qlty. Chaddar (W/Wear) (2X2.5 Mtr) Pant Boy 24"/26" Length. Shirt Boy 24"/26" Length School Uni. Pant,Shirt Boys School Uni. Kameez,Shal.Boys School Uni. Kameez,Shal.Girl Frock W/Wear Girls Awami-Suit W & W(Boy) 24"/26 Awami-Suit W&W (Gents)Av.Qlty	1.2038
	46	Woolen Readymade Garments	Pullover Gents Oxford/Bon. Pullover Ladies Oxford/Bon. Pullover (Gents) Others A.Qty Second-Hand Coat For Men	0.1485
	47	Footwear	Gents Shoes Paul Bata Gents Sandal Bata Gents Spoung Chappal Bata Ladies Sandal Bata Ladies Spoung Chappal Bata Child Shoe Power Lite Bata Gents Shoe, Art 1109 Service Nylon Jogger 27 Size 2-5 Boot Polish Cherry/Kiwi 50MI Shoe Repair Half Sole	1.5327

(continued)

Table S2 (continued)

Group No.	Item No.	Composite Items	Individual Items	Weights
III.	HOUSE RENT.			23.4298
	48	House Rent Index	House Rent Index	23.4298
IV.	FUEL AND LIGHTING.			7.2912
	49	Kerosene	Kerosene	0.1366
	50	Firewood	Firewood	0.4778
	51	Match Box	Match Box	0.1301
	52	Bulb & Tube		0.1311
			Bulb Philips 100-Watts	
			Tube Light Philips 40 Watts	
	53	Electricity		4.3698
			Elect.Charges Upto 50 Units	
			Elect.Charges 01 - 100 Unit	
			Elect.Charges 101 - 300 Unit	
			Elect.Charges 301 - 1000 Unit	
			Elect.Charges Above 1000 Unit	
	54	Natural Gas		2.0458
			Gas Chrg Upto 3.3719	
			Gas Chrg 3.3719 - 6.7438	
			Gas Chrg 6.7438 - 10.1157	
			Gas Chrg 10.1157 - 13.4876	
			Gas Cylinder Stand. Size	
V.	H.HOLD.FURNITURE & EQUIPMENT ETC.			3.2862
	55	Utensils		0.3690
			S.Steel Deghchi Medium Size	
			S.Steel Plate A.Qlty.(M.Size)	
			Tea-Set S.Steel 3 Pcs. M.Size	
			Table Spoon S.Steel Sup.Qlty.	
			Water-Set S.Steel Sup.Qlty	
			Tea Set Pak. Chinaware 21 Pcs.	
	56	Plastic Products		0.1055
			Dinner Set Plastic 35 Pcs.	
			Hotpot Set Plastic 3 Pcs.	
			Bucket(Balti) Plastic Med.Siz	
	57	Suitcase	Suitcase	0.0470
	58	House Hold Equipments		0.0953
			Presure Cooker 4 Ltr.	
			Electric Juicer For Apple	
			Water Cooler 9/10 Ltr.Plastic	
			Thermos Starvac 1 Ltr	

(continued)

Table S2 (continued)

Group No.	Item No.	Composite Items	Individual Items	Weights
	59	Furniture (Ready Made)	Chair Shesham Wood With Arms Table Shesham Wood (4X2X5") Sofaset Wooden With Foam Seat Cot Iron (With Niwar)Av.Qlty. Almirah (Steel) 6'X3' 20 Guage Dinning Table 6 Chairs A.Qlty Single Bed Without Foam Med. Matress Single(4"Thick)	0.3054
	60	Furnishing	Quilt (Lihaf) 3 Kg. Cotton Blanket (90" X 54") Bedsheet Single Bed Sup.Qlty Dari Cotton (6'X2 1/2') Av.Ql Farshi Dari 12'X9' Av.Qlty Carpet Plain Av. Qlty Towel(3'X2') Av. Qalty Gas Burner Double Spfy.Brand Elect. Iron Philips Mdl.1120	0.6362
	61	Elect.Iron Fans & Washing Machine	Celing Fan 48" Super Qlty Pedestal Fan 22" Super Qlty Washing Machine Singer	0.1889
	62	Sewing Machine,Clock And Needles	Sewing Machine(Singer) Wall Clock Quartz Av.Qlty Hand Stitching Needle M.Size Sewing Thread/Reel(Asli Pari)	0.1270
	63	Refrigerator & Airconditioner	Refg. Dawlence 10 Cft. D.Door D-Freezer Waves 8 Cft. Airconditioner 1.5 Ton Pel Aircooler Super Asia	0.1756
	64	Marriage Hall	Marriage Hall	0.0445
	65	House Hold Servant	House Hold Servant	1.1918
VI.	TRANSPORT & COMMUNICATION.			7.3222
	66	Petrol	Petrol	1.7253
	67	Diesel	Diesel	0.2070
	68	Cng. Filling Charges	Cng. Filling Charges	0.1649

(continued)

Table S2 (continued)

Group No.	Item No.	Composite Items	Individual Items	Weights
	69	Service Charges	Motor Cycle Service Charges Car Service Charges	0.3835
	70	Vehicles	Motorcycle Honda Cd-70. Motorcycle Yamaha 100Cc. Car Suzuki 800 Cc (W/O. A/C) Bicycle With Tyres & Tubes	0.2596
	71	Tyre & Tube	Tyre Car With Tube General Tyre Motor Cycle Without Tube Tyre Cycle Specify Brand Name	0.2831
	72	Transport Fare/Charges	Auto Rickshaw Fares Full Tonga Charges Taxi 4 Seater Fare Bus Fare Min (Within City) Bus Fare Max (Within Cit Bus Fare Outside City A/C Bus Fare Outside City Minibus Fare Min.With In City Minibus Fare Max.With In City Suzuki Fare Min.With In City Suzuki Fare Maximum W.In City	2.1236
	73	Train Fare	Train Fare Eco. 1-100 Km. Train Fare Eco. 101-500 Km. Train Fare Eco. > 500 Km. Train Fare Ist Slp. 1-100Km Train Fare Ist Slp.101-500 Km Train Fare Ist Slp. > 500 Km Train Fare A/C Slp. 1-100Km. Train Fare A/C Slp.101-500Km Train Fare A/C Slp > 500Km. Plateform Ticket	0.1514
	74	Air Fare	Air Fare	0.0983

(continued)

Table S2 (continued)

Group No.	Item No.	Composite Items	Individual Items	Weights
	75	Communication	Postal Envelope Domestic Postal Registration Charges Aerogram For Saudi Arabia U.M.S. Reg Charges Min. T.C.S. Ch. Min.With In Zone Telephone Charges Local Call Car Tax For 800Cc To 1300Cc Tel Charges Out Side City Internet Charges	1.9255
VII.		RECREATION & ENTERTAINMENT.		0.8259
	76	Recreation	Daily "Dawn" Daily "Jang" Daily "Nawa-E-Waqt" Weekly "Akhbar-E-Jahan" Weekly "Mag" Monthly "Naunehal Digest"	0.3399
	77	Entertainment	Radio With C.Player National Dry Cell 1.5 Volt(Local) T.V. 20" Colored Wega H-A21. Video Game Sega 16 Byte V.C.P. Panasonic/Lg/Nat Vid. Cassette Blk. Tdk/Sony Tape Recorder Cassette Blank Cinema A/C. High Class Cinema Non-A/C High Class Tv.Licence Fee Domestic	0.4860
VIII.		EDUCATION.		3.4548
	78	Tuition Fees	School Fee Primary Eng.Med. School Fee 2Nd-Ry Eng.Med. Govt. College Fee Ist. Year Govt. College Fee 4Th. Year Govt. University Fee Msc. Govt. Med. College Fee Mbbs Govt. Engg. Coll. Fee I Year	2.3629

(continued)

Table S2 (continued)

Group No.	Item No.	Composite Items	Individual Items	Weights
	79	Stationery	Paper Foolscape (27"X17") Exercise.Book Lined 80/100 Pgs Pencilgoldfish/Deer Fountin Pen Youth China Pen Ink Dollor 57 MI Bottle Ball Pen (Local)	0.3500
	80	Text Books	English Book Class V1 English Book Class Ix Or X Eng. Book Ist.Yr Complete Set Urdu Book Class V (T.B.Bord) Urdu Book Class Ix/X(T.B.B) Urdu Book Ist.Year/Inter Maths Book Calss V (T.B.B) Maths Book Class Ix Or X Maths Book Ist. Year (T.B.B)	0.6894
	81	Computer & Allied Products	Comp. With Printer & Speaker Com. C.D. (Tdk/Imation)	0.0525
IX.	CLEANING LAUNDRY & PER.APPEARANCE.			5.8788
	82	Washing Soap & Detergent	Washing Soap Surf (Medium) 100 Grm Washing Powder 1000 Grm Cleanser Powder Vim 1000 Gm Finis 500 MI Robin Blue (35 Grams) Tissu Paper Perfumed 100 Pcs. Toilet Paper Roll (R.Petel)	1.5535
	83	Toilet Soap	Toilet Soap Lux 95 Grams Toilet Soap Lifebouy 140 Grm	0.7436
	84	Tooth Paste	Toothpaste Macklines 70 Grm Toothbrush Sheild A/Plauque Toothpowder Dentonic 90 Grm	0.4036
	85	Shaving Articles	Blade Treet Ordinary 10'S Blade 7-O-Clock Stain. 5'S Disposable Razor Gillet-Ii Shaving Cream Touch-Me/Adm.	0.3480

