Inflation Monitor

January 2007

State Bank of Pakistan

Research Department

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Contents

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Overview

The headline inflation, that remained over 8 percent during the first half of the current fiscal year declined significantly in January 2007. The relieve in inflationary pressure was mainly because of alleviation in food inflation which tilted back to normalcy after being in double digit due to supply disturbances during the past five months. The non-food inflation also declined significantly because of the reduction in petroleum prices as well as high base effect.[1]

Consumer price index showed a year-on-year change of 6.6 percent in January 2007 which was more than 2 percentage points less than that in the preceding month as well as the corresponding month last year. The food inflation (YoY) declined sharply from 12.7 percent in December 2006 to 8.7 percent in January 2007. On the other hand, the non-food inflation continued its decelerating trend and was recorded at 5.2 percent in the month under review compared with 6.2 percent in the preceding month (Table 1.1).

Table 1.1: Inflation (YoY)
percent

	CPI			Core Inflation		WPI	SPI**
	General	Food	Non-food	NFNE *	Trimmed		
Jan-06	8.8	8.2	9.2	7.3	6.5	10.8	7.0
Feb-06	8.0	7.5	8.4	7.0	6.4	9.9	7.4
Mar-06	6.9	5.4	8.0	6.7	6.1	8.5	6.9
Apr-06	6.2	3.6	8.0	6.4	6.0	8.1	6.4
May-06	7.1	5.6	8.2	6.6	6.0	9.1	7.7
Jun-06	7.6	7.8	7.5	6.3	6.0	9.0	8.7
Jul-06	7.6	7.4	7.8	6.3	6.1	8.4	8.6
Aug-06	8.9	11.1	7.4	6.2	6.5	8.2	10.8
Sep-06	8.7	11.3	7.0	6.2	6.6	8.0	10.0
Oct-06	8.1	10.5	6.4	5.7	6.4	6.7	9.9
Nov-06	8.1	10.6	6.3	5.6	6.1	7.5	10.7
Dec-06	8.9	12.7	6.2	5.5	6.0	8.0	12.0
Jan-07	6.6	8.7	5.2	5.3	5.9	5.4	9.5

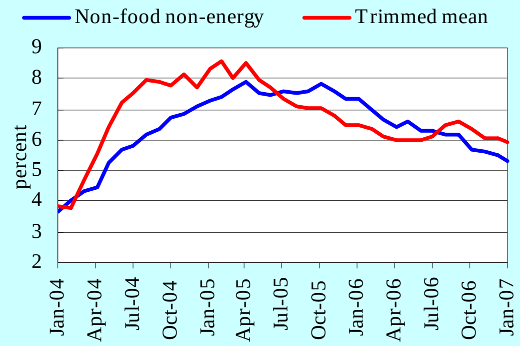
* NFNE is Non-food non-energy inflation; **SPI for all income groups combined.

Core inflation also witnessed a decline of 10-20 basis points in January 2007: *non-food non-energy* inflation was registered at 5.3 percent and *trimmed mean*

[1] See more on high base effect in section 2.2.

inflation at 5.9 percent compared with 5.5 percent and 6 percent respectively in the last month (Figure 1.1).

Figure 1.1: Core Inflation



Wholesale price inflation also declined sharply in January 2007 and was recorded at 5.4 percent as compared to 8 percent in the preceding month and 10.8 percent in corresponding month last year. Both the food and non-food inflation contributed to the decline in wholesale price inflation. Sensitive price indicator (SPI), reflecting price movements in most of the essential food and energy items, also followed the trend of CPI and WPI and showed 9.6 percent rate of change in January 2007 compared with 12 percent in the preceding month.

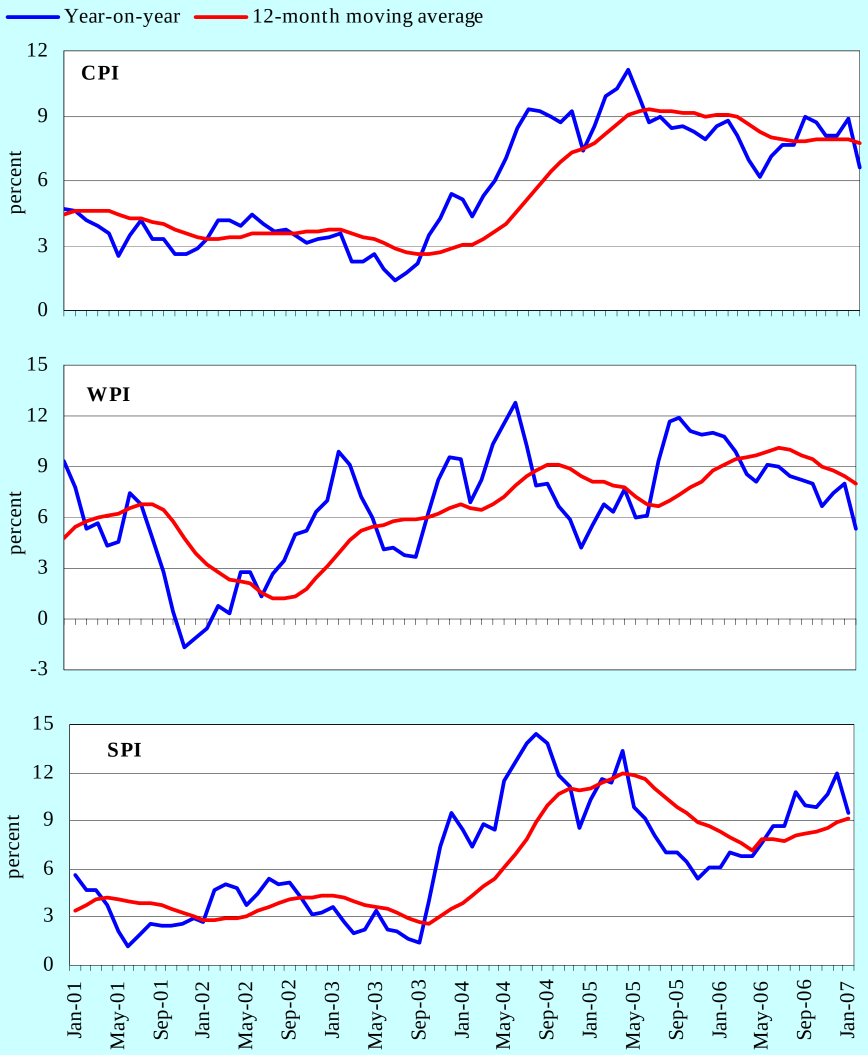
The monthly CPI inflation, i.e. percent change of price index in January 2007 over December 2006 was recorded at -0.9 percent which was due to a decline of more than 200 basis points in the food index (Table 1.2).

Sharp reduction in YoY and monthly inflation in consumer prices also pushed 12-month moving average of CPI inflation down to 7.7 percent from a persistent rate of 7.9 percent over the last seven months (Figure 1.2).

Table 1.2: Different Dimensions of Inflation (percent)

	Jan-05	Jan-06	Jan-07	5-year average
Year-on-year (Jan *over* Jan)				
Overall CPI	8.5	8.8	6.6	6.5
Food group	10.4	8.2	8.7	7.5
Non-food group	7.2	9.2	5.2	5.8
Period average (Jul-Jan *over* Jul-Jan)				
Overall CPI	8.8	8.5	8.1	6.5
Food group	12.3	7.6	10.3	7.6
Non-food group	6.4	9.1	6.6	5.7
12-month moving average				
Overall CPI	7.7	9.1	7.7	6.3
Food group	10.9	9.7	8.5	7.2
Non-food group	5.6	8.7	7.2	5.6
Monthly (Jan over Dec)				
Overall CPI	1.0	1.2	-0.9	0.3
Food group	1.3	1.4	-2.2	-0.1
Non-food group	0.7	1.1	0.1	0.5

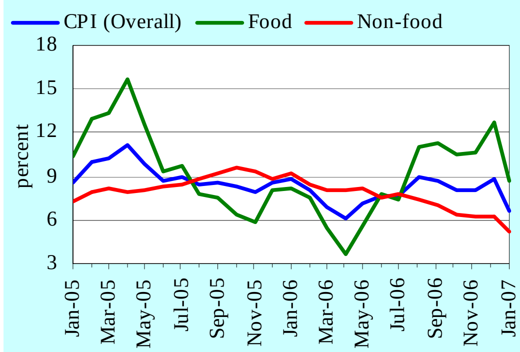
Figure 1.2: Movements in Price Indices



2. Consumer Price Inflation

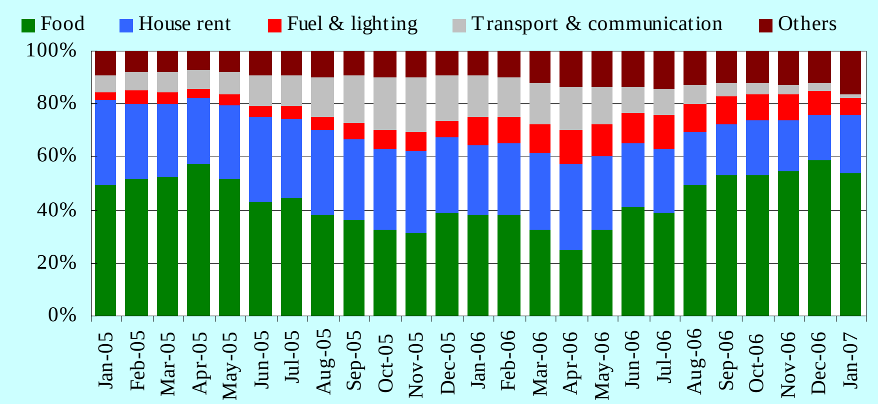
In January 2007 CPI YoY inflation, was recorded at 6.6 percent depicting a decline of more than 2 percentage points as compared to the previous month and that of the corresponding month last year. The main contributing factor behind this decline was food inflation which was 4 percentage points less than the previous month. Non-food inflation also continued its declining trend and was recorded at 5.2 percent – lowest of the last 32 months (Figure 2.1). The decline in YoY inflation is due to decrease in prices of some major food items and also due to decrease in some components of fuel & lighting and transport & communication groups.