(continued)

Table S2 (continued)

Group No.	Item No.	Composite Items	Individual Items	Weights
	86	Cosmetics	Nail Polish S.Miss/Medora Lipstick S.Miss/Medora Perfume Med.Size Medora/Broach Shampoo Plain Medora 200 ML. Facecream Ponds (Medium) Talc Powder Vice Roay,B.Cat Hair-Oil Amla/Chambeli Brylcreem 210 ML. Hair-Colour Begin (6 Gms)	1.4272
	87	Watches	Wrist Watch Gents Citizen Wrist Watch Ladies Citizen	0.0552
	88	Jewellery	Gold Tezabi 24 Ct Silver Tezabi 24 Ct Artificial Jewellery Set	0.3936
	89	Laundry Charges	Washing Ch. Shirt Dry Cleaning Suit Coat Pant Washing Ch. (Kamiz-Shalwar)	0.2207
	90	Hair Cut & Beauty Parlour Charges	Haircut Charges For Men Beauty Porl Hair Styl Charge	0.7334
X.	MEDICARE.			2.0728
	91	Drugs & Medicines	Septran Tablets Brufen Tabs 200-Mg. Panadol Tab. Extra/Plain Disprin Tab. Flagyl Tab. 200 Mg. Ventolin Tab. 2Mg. Daonil Tab. 5 Mg. Entox Tab. Renitec Tab. 5 Mg. Cac. 1000 Tab Amoxil Capsule 250 Mg.S Calcium Syrup Sandoz	1.0752

(continued)

Table S2 (continued)

Group No.	Item No.	Composite Items	Individual Items	Weights
			Lederplex Syrup Sancos Syrup (50 ML) Phenergan Syrup 120 ML. Calpol Syrup 60 ML. Hydryllin Syrup 120 ML. Polyfax Eye Ointment Betnesol Eye Drops Betnovate-N Ointment 5 Gms Burnol Cream 30 Grm Galxos-D (450 Grms) Gripe-Water Woodward's O.R.S. (Nimcol) Dettol (Medium) Cotton Bandage 2" - 4" Thermometer China Jouhar Joshanda	
	92	Doctor's Fee	Doctor's Fee	0.9976
Total Weight				100.0012

Table S2 (concluded)

Table S3 : Series of Core Inflation (Trimmed and NFNE)

	percent							
	20% weighted Trimmed mean				NFNE			
	YoY		12mma		YoY		12mma	
	New (92-indices based)	Old (374-item based)	New (92-indices based)	Old (374-item based)	New (92-indices based)	Old (374-item based)	New (92-indices based)	Old (374-item based)
Jul-03	2.37	1.85	2.83	2.37	2.73	2.56	2.56	2.47
Aug-03	2.33	2.06	2.82	2.35	2.90	2.73	2.64	2.52
Sep-03	2.79	2.35	2.82	2.34	3.15	3.00	2.74	2.59
Oct-03	3.18	3.11	2.90	2.33	3.17	3.03	2.83	2.67
Nov-03	3.59	3.63	3.01	2.58	3.25	3.19	2.90	2.72
Dec-03	3.84	3.98	3.15	2.73	3.21	3.25	2.94	2.77
Jan-04	3.82	3.83	3.25	2.83	3.45	3.68	3.00	2.86
Feb-04	3.63	3.80	3.31	2.96	3.80	4.02	3.09	2.98
Mar-04	4.36	4.73	3.37	3.08	4.16	4.53	3.19	3.13
Apr-04	5.36	5.59	3.45	3.35	4.68	4.61	3.33	3.27
May-04	6.01	6.41	3.65	3.75	5.17	5.00	3.54	3.47
Jun-04	6.87	7.20	3.94	4.10	5.50	5.42	3.77	3.71
Jul-04	7.53	7.55	4.37	4.56	5.84	5.82	4.03	3.98
Aug-04	7.92	7.98	4.83	5.10	6.17	6.14	4.31	4.27
Sep-04	7.92	7.90	5.24	5.55	6.40	6.37	4.58	4.56
Oct-04	7.97	7.77	5.64	6.06	6.76	6.74	4.88	4.88
Nov-04	8.29	8.11	6.03	6.47	6.98	6.85	5.19	5.19
Dec-04	7.69	7.69	6.41	6.73	7.24	7.09	5.52	5.52
Jan-05	8.26	8.30	6.87	7.15	7.42	7.26	5.86	5.82
Feb-05	8.93	8.58	7.52	7.73	7.60	7.42	6.17	6.10
Mar-05	8.55	8.04	7.99	8.21	7.63	7.41	6.46	6.34
Apr-05	9.13	8.48	8.42	8.59	7.82	7.69	6.72	6.58
May-05	8.58	7.98	8.68	8.76	7.91	7.77	6.95	6.79
Jun-05	8.00	7.72	8.81	8.77	7.92	7.68	7.15	6.96
Jul-05	7.99	7.32	8.78	8.70	7.91	7.62	7.32	7.09
Aug-05	7.63	7.10	8.67	8.54	7.87	7.56	7.46	7.19
Sep-05	7.45	7.03	8.63	8.41	7.91	7.58	7.59	7.28
Oct-05	7.60	7.04	8.51	8.22	8.27	7.81	7.71	7.37
Nov-05	7.35	6.79	8.27	7.94	8.04	7.59	7.80	7.43
Dec-05	7.32	6.51	8.18	7.83	7.89	7.36	7.85	7.46
Jan-06	7.19	6.47	8.14	7.74	7.75	7.33	7.88	7.48
Feb-06	7.12	6.39	7.98	7.55	7.43	7.00	7.86	7.47
Mar-06	6.45	6.09	7.76	7.33	7.13	6.67	7.82	7.44
Apr-06	6.22	6.00	7.23	6.93	6.83	6.42	7.73	7.33
May-06	6.26	6.01	7.04	6.77	6.85	6.58	7.64	7.23
Jun-06	6.50	6.00	7.02	6.72	6.55	6.29	7.52	7.11
Jul-06	6.29	6.12	6.82	6.56	6.54	6.28	7.41	7.00
Aug-06	7.18	6.54	6.85	6.58	6.57	6.20	7.30	6.89
Sep-06	7.21	6.61	6.82	6.60	6.56	6.16	7.19	6.77
Oct-06	6.68	6.35	6.90	6.62	5.97	5.70	6.99	6.59
Nov-06	6.50	6.06	6.73	6.62	5.90	5.62	6.82	6.42
Dec-06	6.31	6.03	6.76	6.66	5.73	5.50	6.64	6.27
Jan-07	6.48	5.93	6.62	6.55	5.66	5.30	6.46	6.10
Feb-07	6.85	6.41	6.61	6.55	6.03	5.72	6.35	6.00
Mar-07	6.71	6.42	6.77	6.63	5.89	5.42	6.25	5.90
Apr-07	6.60	6.13	6.81	6.69	5.60	5.17	6.15	5.80
May-07	6.22	5.61	6.83	6.67	5.21	4.70	6.01	5.63
Jun-07	6.53	5.96	6.90	6.64	5.66	5.10	5.94	5.53
Jul-07	6.59	6.30	6.81	6.69	5.97	5.29	5.89	5.45

Table S4: Weights of Seasonal Items					
	Potatoes	Onions	Tomatoes	Vegetables	Fresh Fruits
Jul-06	0.5806	0.6237	0.4833	1.8377	1.6158
Aug-06	0.5806	0.6237	0.4833	1.8377	1.6155
Sep-06	0.5707	0.6138	0.4734	1.8670	1.6156
Oct-06	0.5542	0.5973	0.4569	1.9165	1.6160
Nov-06	0.5514	0.5945	0.4541	1.9249	1.6157
Dec-06	0.5812	0.6243	0.4839	1.8356	1.6156
Jan-07	0.5931	0.6362	0.4958	1.7998	1.6156
Feb-07	0.5931	0.6362	0.4958	1.7998	1.6156
Mar-07	0.6056	0.6487	0.5083	1.7623	1.6155
Apr-07	0.6032	0.6463	0.5059	1.7695	1.6158
May-07	0.6042	0.6473	0.5069	1.7671	1.6159
Jun-07	0.5806	0.6237	0.4833	1.8377	1.6156

Table S5: Consumer Price index by 92 Composite Items

(with weights and sub-index values for July 2006 & 2007 and percentage change for each sub-index)