Figure 2.1: Consumer Price Inflation



The contribution of food group in overall inflation was 53.8 percent in January 2007 which was although lower than that in December 2006, but was significantly higher than 38.5 percent contribution of food in the corresponding month last year. The contribution of house rent index (the single largest item of the CPI basket) also declined from 26.3 percent during the last fiscal year to 21.9 percent (Figure 2.2) in January 2007.

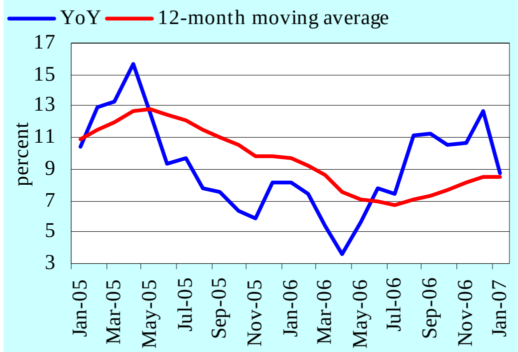
Figure 2.2: Weighted Contribution to CPI Inflation (YoY)



2.1 Food Inflation

Food inflation decreased significantly from 12.7 percent in December 2006 to 8.7 percent (YoY) in January 2007, driven mainly by decrease in prices of vegetables including onion, potatoes and tomatoes. It is to be noted that after a transient period of double digit inflation, the food inflation came back to its long-run trend, i.e. 12-month moving average in the month under review (Figure 2.3).

Figure 2.3: CPI Food Inflation

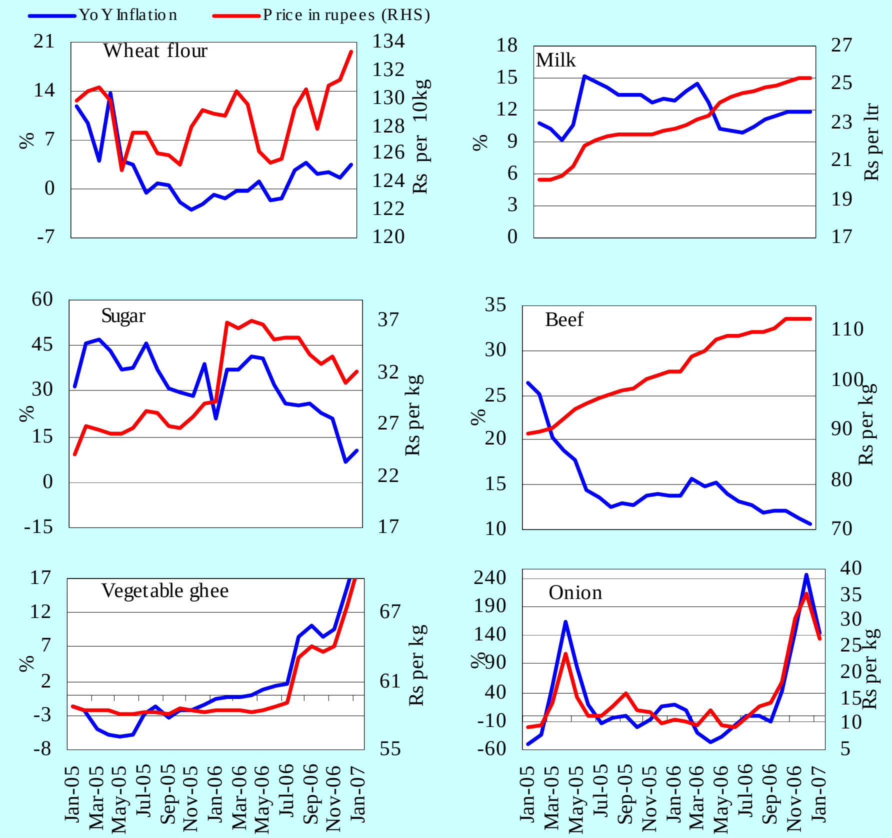


Of the total 124 commodities included in the food group, 46 commodities including fresh milk, beef, pulse gram, vegetable ghee, sugar refined and some fruits exhibited inflation in the range of 10 to 60 percent YoY in January 2007. The combined weight of commodities with double digit inflation is about 54 percent of the food group. On the other hand, YoY inflation of 18 commodities like tomatoes, potatoes, green chilies, apple, ginger, and peas either declined or remained same during the month. The rest of items, having a weight of 31 percent in food group exhibited subdued or moderate inflation (Table A2 in Annexure A).

Among the key food items, average prices of wheat flour, fresh milk, beef, sugar and vegetable ghee increased. The price of onion declined in January 2007 by about 25 percent as compared to the previous month (Figure 2.4); and it is still double than the price during January 2006.

In terms of percent contribution to overall inflation (YoY), onion and fresh milk were the second and third highest contributors (house rent index of non-food group being the first) with 12.2 percent and 10.5 percent share in overall CPI inflation (Table A4 in the annexure). The high contribution of onion was due to exceptionally high growth in its price (142 percent) though its weight in CPI basket is just 0.58 percent. On the other hand, high contribution of fresh milk was primarily due to its high weight (6.5 percent) while growth in its price was also higher than overall food inflation.

Figure 2.4: Price Trends in Key Food Items



2.2 Non-food Inflation

Like food inflation, non-food inflation also declined from 6.2 percent in December 2006 to 5.2 percent in the month of January 2007 primarily due to decline in inflation of fuel & lighting, transport & communication, recreation & entertainment and continued deceleration in house rent index. The long run trend in CPI non-food inflation also continued to decelerate in the month (Figure 2.5).

The fuel & lightening witnessed a price increase of 5.8 percent (YoY) in January 2007 which was about a half of the previous month inflation. It was due to high base effect as in the same month of last year (January 2006), the gas charges were increased appreciably; there has been no significant change in gas prices since then. The inflation in transport & communication sub-group declined to 0.9

percent in January 2007 from 3.4 percent in the preceding month mainly due to reduction in prices of petrol (of 4 rupees) and diesel (of 1 rupee) by OGRA[2] during the month. Inflation in recreation & entertainment sub-group was recorded at 0.1 percent (YoY) in January 2007 compared with 0.3 percent in December 2006.

House rent index (HRI) maintained its declining trend which started after February 2005, and recorded a moderate increase of 6.2 percent in January 2007 compared with 9.9 percent in the corresponding month last year (Figure 2.6).

Other indices of non-food group exhibited increase in inflation during the month which included apparel, textile & footwear, household furniture & equipment and cleaning, laundry & personal appearance. The medicare sub index registered a significant increase of 9.9 percent in the month under review compared to 2.4 percent growth in the same month last year (Figure A1 in annexure).

Figure 2.5: CPI Non-food Inflation

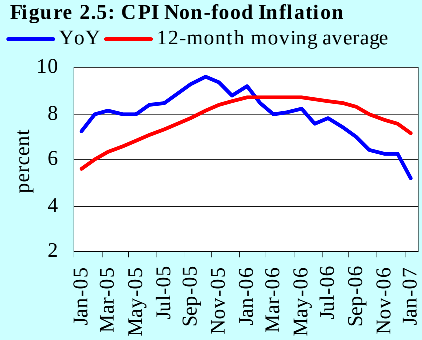
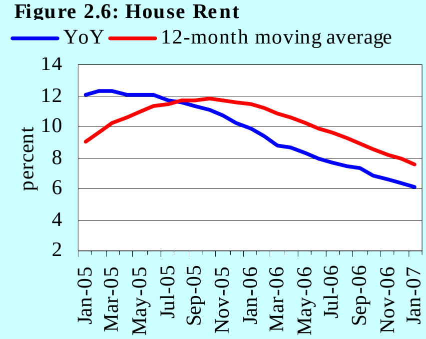


Figure 2.6: House Rent



Of the 250 non-food commodities included in the CPI basket, 24 commodities witnessed double digit inflation which included items like gas cylinder, firewood, fares train economy, air fare economy class, primary school fee (English medium), gold tezabi, and doctor clinic fee, etc. There were 58 commodities that showed moderate inflation in the range of 5 to 10 percent; all other commodities witnessed either YoY deflation or inflation of less than 5 percent (Table A2 in the annexure). The commodities showing deflation included petrol super, a number of durable goods like telephone charges, computer, video cassatte player, refrigrator, sewing machines, etc (Table A3 in the annexure).

[2] Oil and Gas Regulatory Authority

2.3 City-wise Inflation

Analysis of city wise data reveals that the highest inflation was recorded in Okara with (YoY) inflation of 9.4 percent in January 2007 followed by Islamabad. It is interesting to observe that the lowest inflation has been recorded in Abbottabad with 4.5 percent (YoY) inflation while the city was among the high inflation cities with CPI inflation (YoY) of 9.2 percent for the last month. Other cities liked Larkana, Hyderabad, Turbat and Peshawar have also been shifted to of low inflation cities from the category of high inflation cities as compared to December 2006. Shadapur, Jahng, Bahwalnagar and D.G. Khan have been shifted to high inflation cities from the category of low inflation cities though the inflation in all these cities depicted a decline as compared to last month.