Items and Description	Index		% Change YoY	Weight
	Jul-06	Jul-07		
01 Wheat	130.68	144.62	10.67	0.4830
02 Wheat Flour	131.25	146.77	11.82	5.1122
03 Maida	128.90	138.24	7.25	0.1059
04 Besan	134.24	145.76	8.58	0.1320
05 Rice	125.24	189.58	51.37	1.3369
06 Pulse Masoor	115.58	136.04	17.70	0.2214
07 Pulse Moong	200.22	186.50	-6.85	0.2230
08 Pulse Mash	154.83	156.07	0.80	0.2017
09 Pulse Gram	126.50	138.23	9.27	0.4272
10 Gram Whole	135.68	134.47	-0.89	0.1491
11 Mustard Oil	120.18	159.21	32.48	0.0456
12 Cooking Oil	128.11	163.14	27.34	0.6858
13 Vegetable Ghee	131.09	179.99	37.30	2.6672
14 Sugar	128.87	107.42	-16.64	1.9467
15 Gur	157.28	135.37	-13.93	0.0735
16 Tea	108.78	109.15	0.34	1.2559
17 Milk Fresh	145.91	164.04	12.43	6.6615
18 Milk Powder	129.68	160.27	23.59	0.1105
19 Milk Products	134.44	148.49	10.45	0.5607
20 Honey	129.05	130.45	1.08	0.0358
21 Cereals	126.77	136.56	7.72	0.0878
22 Jam,Tomato,Pickles & Vinegar	116.63	132.16	13.32	0.2472
23 Beverages	130.74	138.40	5.86	0.7286
24 Condiments	111.11	119.52	7.57	0.3392
25 Spices	105.81	125.57	18.67	0.6008
26 Dry Fruit	192.43	220.87	14.78	0.2760
27 Bakery & Confectionary	115.98	119.14	2.72	2.9837
28 Cigarettes	147.11	157.08	6.78	0.9527
29 Betel Leaves & Nuts	129.17	142.90	10.63	0.1851
30 Readymade Food	148.05	159.22	7.54	1.6833
31 Sweetmeat & Nimco	144.49	158.81	9.91	0.3846
32 Fish	136.88	147.98	8.11	0.2703
33 Meat	206.28	219.91	6.61	2.6981
34 Chicken Farm	164.08	130.07	-20.73	0.9158
35 Eggs	110.25	162.18	47.10	0.4119
36 Potatoes	239.84	178.80	-25.45	0.5806

(continued)

Table S5 (continued)

37	Onions	112.14	136.52	21.74	0.6237
38	Tomatoes	195.63	125.02	-36.09	0.4833
39	Vegetables	158.17	151.11	-4.46	1.8377
40	Fresh Fruits	150.99	162.67	7.74	1.6158
41	Cotton Cloth	126.76	132.24	4.32	1.6197
42	Silk,Linen,Woolen/Cloth	122.48	128.56	4.96	0.5766
43	Tailoring Charges	123.45	131.44	6.47	0.8636
44	Hosiery	131.48	138.29	5.18	0.1528
45	Readymade Garments	120.34	123.25	2.42	1.2038
46	Woolen Readymade Garments	132.26	137.10	3.66	0.1485
47	Footwear	108.04	127.42	17.94	1.5327
48	House Rent Index	137.36	146.85	6.91	23.4298
49	Kerosene	235.87	235.87	0.00	0.1366
50	Firewood	194.77	217.56	11.70	0.4778
51	Match Box	100.00	100.00	0.00	0.1301
52	Bulb & Tube	86.35	86.73	0.44	0.1311
53	Electricity	108.59	119.53	10.07	4.3698
54	Natural Gas	220.20	204.95	-6.93	2.0458
55	Utensils	117.67	122.09	3.76	0.3690
56	Plastic Products	134.31	140.85	4.87	0.1055
57	Suitcase	118.51	126.17	6.46	0.0470
58	House Hold Equipments	117.21	121.72	3.85	0.0953
59	Furniture (Ready Made)	126.52	134.94	6.66	0.3054
60	Furnishing	124.87	130.46	4.48	0.6362
61	Elect.Iron Fans & Washing Machine	118.42	124.46	5.10	0.1889
62	Sewing Machine,Clock And Needles	116.46	118.58	1.82	0.1270
63	Refrigerator & Airconditioner	94.42	100.00	5.91	0.1756
64	Marriage Hall	136.40	145.62	6.76	0.0445
65	House Hold Servant	141.62	153.25	8.21	1.1918
66	Petrol	188.63	175.59	-6.91	1.7253
67	Diesel	245.02	238.74	-2.56	0.2070
68	Cng. Filling Charges	138.57	142.39	2.76	0.1649
69	Service Charges	128.66	132.72	3.16	0.3835
70	Vehicles	100.46	100.04	-0.42	0.2596
71	Tyre & Tube	118.76	123.60	4.08	0.2831
72	Transport Fare/Charges	169.04	172.09	1.80	2.1236
73	Train Fare	170.81	170.01	-0.47	0.1514
74	Air Fare	218.72	253.00	15.67	0.0983
75	Communication	98.83	86.74	-12.23	1.9255
76	Recreation	100.00	100.97	0.97	0.3399
77	Entertainment	109.86	109.16	-0.64	0.4860

(continued)

Table S5 (continued)

78	Tution Fees	134.23	144.22	7.44	2.3629
79	Stationery	119.37	126.34	5.84	0.3500
80	Text Books	122.89	125.67	2.26	0.6894
81	Computer & Allied Products	83.81	82.29	-1.81	0.0525
82	Washing Soap & Detergent	112.94	120.33	6.54	1.5535
83	Toilet Soap	118.33	126.71	7.08	0.7436
84	Tooth Paste	104.44	107.41	2.84	0.4036
85	Shaving Articles	108.10	114.60	6.01	0.3480
86	Cosmetics	121.92	125.90	3.26	1.4272
87	Watches	113.77	121.56	6.85	0.0552
88	Jewellery	189.28	198.53	4.89	0.3936
89	Laundry Charges	136.34	145.17	6.48	0.2207
90	Hair Cut & Beauty Parlour Charges	125.66	129.66	3.18	0.7334
91	Drugs & Medicines	106.49	106.76	0.25	1.0752
92	Doctor'S Fee	120.79	153.45	27.04	0.9976

Table S5 (concluded)

**Table S6: Computation of NFNE
for the month of July 2007**

Step 1: Exclude all food and energy items including *Electricity, Natural Gas, Petrol, Diesel and CNG filling charges* from the overall CPI basket.

Step 2: Calculate the relevant price change for all sub-indices of CPI included in NFNE. This is shown in the 3rd column.

Step 3: Multiply the relevant price change with the corresponding weight of each item and divide the result by 51.01 which is the total weight of NFNE basket. Weights are shown in the fourth column and weighted percentage changes are shown in fifth column of the same table.

Step 4: Calculate the ratio of same commodity's sub-index and the overall index of included items in the reference period. This is shown in 6th column.

Step 5: Multiply the weighted change of each item with the ratio. This is shown in 7th column.

Step 6: The sum of all the results in step 5 will be the core NFNE inflation measure for the month. This is the sum of column 7.

Items	Jul-06	Jul-07	% Change YoY	Weight	Weighted % change	Ratio of com. Index & overall index of NFNE basket	Adjusted Weighted % Change
	(1)	(2)	(3)=[(2)/ (1)-1]*100	(4)	(5)=[(3)* (4)/51.01	(6)=[(1)/131.07	(7)=[(6)*(5)
41 Cotton Cloth	126.76	132.24	4.32	1.6197	0.1373	0.9671	0.1328
42 Silk,Linen,Woolen/Cloth	122.48	128.56	4.96	0.5766	0.0561	0.9345	0.0524
43 Tailoring Charges	123.45	131.44	6.47	0.8636	0.1096	0.9419	0.1032
44 Hosiery	131.48	138.29	5.18	0.1528	0.0155	1.0031	0.0156
45 Readymade Garments	120.34	123.25	2.42	1.2038	0.0571	0.9181	0.0524
46 Woolen Readymade Garments	132.26	137.10	3.66	0.1485	0.0107	1.0091	0.0108
47 Footwear	108.04	127.42	17.94	1.5327	0.5390	0.8243	0.4443
48 House Rent Index	137.36	146.85	6.91	23.4298	3.1734	1.0480	3.3257
50 Firewood	194.77	217.56	11.70	0.4778	0.1096	1.4860	0.1629
51 Match Box	100.00	100.00	0.00	0.1301	0.0000	0.7630	0.0000
52 Bulb & Tube	86.35	86.73	0.44	0.1311	0.0011	0.6588	0.0007
55 Utensils	117.67	122.09	3.76	0.3690	0.0272	0.8978	0.0244
56 Plastic Products	134.31	140.85	4.87	0.1055	0.0101	1.0247	0.0103
57 Suitcase	118.51	126.17	6.46	0.0470	0.0060	0.9042	0.0054
58 House Hold Equipments	117.21	121.72	3.85	0.0953	0.0072	0.8943	0.0064
59 Furniture (Ready Made)	126.52	134.94	6.66	0.3054	0.0398	0.9653	0.0385
60 Furnishing	124.87	130.46	4.48	0.6362	0.0558	0.9527	0.0532
61 Elect.Iron Fans & Washing Machine	118.42	124.46	5.10	0.1889	0.0189	0.9035	0.0171
62 Sewing Machine,Clock And Needles	116.46	118.58	1.82	0.1270	0.0045	0.8885	0.0040
63 Refrigerator & Airconditioner	94.42	100.00	5.91	0.1756	0.0203	0.7204	0.0147
64 Marriage Hall	136.40	145.62	6.76	0.0445	0.0059	1.0407	0.0061
65 House Hold Servant	141.62	153.25	8.21	1.1918	0.1919	1.0805	0.2073
69 Service Charges	128.66	132.72	3.16	0.3835	0.0237	0.9816	0.0233
70 Vehicles	100.46	100.04	-0.42	0.2596	-0.0021	0.7665	-0.0016
71 Tyre & Tube	118.76	123.60	4.08	0.2831	0.0226	0.9061	0.0205
72 Transport Fare/Charges	169.04	172.09	1.80	2.1236	0.0751	1.2897	0.0969
73 Train Fare	170.81	170.01	-0.47	0.1514	-0.0014	1.3032	-0.0018
74 Air Fare	218.72	253.00	15.67	0.0983	0.0302	1.6687	0.0504
75 Communication	98.83	86.74	-12.23	1.9255	-0.4618	0.7540	-0.3482
76 Recreation	100.00	100.97	0.97	0.3399	0.0065	0.7630	0.0049
77 Entertainment	109.86	109.16	-0.64	0.4860	-0.0061	0.8382	-0.0051
78 Tuition Fees	134.23	144.22	7.44	2.3629	0.3448	1.0241	0.3531
79 Stationery	119.37	126.34	5.84	0.3500	0.0401	0.9107	0.0365
80 Text Books	122.89	125.67	2.26	0.6894	0.0306	0.9376	0.0287
81 Computer & Allied Products	83.81	82.29	-1.81	0.0525	-0.0019	0.6394	-0.0012
82 Washing Soap & Detergent	112.94	120.33	6.54	1.5535	0.1993	0.8617	0.1717
83 Toilet Soap	118.33	126.71	7.08	0.7436	0.1032	0.9028	0.0932
84 Tooth Paste	104.44	107.41	2.84	0.4036	0.0225	0.7968	0.0179
85 Shaving Articles	108.10	114.60	6.01	0.3480	0.0410	0.8248	0.0338
86 Cosmetics	121.92	125.90	3.26	1.4272	0.0913	0.9302	0.0850
87 Watches	113.77	121.56	6.85	0.0552	0.0074	0.8680	0.0064
88 Jewellery	189.28	198.53	4.89	0.3936	0.0377	1.4441	0.0545
89 Laundry Charges	136.34	145.17	6.48	0.2207	0.0280	1.0402	0.0291
90 Hair Cut & Beauty Parlour Charges	125.66	129.66	3.18	0.7334	0.0458	0.9587	0.0439
91 Drugs & Medicines	106.49	106.76	0.25	1.0752	0.0053	0.8125	0.0043
92 Doctor'S Fee	120.79	153.45	27.04	0.9976	0.5288	0.9216	0.4873
Total				51.0100			5.9716
Overall index of items included in NFNE basket	131.07	138.90					

**Table S7: Computation of 20% weighted Trimmed mean
for the month of July 2007**

Step 1: Calculate the relevant price change for all 92 sub-indices of CPI (see Table S5).

Step 2: Arrange data in ascending order according to the price change such that cumulative weights are also shown in adjacent column.

Step 4: Subtract 10 from the first cumulative weight value exceeding 10 (11.7572-10=1.7572)

Step 5: Adjust the weight of the second item with cumulative weight greater than 10 by adding its weight with the result obtained in step 4 (i.e., add 0.2070 and 1.7572=1.9642, which becomes the adjusted weight at the lower trim point)

Step 6: Subtract 90 from the first cumulative weight value exceeding 90 (90.1456-90=0.1456).

Step 7: Adjust the weight of the first item whose cumulative weight exceeds 90 by subtracting the result obtained in step 6 from its weight (i.e. subtract 0.1456 from 6.6615=6.5159 which becomes the adjusted weight at the upper trim point).

Step 9: Multiply the adjusted weight of the trimmed basket with relevant price changes and divide the result by 80 to obtain weighted change for each item. [for instance in case of diesel, (1.9642* -2.56)/80= -0.0629].

Step 10: Calculate the ratio of same commodity's sub-index and the overall index of included items in the reference period. [i.e. 245.02/137.92 = 1.7765]

Step 11: Multiply the weighted change of each item obtained in step 9 with ratio of same commodity's sub-index and the overall index of included items in the reference period obtained in step 10. [i.e. for diesel, -0.0629*1.7765 = -0.1118].

Step 12: The sum of all the results in step 11 will be the trimmed measure of core inflation. [i.e. 6.5879]

S.No		Top weight to be adjusted	Index Jul-06	Index Jul-07	% Change	Weights	Cumulative Weight	Adjusted Weights	Weighted % change	Ratio of item index & overall index of trimmed basket	Adjusted Weighted % change
38	Tomatoes		195.63	125.02	-36.09	0.4833	0.4833				
36	Potatoes		239.84	178.80	-25.45	0.5806	1.0639				
34	Chicken Farm		164.08	130.07	-20.73	0.9158	1.9797				
14	Sugar		128.87	107.42	-16.64	1.9467	3.9264				
15	Gur		157.28	135.37	-13.93	0.0735	3.9999				
75	Communication		98.83	86.74	-12.23	1.9255	5.9254				
64	Natural Gas		220.20	204.95	-6.93	2.0458	7.9712				
56	Petrol		188.63	175.59	-6.91	1.7253	9.6965				
7	Pulse Moong		200.22	186.50	-6.85	0.2230	9.9195				
39	Vegetables		158.17	151.11	-4.46	1.8377	11.7572				
67	Diesel		245.02	238.74	-2.56	0.2070	11.9642	1.9642	-0.0629	1.7765	-0.1118
81	Computer & Allied Products		83.81	82.29	-1.81	0.0525	12.0167	0.0525	-0.0012	0.6077	-0.0007
10	Gram Whole		135.68	134.47	-0.89	0.1491	12.1658	0.1491	-0.0017	0.9838	-0.0016
77	Entertainment		109.86	109.16	-0.64	0.4860	12.6518	0.4860	-0.0039	0.7965	-0.0031
73	Train Fare		170.81	170.01	-0.47	0.1514	12.8032	0.1514	-0.0009	1.2385	-0.0011
70	Vehicles		100.46	100.04	-0.42	0.2596	13.0628	0.2596	-0.0014	0.7284	-0.0010
49	Kerosene		235.87	235.87	0.00	0.1366	13.1994	0.1366	0.0000	1.7102	0.0000
51	Match Box		100.00	100.00	0.00	0.1301	13.3295	0.1301	0.0000	0.7251	0.0000
91	Drugs & Medicines		106.49	106.76	0.25	1.0752	14.4047	1.0752	0.0034	0.7721	0.0026
16	Tea		108.78	109.15	0.34	1.2559	15.6606	1.2559	0.0053	0.7887	0.0042
52	Bulb & Tube		86.35	86.73	0.44	0.1311	15.7917	0.1311	0.0007	0.6261	0.0005
8	Pulse Mash		154.83	156.07	0.80	0.2017	15.9934	0.2017	0.0020	1.1226	0.0023
76	Recreation		100.00	100.97	0.97	0.3399	16.3333	0.3399	0.0041	0.7251	0.0030
20	Honey		129.05	130.45	1.08	0.0358	16.3691	0.0358	0.0005	0.9357	0.0005
72	Transport Fare/Charges		169.04	172.09	1.80	2.1236	18.4927	2.1236	0.0479	1.2256	0.0587
62	Sewing Machine,Clock And Needles		116.46	118.58	1.82	0.1270	18.6197	0.1270	0.0029	0.8444	0.0024
80	Text Books		122.89	125.67	2.26	0.6894	19.3091	0.6894	0.0195	0.8910	0.0174
45	Readymade Garments		120.34	123.25	2.42	1.2038	20.5129	1.2038	0.0364	0.8725	0.0317
27	Bakery & Confectionary		115.98	119.14	2.72	2.9837	23.4966	2.9837	0.1016	0.8409	0.0855
68	Cng. Filling Charges		138.57	142.39	2.76	0.1649	23.6615	0.1649	0.0057	1.0047	0.0057
84	Tooth Paste		104.44	107.41	2.84	0.4036	24.0651	0.4036	0.0143	0.7573	0.0109
69	Service Charges		128.66	132.72	3.16	0.3835	24.4486	0.3835	0.0151	0.9329	0.0141
90	Hair Cut & Beauty Parlour Charges		125.66	129.66	3.18	0.7334	25.1820	0.7334	0.0292	0.9111	0.0266
86	Cosmetics		121.92	125.90	3.26	1.4272	26.6092	1.4272	0.0582	0.8840	0.0515
46	Woolen Readymade Garments		132.26	137.10	3.66	0.1485	26.7577	0.1485	0.0068	0.9590	0.0065
55	Utensils		117.67	122.09	3.76	0.3690	27.1267	0.3690	0.0173	0.8532	0.0148
58	House Hold Equipments		117.21	121.72	3.85	0.0953	27.2220	0.0953	0.0046	0.8498	0.0039
71	Tyre & Tube		118.76	123.60	4.08	0.2831	27.5051	0.2831	0.0144	0.8611	0.0124