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

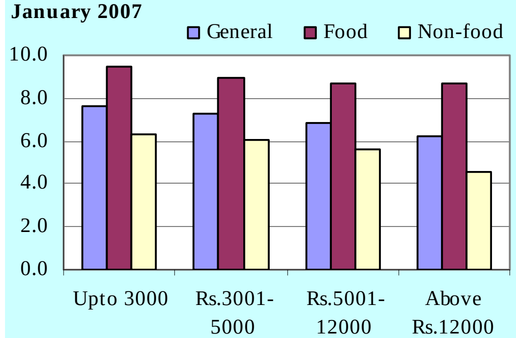
	High inflation cities				Low inflation cities		
	General	**Food**	**Non-food**		**General**	**Food**	**Non-food**
Okara	9.4	13.3	6.7	Sialkot	6.5	9.3	4.5
Islamabad	9.4	11.1	8.2	D.I.Khan	6.5	7.8	5.6
Mianwali	8.7	10.4	7.5	Turbat	6.5	6.0	6.9
Multan	8.6	9.7	7.7	Hyderabad	6.4	7.2	5.9
Khuzdar	8.6	11.4	6.6	Nawabshah	6.2	6.3	6.1
Gujranwala	8.4	11.5	6.3	Larkana	6.1	7.2	5.2
Rawalpindi	8.3	10.5	6.8	Lahore	5.9	7.6	4.6
Kunri	8.1	11.2	6.0	Loralai&Cantt	5.7	6.5	5.1
Bahawalpur	8.1	11.4	5.8	Peshawar	5.6	6.3	5.2
Bannu	8.0	8.4	7.8	Sukkur	5.0	4.9	5.0
Quetta	8.0	12.1	5.3	Faisalabad	4.8	7.5	3.0
Attock	7.8	10.9	5.8	Abbotabad	4.5	4.1	4.8
Vehari	7.7	8.1	7.5				
Jhelum	7.6	8.9	6.7				
Sargodha	7.5	10.6	5.4				
D.G. Khan	7.4	9.6	5.9				
Mirpur Khas	7.2	9.6	5.6				
Samundari	7.1	10.5	4.9				
Shahdadpur	7.1	7.6	6.7				
Jhang	7.0	10.2	4.8				
Karachi	6.8	9.5	5.0				
Mardan	6.8	8.1	5.8				
Bahawalnagar	6.6	7.1	6.3				

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

2.4 Income Group-wise Inflation

Income group wise inflation data indicates that all income groups have experienced the conventional trend of CPI inflation; higher than the overall average CPI inflation in all three categories (viz general, food and non-food) except for the highest income group of above Rs. 12,000 (Figure 2.7). However as compared to previous month, all income groups depicted a declining trend in all the categories.

Figure 2.7: Income Group-wise CPI Inflation January 2007

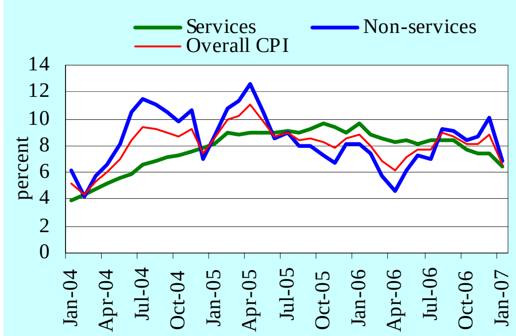


City-wise data reveals that Multan has the highest inflation in lowest income group with (YoY) inflation 9.5 percent, Bahawalpur has highest inflation in middle income group (Rs 3001-5000) with (YoY) inflation 9 percent and Islamabad has highest inflation in middle income group (Rs 5001-12000) with (YoY) inflation 8.5 percent and 9.5 percent in the highest income group in January 2007 (Table A5 in annexure A)

2.5 Services and Non-services Inflation

Inflation in services[3] and non-services sector showed a decline in January 2007. YoY inflation in services was recorded at 6.4 percent in January compared with 7.4 percent in the previous month and 9.6 percent in the corresponding month last year. The inflation of non-services (commodities) was 6.7 percent in January as compared to 8.1 percent in the corresponding month last year (Figure 2.8).

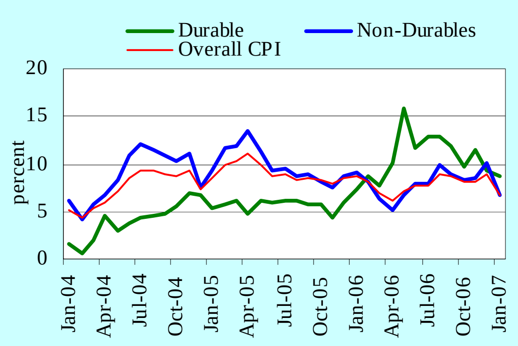
Figure 2.8: Services & Non-services Inflation



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

Within the non-services sector, inflation in durable[4] items decreased to 8.7 percent in January 2007 as compared with 9.4 percent in December 2006 (Figure 2.9). The non-durable goods inflation also decreased to 6.7 percent in January 2007 from 10.1 percent in December 2006 and 9 percent in the corresponding month last year. The items that caused low non-durable inflation are almost the same that contributed to decline in overall CPI inflation, i.e. onion, tomatoes, potatoes etc.