(continued)

Table S7 (continued)

S.No		Index Jul-06	Index Jul-07	% Change YoY	Weights	Cumulative Weight	Adjusted Weights	Weighted % change	Ratio of item index & overall index of trimmed basket	Adjusted Weighted % change
41	Cotton Cloth	126.76	132.24	4.32	1.6197	29.1248	1.6197	0.0875	0.9191	0.0804
60	Furnishing	124.87	130.46	4.48	0.6362	29.7610	0.6362	0.0356	0.9054	0.0322
56	Plastic Products	134.31	140.85	4.87	0.1055	29.8665	0.1055	0.0064	0.9738	0.0063
88	Jewellery	189.28	198.53	4.89	0.3936	30.2601	0.3936	0.0240	1.3724	0.0330
42	Silk, Linen, Woolen Cloth	122.48	128.56	4.96	0.5766	30.8367	0.5766	0.0358	0.8881	0.0318
61	Elect. Iron Fans & Washing Machine	118.42	124.46	5.10	0.1889	31.0256	0.1889	0.0120	0.8586	0.0103
44	Hosiery	131.48	138.29	5.18	0.1528	31.1784	0.1528	0.0099	0.9533	0.0094
79	Stationery	119.37	126.34	5.84	0.3500	31.5284	0.3500	0.0255	0.8655	0.0221
23	Beverages	130.74	138.40	5.86	0.7286	32.2570	0.7286	0.0534	0.9479	0.0506
63	Refrigerator & Airconditioner	94.42	100.00	5.91	0.1756	32.4326	0.1756	0.0130	0.6846	0.0089
85	Shaving Articles	108.10	114.60	6.01	0.3480	32.7806	0.3480	0.0262	0.7838	0.0205
57	Suitcase	118.51	126.17	6.46	0.0470	32.8276	0.0470	0.0038	0.8593	0.0033
43	Tailoring Charges	123.45	131.44	6.47	0.8636	33.6912	0.8636	0.0699	0.8951	0.0625
89	Laundry Charges	136.34	145.17	6.48	0.2207	33.9119	0.2207	0.0179	0.9885	0.0177
82	Washing Soap & Detergent	112.94	120.33	6.54	1.5535	35.4654	1.5535	0.1271	0.8189	0.1040
33	Meat	206.28	219.91	6.61	2.6981	38.1635	2.6981	0.2228	1.4956	0.3333
59	Furniture (Ready Made)	126.52	134.94	6.66	0.3054	38.4689	0.3054	0.0254	0.9173	0.0233
64	Marriage Hall	136.40	145.62	6.76	0.0445	38.5134	0.0445	0.0038	0.9890	0.0037
28	Cigarettes	147.11	157.08	6.78	0.9527	39.4661	0.9527	0.0807	1.0666	0.0861
87	Watches	113.77	121.56	6.85	0.0552	39.5213	0.0552	0.0047	0.8249	0.0039
48	House Rent Index	137.36	146.85	6.91	23.4298	62.9511	23.4298	2.0234	0.9959	2.0152
83	Toilet Soap	118.33	126.71	7.08	0.7436	63.6947	0.7436	0.0658	0.8580	0.0565
3	Maida	128.90	138.24	7.25	0.1059	63.8006	0.1059	0.0096	0.9346	0.0090
78	Tuition Fees	134.23	144.22	7.44	2.3629	66.1635	2.3629	0.2198	0.9732	0.2139
20	Readymade Food	148.05	159.22	7.54	1.6833	67.8468	1.6833	0.1588	1.0734	0.1704
34	Condiments	111.11	119.52	7.57	0.3392	68.1860	0.3392	0.0321	0.8056	0.0259
21	Cereals	126.77	136.56	7.72	0.0878	68.2738	0.0878	0.0085	0.9192	0.0078
40	Fresh Fruits	150.99	162.67	7.74	1.6158	69.8896	1.6158	0.1562	1.0948	0.1710
32	Fish	136.88	147.98	8.11	0.2703	70.1599	0.2703	0.0274	0.9925	0.0272
65	House Hold Servant	141.62	153.25	8.21	1.1918	71.3517	1.1918	0.1223	1.0268	0.1256
4	Besan	134.24	145.76	8.58	0.1320	71.4837	0.1320	0.0142	0.9733	0.0138
9	Pulse Gram	126.50	138.23	9.27	0.4272	71.9109	0.4272	0.0495	0.9172	0.0454
31	Sweetmeat & Nimco	144.49	158.81	9.91	0.3846	72.2955	0.3846	0.0476	1.0476	0.0499
53	Electricity	108.59	119.53	10.07	4.3698	76.6653	4.3698	0.5503	0.7873	0.4333
19	Milk Products	134.44	148.49	10.45	0.5607	77.2260	0.5607	0.0732	0.9748	0.0714
29	Betel Leaves & Nuts	129.47	142.90	10.63	0.1851	77.4111	0.1851	0.0246	0.9366	0.0230
1	Wheat	130.68	144.62	10.67	0.4830	77.8941	0.4830	0.0644	0.9475	0.0610
50	Firewood	194.77	217.50	11.70	0.4778	78.3719	0.4778	0.0699	1.4122	0.0987
2	Wheat Flour	131.25	146.77	11.82	5.1122	83.4841	5.1122	0.7556	0.9516	0.7191
17	Milk Fresh	145.91	164.04	12.43	6.6615	90.1456	6.5159	1.0120	1.0579	1.0707
22	Jam, Tomato, Pickles & Vinegar	116.63	132.16	13.32	0.2472	90.3928				
26	Dry Fruit	192.43	220.87	14.78	0.2760	90.6688				
74	Air Fare	218.72	253.00	15.67	0.0983	90.7671				
6	Pulse Masoor	115.58	136.04	17.70	0.2214	90.9885				
47	Footwear	108.04	127.42	17.94	1.5327	92.5212				
25	Spices	105.81	125.57	18.67	0.6008	93.1220				
37	Onions	112.14	136.52	21.74	0.6237	93.7457				
18	Milk Powder	129.68	160.27	23.59	0.1105	93.8562				
92	Doctor's Fee	120.79	153.45	27.04	0.9976	94.8538				
11	Cooking Oil	128.11	163.14	27.34	0.6858	95.5396				
12	Mustard Oil	120.18	159.21	32.48	0.0456	95.5852				
13	Vegetable Ghee	131.09	179.99	37.30	2.6672	98.2524				
35	Eggs	110.25	162.18	47.10	0.4119	98.6643				
5	Rice	125.24	189.58	51.37	1.3369	100.0012				
Total							80.00			6.5879
Overall index of items included in trimmed basket		137.92	147.01						20% Trimmed mean	

Table S7 (concluded)

Annexure A

Table A1: CPI Inflation (YoY) by Groups (percent)						
	Weights	Jul-03	Jul-04	Jul-05	Jul-06	Jul-07
I. Food Group	40.3	-0.5	14.9	9.7	7.4	8.5
II. Non-Food Group	59.7	2.7	5.7	8.5	7.8	4.9
Apparel, textile, etc.	6.1	4.2	1.0	5.0	3.8	7.4
House rent	23.4	1.4	9.0	11.7	7.7	6.9
Fuel & lighting	7.3	4.7	2.7	5.8	13.2	2.6
Household furniture & equip.	3.3	3.0	5.4	5.5	6.2	6.2
Transport & com.	7.3	2.0	7.5	13.5	10.6	-3.1
Recreation & entertainment	0.8	0.2	-0.9	-0.3	0.2	0.0
Education	3.5	5.0	2.1	4.9	6.8	6.2
Cleaning, laundry, etc.	5.9	4.2	4.3	3.0	4.2	5.0
Medicines	2.1	-0.7	0.9	1.3	4.1	14.0
Headline	100	1.4	9.3	9.0	7.6	6.4

Table A2: Distribution of Price Changes of CPI Basket, July 2007 (YoY)						
Groups	% Changes	Total Number of Items	No. of Items in each Inflation Range			
			Decrease or no change	Subdued increase	Moderate increase	Double digit increase
			(0 % or less)	(0 to 5%)	(5 to 10%)	(over 10%)
I. Food Group	8.5	111	24	16	29	42
II. Non-Food Group	4.9	250	75	94	56	25
Apparel, textile, etc.	7.4	42	2	22	14	4
House rent	6.9	1			1	
Fuel & lighting	2.6	15	8	1	1	5
Household furniture & equip.	6.2	44	1	21	21	1
Transport & com.	-3.1	43	24	12	2	5
Recreation & entertainment	0.0	16	10	3	1	2
Education	6.2	24	7	9	4	4
Cleaning, laundry, etc.	5.0	36	2	19	12	3
Medicines	14.0	29	21	7		1
Overall	6.4	361	99	110	85	67