Figure 2.9: Durables and Non-durables Inflation

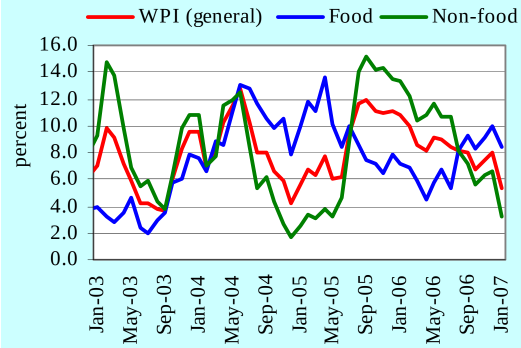


[4] Durable items includes suitcase, furniture (ready made), electric iron, fans, washing machines, sewing machines, clocks, needles, refrigerator, air conditioners, vehicles, computer & allied products, watches and jewellery, etc.

3. Wholesale Price Inflation

The wholesale price inflation (YoY) decelerated in January 2007 and dipped to 5.4 percent compared with 8 percent in the last month and 10.8 percent in the same month last year. Due to persistent deceleration in wholesale price changes, the long-run trend of WPI measured as 12-month moving average continued to decline and moved to 8 percent in January 2007.

Figure 3.1: Wholesale Price Inflation

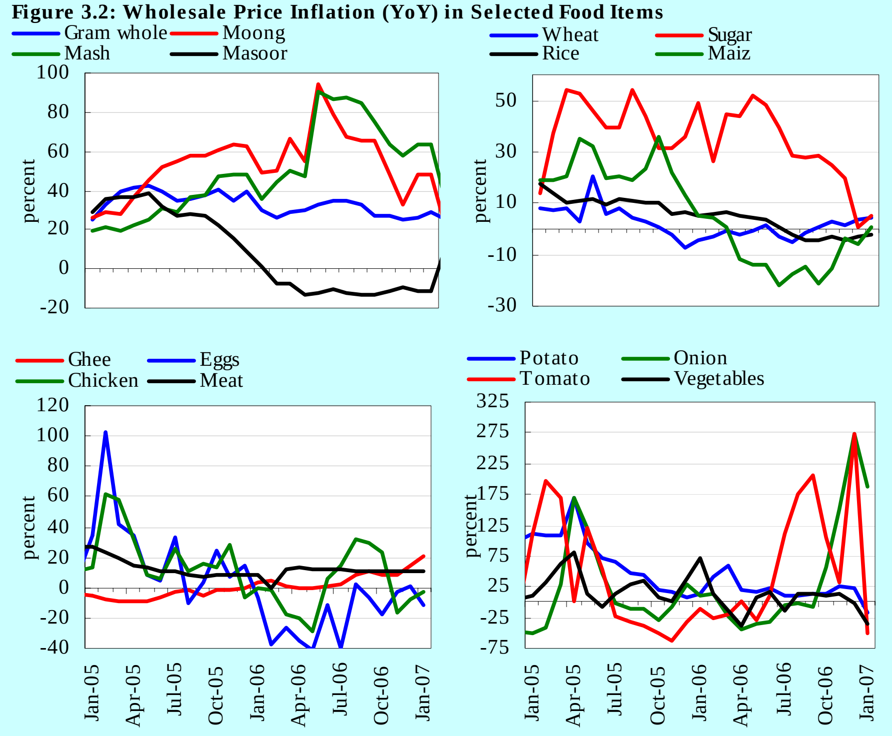


Both the food as well as the non-food group contributed to this decline in WPI inflation. The rate of change in wholesale prices of food group declined from 10 percent (YoY) in December 2006 to 8.4 percent in January 2007 due to the significant decline in the prices of tomatoes and some other vegetables. Similarly the non-food WPI inflation also witnessed a YoY decline and stood at 3.2 percent in the month under review- lowest since June 2005 (Fig 3.2). The fuel, lighting & lubricants subgroup was the main contributor in bringing down the non-food inflation.

Among the individual commodities of *non-food* group (YoY) inflation of fertilizers, furnace oil, pig iron, motor spirit etc. declined during the month of January 2007, whereas the (YoY) inflation of mobil oil, tobacco, wool, sugarcane, wires and cables etc. increased.