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

Table A3: Top Ten Contribution to YoY CPI Inflation in July 2007					
Items		weights	YoY change		Weighted Contribution
			July-06	July-07	
A. Ranked by Weighted Contribution					
1	House Rent Index	23.43	7.71	6.91	25.31
2	Fresh Fruits	2.67	0.81	37.30	14.85
3	Vegetable Ghee	6.66	9.82	12.43	13.75
4	Milk Fresh	1.34	1.08	51.37	9.79
5	Tomatoes	5.11	(1.52)	11.82	9.03
6	Rice	4.37	-	10.07	5.44
7	Electricity	2.70	13.44	6.61	4.19
8	Chicken Farm	1.00	6.70	27.04	3.71
9	Meat	1.53	2.58	17.94	3.38
10	Wheat Flour	0.69	(0.05)	27.34	2.74
Total		49.49	-	-	92.19
B. Ranked by Percentage Change					
1	Tomatoes	1.34	1.08	51.37	9.79
2	Fresh Fruits	0.41	(36.41)	47.10	2.44
3	Rice	2.67	0.81	37.30	14.85
4	Chicken Farm	0.05	2.62	32.48	0.20
5	Eggs	0.69	(0.05)	27.34	2.74
6	Vegetable Ghee	1.00	6.70	27.04	3.71
7	Mustard Oil	0.11	4.52	23.59	0.38
8	Cooking Oil	0.64	(0.88)	21.74	1.77
9	Onions	0.60	2.05	18.67	1.35
10	Doctor's Fee	1.53	2.58	17.94	3.38
Total		9.03	-	-	40.61
C. Ranked by Weights					
1	House Rent Index	23.43	7.71	6.91	25.31
2	Milk Fresh	6.66	9.82	12.43	13.75
3	Wheat Flour	5.11	(1.52)	11.82	9.03
4	Electricity	4.37	-	10.07	5.44
5	Bakery & Confectionary	2.98	4.13	2.72	1.07
6	Meat	2.70	13.44	6.61	4.19
7	Vegetable Ghee	2.67	0.81	37.30	14.85
8	Tution Fees	2.36	7.63	7.44	2.69
9	Transport Fare/Charges	2.12	9.83	1.80	0.74
10	Natural Gas	2.05	29.63	(6.93)	(3.55)
Total		54.45	-	-	73.52
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 6.4 percent in July 2007.					

Table A4: Distribution of Price Changes - Selected CPI Items, July 2007

Groups	Decrease or no change	Subdued increase (upto 5%)	Moderate increase (5 to 10%)	Increase of over 10%
Food Group		Tea Loose Kenya	Beef With Bone	Milk Fresh
	Sugar Refined	Av.Qlty 250G	Av.Qlty.	(Unboiled)
	Chicken Farm Broiler	Tea Lipton Yellow	Wheat Flour	Wheat Flour Bag
	(Live)	Label 200G	Fine/Superior.	Vegetable Ghee
	Potatoes	Bananas	Mutton Av.Qlty.	(Loose)
	Tomatoes	Cold Drink (Standard Siz)	Tea Prepared (Ordinary)	Vegetable Ghee Tin
	Lady Finger	Pulse Mash (Washed)	Bread Tandoori St. Size, Pulse Gram	Cooking Oil (Dalda), Onion, Wheat
Apparel & Textile	Gents Shoes Paul Bata	Lawn Av.Qlty.	Long Cloth Av.Qlty.	Gents Spoung
	Ladies Sandal Bata	Shirting Av.Qlty. School Uni. Kameez,Shal.Girl	Tailoring Awami-Suit (Male) Tailoring Suit Female	Chappal Bata Gents Sandal Bata Nylon Jogger 27 Size 2-5
House Rent Index			House rent index	
Fuel & Lighting	Gas Chrg 6.7438 - 10.1157Mmb			Elect.Charges Above 1000 Uni
	Gas Chrg 10.1157 - 13.4876Mmb			Elect.Charges 301 - 1000 Uni
	Gas Chrg 3.3719 - 6.7438 Mmb	Gas Cylinder Stand. Size	Bulb Philips 100-Watts	Elect.Charges 101 - 300 Unit
H/hold Furniture	Sewing Machine(Singer)	Quilt (Lihaf) 3 Kg. Cotton Tea Set Pak. Chinaware 21 Pc Blanket (90" X 54")	Household Servant Female P/T Bedsheet Single Bed Sup.Qlty Pedestal Fan 22" Super Qlty	Airconditioner 1.5 Ton Pel
	Petrol Super Tel Charges Out Side City Telephone Charges Local Call Bus Fare Outside City	Car Service Charges Tyre Car With Tube General Auto Rickshaw Fares Cng Filling Charges	Bicycle With Tyres & Tubes Motor Cycle Service Charges	Taxi 4 Seater Fare Air Fare Economy Class. Aerogram For Saudi Arabia Tyre Cycle Specify Brand Nam
Recreation & Entertainment	Tv.Licence Feedomestic Daily "Jang" Video Game Sega 16 Byte	Vid. Cassette Blk. Tdk/Sony Radio With C.Player National		Weekly "Akhbar-E-Jahan" Dry Cell 1.5 Volt(Local) Cinema Non-A/C High Class
	Govt. College Fee Ist. Year Govt. College Fee 4Th. Year Urdu Book Ist.Year/Inter	Maths Book Ist.Year (T.B.B) English Book Class Ix Or X Maths Book Calss V (T.B.B)	School Fee 2Nd-Ry Eng.Med. School Fee Primary Eng.Med. Exercise.Book Lined 80/100 P	Eng. Book Ist.Yr Complete Se Urdu Book Class Ix/X(T.B.B) Govt. University Fee Msc.
Cleaning & Laundry	Blade 7-O-Clock Stain. 5'S Hair-Colour Begin (6 Gms)	Haircut Charges For Men, Surf (Medium) 160 Grm, Washing Powder 1000 Grm Toothpaste Macklines 70 Grm	Washing Soap Nyl(135-160Gms) Toilet Soap Lux 95 Grams, Shampoo Plain Medora 200 Ml. Toilet Soap Lifebouy 140 Grm	Silver Tezabi 24 Ct Shaving Cream Touch-Me/Adm. Robin Blue (35 Grams)
	O.R.S. (Nimcol) Dettol (Medium) Jouhar Joshanda	Cotton Bandage 2" - 4", Amoxil Capsole 250 Mg.S, Panadol Tab. Extra/Plain		Doctor (Mbbs) Clinic Fee

Table A5: City-wise CPI Inflation (YoY) by Income Groups, July 2007							
		Upto Rs:3000			Rs 3001-5000		
		General	Food	Non-Food	General	Food	Non-Food
1	Lahore	8.1	11.9	5.6	8.1	11.3	6.0
2	Faisalabad	6.8	11.0	4.0	7.7	10.8	5.6
3	Rawalpindi	6.8	7.1	6.6	7.2	7.7	6.9
4	Multan	10.7	13.2	9.0	11.0	14.1	8.8
5	Gujranwala	9.5	12.4	7.6	10.6	12.2	9.6
6	Islamabad	9.1	10.8	7.9	9.1	10.4	8.3
7	Sargodha	7.4	10.8	5.1	7.1	10.0	5.1
8	Sialkot	5.0	7.5	3.3	5.4	7.7	3.8
9	Bahawalpur	8.5	10.9	6.8	8.8	11.6	7.0
10	Karachi	8.0	10.9	6.1	8.7	12.3	6.3
11	Hyderabad	8.9	10.6	7.7	9.0	10.9	7.7
12	Sukkur	8.9	10.9	7.6	8.2	9.0	7.6
13	Larkana	7.3	9.6	5.7	7.2	8.8	6.2
14	Peshawar	8.5	10.4	7.2	8.9	10.6	7.7
15	Bannu	6.6	5.3	7.4	8.5	7.3	9.3
16	Quetta	9.1	12.1	7.2	8.1	11.5	5.9
17	Khuzdar	5.7	4.7	6.4	7.1	6.1	7.8
		Rs 5001-12000			above Rs 12000		
		General	Food	Non-Food	General	Food	Non-Food
1	Lahore	7.4	10.8	5.2	6.1	10.1	3.4
2	Faisalabad	7.1	10.9	4.4	5.3	11.0	1.4
3	Rawalpindi	6.9	7.3	6.5	6.3	7.3	5.6
4	Multan	10.3	14.3	7.7	9.7	13.5	7.1
5	Gujranwala	10.8	12.3	9.8	10.5	11.5	9.7
6	Islamabad	8.5	9.6	7.7	7.7	9.2	6.6
7	Sargodha	6.3	9.0	4.5	4.8	8.9	2.0
8	Sialkot	4.8	7.5	2.9	3.7	6.9	1.5
9	Bahawalpur	8.2	11.4	6.0	6.1	10.1	3.4
10	Karachi	8.2	11.9	5.8	6.5	10.8	3.6
11	Hyderabad	8.9	11.1	7.4	8.2	11.7	5.8
12	Sukkur	7.7	8.7	7.0	7.3	8.6	6.4
13	Larkana	7.4	9.5	5.9	6.6	9.6	4.6
14	Peshawar	8.1	11.1	6.1	7.0	12.0	3.6
15	Bannu	8.9	8.6	9.2	8.1	9.7	7.0
16	Quetta	7.7	11.8	5.0	7.3	12.7	3.6
17	Khuzdar	7.7	7.5	7.9	7.0	7.7	6.5

Table A6 : Income Group-wise CPI Inflation (YoY)								percent
	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07
<u>Up to Rs. 3000</u>								
General	10.1	7.6	7.9	7.8	6.9	7.7	7.7	7.5
Food	14.1	9.4	9.6	9.1	7.7	9.6	9.3	8.7
Non-food	7.4	6.3	6.7	6.8	6.3	6.3	6.6	6.7
<u>Rs. 3001-5000</u>								
General	10.0	7.3	7.8	7.9	7.2	8.0	7.9	7.5
Food	13.7	9.0	9.4	9.3	8.0	10.2	9.6	8.8
Non-food	7.4	6.1	6.7	6.9	6.5	6.5	6.8	6.6
<u>Rs. 5000-12000</u>								
General	9.3	6.9	7.5	7.8	7.1	7.8	7.5	6.9
Food	13.0	8.7	9.6	10.1	8.8	10.9	9.7	8.6
Non-food	6.8	5.6	6.0	6.2	5.9	5.7	5.9	5.6
<u>Above Rs. 12000</u>								
General	8.1	6.3	7.2	7.5	6.7	6.9	6.3	5.6
Food	11.9	8.7	10.7	12.2	10.8	12.3	9.8	8.1
Non-food	5.5	4.6	4.7	4.3	3.9	3.1	3.9	3.8
<u>All income groups</u>								
General	8.9	6.6	7.4	7.7	6.9	7.4	7.0	6.4
Food	12.7	8.7	10.0	10.7	9.4	11.3	9.7	8.5
Non-food	6.2	5.2	5.6	5.5	5.2	4.7	5.1	4.9

Table A7: Distribution of Price Change (YoY)--WPI Items: July 2007				
Groups	Decrease or no change	Subdued increase (upto 5%)	Moderate increase (5 to 10%)	More than 10% increase
Food	Tomatoes			Powdered Milk
	Potatoes			Fruit
	Gur, Sugar Refined			Prepared/Preserved
	Chicken		Milk Food	Wheat, Fresh Milk
	Moong		Bajra	Wheat Flour, Fresh
	Mash		Salt	Fruits, Masoor, Dry
	Vegetables		Vegetables	Fruits, Cooking Oil
	Gram Whole		Prepared/Preserved	Beans, Maize
	Jowar, Gram Split	Mineral Water	Oil Cakes	Mustard & Rapeseed
	Beverages	Meat	Spices	Oil, Cotton Seed Oil
	Tea, Fish	Condiments	Onions	Eggs, Vegetable
	Sugar Confectionary	Besan	Maida	Ghee, Rice
Raw material				Cotton Seeds
				Sugar Cane, Hides
				Mustard/Rapeseeds
	Tobacco	Skins		Pig Iron
		Wool	Cotton	
Fuel & lighting				Furnace Oil
				Mobil Oil
				Fire Wood
	Natural Gas			Electricity Ind.
	Motor Sprit			Supply Tariff-B
	Diesel Oil			Elec. Agriculture
	Coal			Tariff-D
	Kerosine Oil			Coke
Manufactures	Woolen Textiles	Cosmetics		
	Blended Yarn	Jute Manufactures		
	Transports	Ready Made		
	Paper	Garments		
	Cotton Yarn	Dying Materials		
	Mattresses	Other Electrical		
	Utensils	Goods		
	Tubes	Silk & Reyon		
	Drugs & Medicines	Textiles		
	Sole Leather	Fertilizers		
	Chrome Leather	Plastic Products		
	Glass Products	Pesticides &		
	Audio-Visual	Insecticised	Hosiery	
	Instruments	Cotton Textiles	Nylon Yarn	
	Matches	Tyres	Soaps	Chemicals
		Cigarettes	Machinery	Foot Wear
Building material	Cement	Pipe Fittings		Timber
	Sanitary Wares	Glass Sheets		Bricks
	Paints & Varnishes	Tiles		Iron Bars & Sheets
	Cement Blocks			Wires And Cables

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

S.No	Items	Unit	Price July -07	Percentage change	
				YoY	Monthly
1	Wheat	Kg.	12.4	10.4	4.7
2	Wheat flour a.qlt.	Kg.	14.7	13.4	4.9
3	Rice basmati, broken	Kg.	31.1	53.1	2.1
4	Rice irri-6	Kg.	22.4	39.1	2.5
5	Masur pulse washed	Kg.	50.4	21.6	6.0
6	Moong pulse washed	Kg.	56.1	-6.2	-0.2
7	Mash pulse washed	Kg.	71.6	1.8	-0.2
8	Gram pulse washed	Kg.	40.2	10.4	6.3
9	Beef	Kg.	120.7	5.1	0.1
10	Mutton	Kg.	231.3	4.9	0.3
11	Egg hen (farm)	Doz.	44.5	51.4	12.8
12	Bread plain m.s.	Each	15.6	7.0	0.5
13	Sugar	Kg.	29.2	-16.7	2.9
14	Gur	Kg.	34.8	-15.4	0.2
15	Milk fresh	Litr	29.0	13.1	0.9
16	Milk powdered Nido	400g	134.9	21.6	-0.4
17	Curd	Kg.	33.9	11.9	1.1
18	Veg.ghee tin	2.5k	259.4	27.3	0.2
19	Veg.ghee loose	Kg.	86.6	44.1	-0.5
20	Mustard oil	Kg.	88.7	31.0	2.7
21	Cooking oil	2.5l	259.4	27.2	0.2
22	Potatoes	Kg.	16.7	-22.0	10.6
23	Onions	Kg.	14.1	16.0	15.0
24	Tomatoes	Kg.	22.3	-29.5	-28.2
25	Bananas	Doz.	34.1	0.5	-3.2
26	Salt powdered	Kg.	4.7	6.3	0.6
27	Red chilies (powd)	Kg.	119.4	70.4	1.6
28	Garlic	Kg.	51.9	-14.3	-0.7
29	Tea packet	250g	65.0	-1.3	0.0
30	Tea (prepared)	Cup	6.5	7.2	0.2

continued

S.No	Items	Unit	Price June -07	Percentage change	
				YoY	Monthly
31	Cooked beef plate	Each	31.1	10.8	1.1
32	Cooked dal plate	Each	18.6	10.4	0.7
33	Cigarettes k-2	10's	8.3	4.8	1.2
34	Coarse latha	Mtr.	36.0	2.7	1.2
35	Lawn (avg.+s.qlty)	Mtr.	84.2	4.8	0.6
36	Voil printed	Mtr.	39.0	2.0	0.2
37	Shirting	Mtr.	67.2	4.1	1.8
38	Sandal gents Bata	Pair	499.0	25.1	0.0
39	Sandal ladies Bata	Pair	299.0	0.0	0.0
40	Chappal spng. Bata	Pair	99.0	11.2	0.0
41	Kerosene	Litr	39.1	0.0	0.0
42	Firewood	40kg	201.5	10.9	0.3
43	Elec. Bulb 60-wats	Each	12.1	6.4	0.2
44	Match box	Each	0.8	24.6	2.5
45	Washing soap	Cake	8.6	8.7	1.7
46	Bath soap lifebuoy	Cake	15.0	7.6	0.0
47	Chicken (farm)	Kg.	66.3	-23.3	0.8
48	Gas chrg. All clb. Comb	D.mmbt	224.7	-5.7	0.0
49	L.p.g .(cylinder 11kg.)	Each	542.3	3.3	-0.6
50	Elec.chrg.all slabs com	Bd. Unit	5.1	9.9	0.0
51	Petrol	Litr	53.8	-6.9	0.0
52	Diesel	Litr	37.9	-2.6	0.0
53	Telephone local	Call	2.3	0.0	0.0
Max:				70.4	15.0
Median				7.0	0.3
Min:				-29.5	-28.2

Table A9: Daily Labor Wages (Rs. per day)--Average of 35 Cities

	Carpenter	Mason	Laborer	Plumber	Electrician	Average
Annual Averages						
FY03	218	225.4	107.7	219.8	216.4	197.4
FY04	224.5	237.4	114.5	225	221.9	204.6
FY05	245.8	261.4	129.5	245.5	240.3	224.5
FY06	283.2	306.0	154.7	283.2	270.1	259.4
FY07	319.9	350.2	180.3	315.7	308.1	294.8
Monthly averages						
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
Oct-06	313.9	340.3	176.9	310.4	303.7	289.0
Nov-06	315.0	342.2	178.4	311.8	304.8	290.4
Dec-06	318.1	347.6	180.7	315.5	306.9	293.8
Jan-07	320.2	349.0	181.5	316.3	307.9	295.0
Feb-07	324.1	354.7	182.9	319.8	308.3	298.0
Mar-07	328.4	359.7	184.9	321.5	311.7	301.2
Apr-07	330.8	364.1	186.2	323.6	313.2	303.6
May-07	331.1	365.3	188.0	321.3	313.2	303.8
June-07	334.9	374.0	191.5	330.2	318.2	309.7
July-07	339.9	377.4	193.9	338.4	326.4	315.2