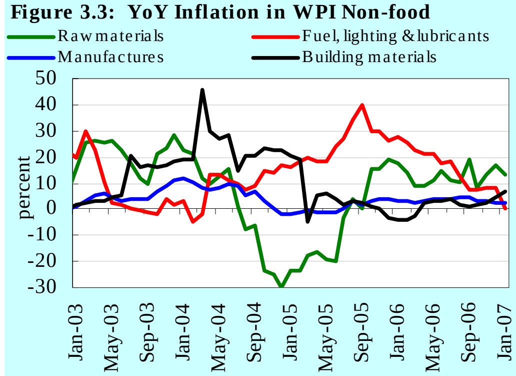
A distribution of price change suggests that 19 out of 43 food items witnessed a rise of more than 10 percent in inflation in the month under review. While 6 items recorded moderate inflation of 5 to 10 percent and another 10 items showed subdued inflation of up to 5 percent. The wholesale prices of remaining 8 food items declined or remained stable. In case of non-food group, the prices of 24 items revealed a positive change up to 5 percent, 18 items showed a decrease or no change, 11 items demonstrated double digit rise of above 10 percent and remaining 10 items displayed a moderate inflation i.e. 5 to 10 percent (Table A7).

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



Among non-food sub-groups of WPI, the rate of increase in *raw materials* was recorded at 13.4 percent YoY: lower as compared to 16.7 in the previous month. By analyzing the individual commodities amongst the *raw material* sub group it was found that the wholesale price of wool, mustard/rapeseeds and sugarcane increased by more than 20 percent YoY. On other hand wholesale price of pig iron and skins showed negative YoY growth in January 2007 (Figure 3.3).

Figure 3.3: YoY Inflation in WPI Non-food

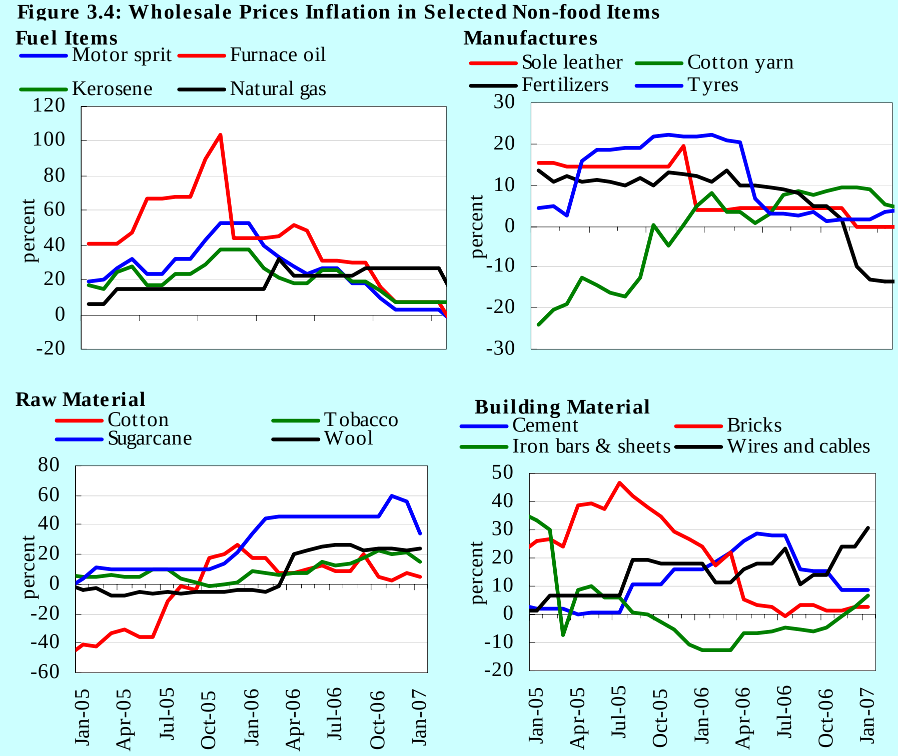


Annual growth in *fuel, lightning & lubricants* significantly came down to 0.3 percent YoY during January 2007 as compared to 7.9 percent in the previous month. This was mainly due to the negative YoY growth recorded in motor spirit, furnace oil and coke.

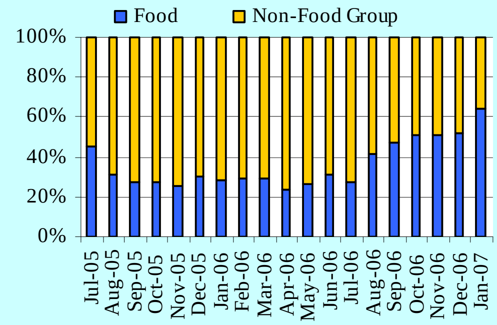
Manufactures sub-group continued its decelerating trend that started in October 2006, and thus showed moderate inflation of 2.3 percent in January 2007 compared to 2.4 percent in the last month. This was mainly due to the fact that high YoY inflation in some items like chemicals and hosiery was offset by low YoY inflation in other items like fertilizers and blended yarn.