Source: Federal Bureau of Statistics

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

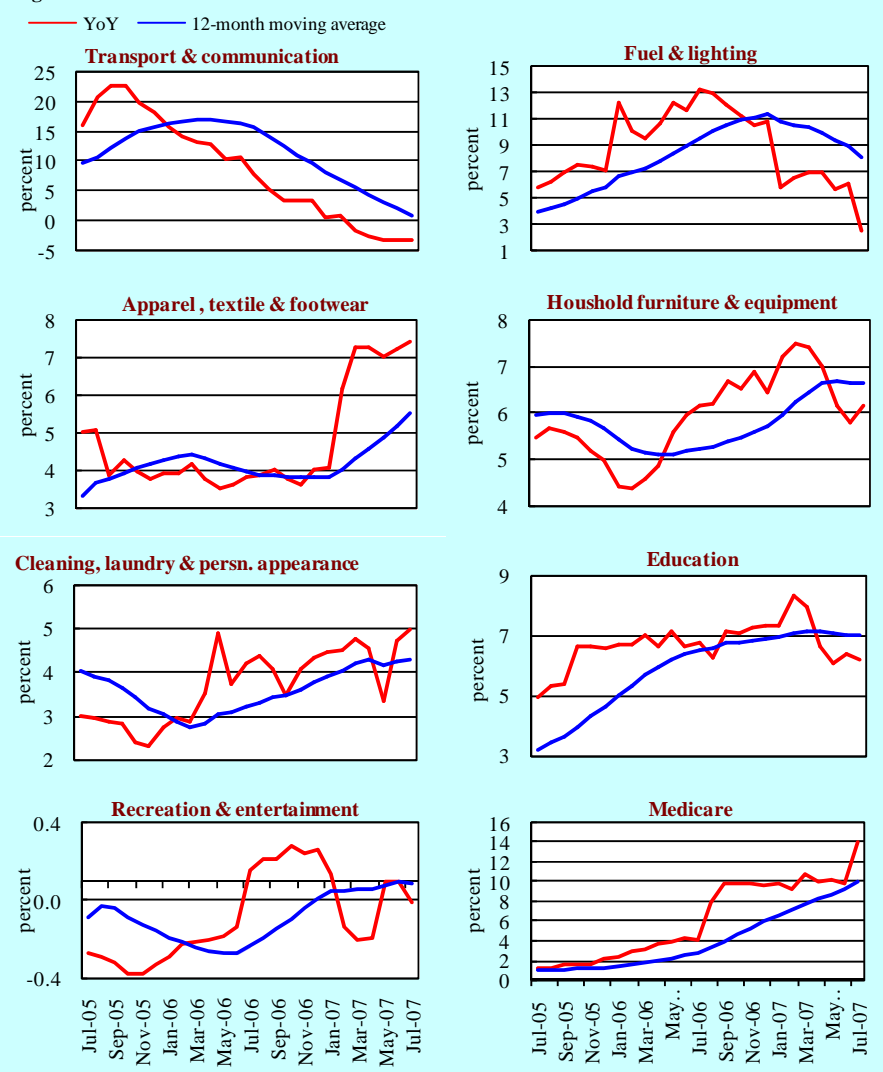
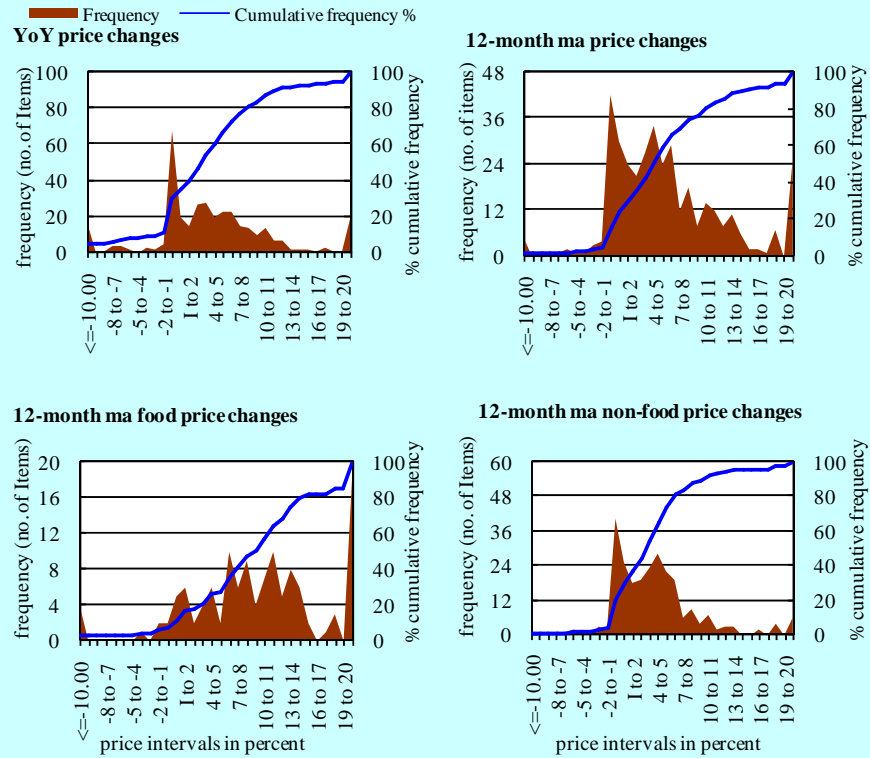
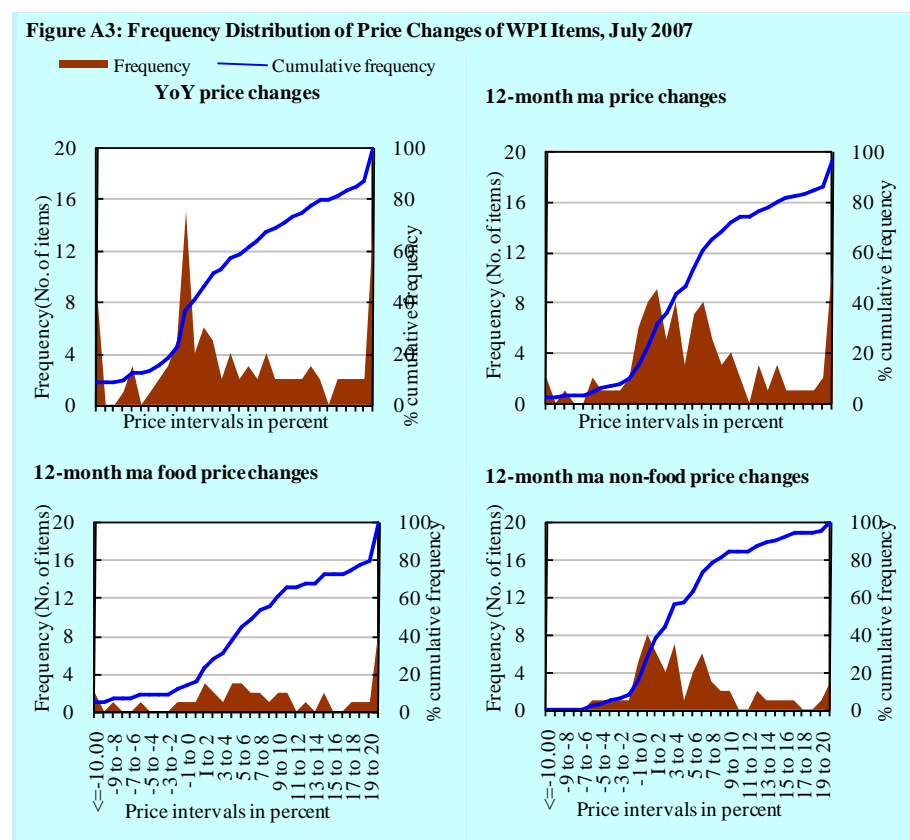


Figure A2: Frequency Distribution of Price Changes of CPI Items, July 2007





Annexure B

Technical Notes

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

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

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

2. Base year for all the indices is the year 2000-01.
3. CPI basket contains 374 consumers' goods; WPI basket contains 425 commodities; SPI contains 53 commodities.
4. YoY inflation is the percent change of an index in a given month over the index in the same month of the last year. It is computed as follows:

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

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

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

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

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

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

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

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

8. Core Inflation is defined as the persistent component of measured inflation that excludes volatile and controlled prices. It reflects the normal supply and demand conditions in the economy. Core inflation is computed by the following two methods:

- a) Non-food, Non-energy inflation (NFNE inflation); it is computed by excluding food group and energy items (kerosene oil, petrol, diesel, CNG, electricity and natural gas) from the CPI basket.
- b) 20% trimmed-mean inflation; it is computed through the following steps:
 - i. All CPI items are arranged in ascending order according to YoY/12-month moving average/monthly/period average changes in their price indices in a given month.
 - ii. 20 percent of the items showing extreme changes are excluded with 10 percent of the items at the top of the list (corresponding to cumulative weight of 90% or more) and 10 percent of the items at the bottom of the list (corresponding to cumulative weight of 10 percent or less).
 - iii. The weighted mean of the changes in price indices of the rest of the items is core inflation.

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

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

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

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

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

Where C_{it} : Contribution of i^{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^{th} item

π_{it} : Inflation of i^{th} item

π_t : Overall inflation