The *building material* depicted a higher YoY growth of 6.8 percent in January 2007 as compared to 4.6 percent of the last month. All items reported under this group exhibited positive growth during the month under study; particularly wholesale prices of wires & cables and timber rose sharply (Figure 3.4).

Figure 3.4: Wholesale Prices Inflation in Selected Non-food Items



Figre 3.5: Weighted Contributions in WPI Inflation



The weighted contributions of food and non-food groups of WPI inflation changed in January 2007. Contribution of food group increased further to 64.5 percent in January 2007- highest since June 2005. This rising contribution of food group in WPI was attributed to the higher wholesale prices in most of the major food items during the last five months. The weighted contribution of non-food inflation in WPI that remained around 70 percent during FY06 declined significantly to 35.5 percent in January 2007 (Figure 3.5).

Table 3.1: Contribution of Sub-Indices to WPI Non-food inflation in FY 07

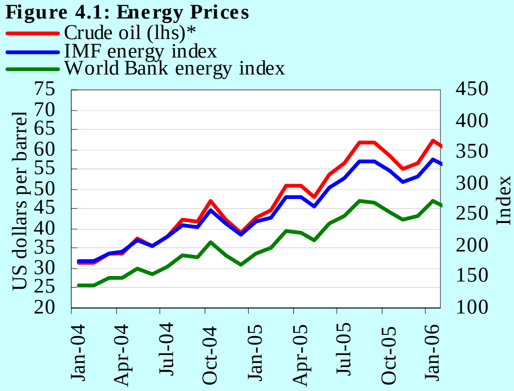
	Jul	Dec	Jan
Raw materials	12.9	30.5	51.6
Fuel, lighting & lubricants	68.5	49.9	4.5
Manufactures	15.1	13.7	26.5
Building materials	3.5	5.9	17.3

Within non-food group, the contributions of its sub-groups showed mixed trends. The contributions of *fuel, lightening & lubricants* sub-group declined significantly in January 2007 and came down in single digit whereas contribution of all the other sub-groups increased in the month under review as compared to the previous month (Table 3.1). In particular, the contributions of *raw material* increased significantly to more than 50 percent in January 2007 from less than 10 percent on average during FY06.

4. Global Commodity Prices

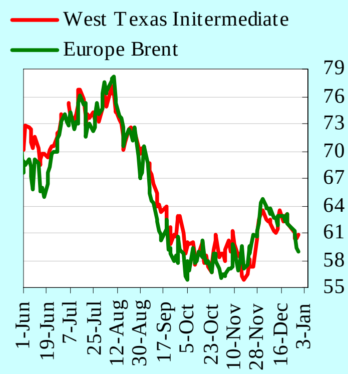
Crude oil prices in international market registered lowest price in last 18 months and stood at US$53.9 per barrel in January 2007 with a range of $50.7 - $59.6 per barrel. The oil prices not only declined by 13.5 percent on YoY basis but also registered a monthly decline of 11.6 percent in the month under study. This decline reflects a combination of weakening demand and improving supply conditions in international market[5].

Figure 4.1: Energy Prices



*Simple average of brent, WTI and Dubai Fateh

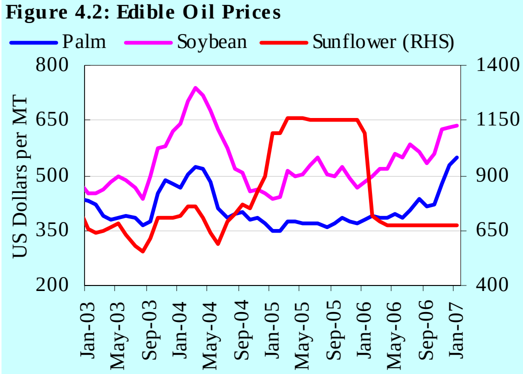
Daily Oil Prices (Spot, FOB)



Source: www.eia.doe.gov

In accordance with the international oil prices, the IMF and the World Bank[6] energy indexes for January 2007 exhibited a decline over the same month last year as well as over the previous month (Figure 4.1).

Figure 4.2: Edible Oil Prices



Like previous months, the wholesale prices of palm oil in international market showed growth in January 2007 over both the corresponding month of last year and the previous month. On the other hand the YoY growth of soybean oil decreased from 34.9 percent in the previous month to 31.6 percent in the month under review.

5 Source : OPEC's Monthly Oil Market Report

6 Average of West Texas Intermediate (WTI) and Europe Brent daily crude oil price

However, the monthly change then palm oil has shown a decrease in growth and soybean oil has shown a slight increase in growth. The price of sunflower has not shown any change since April 2006 (Figure 4.2).

Wheat prices declined in January 2007 with a YoY WPI inflation of 17.3 percent, which is 7 percentage point less than the previous month. Sugar price also declined significantly, with YoY WPI inflation of 10.9 percent for the month of January 2007, showing a continuous decline after the month of July 2006. (Figure 4.3).

Figure 4.3: Sugar and Wheat

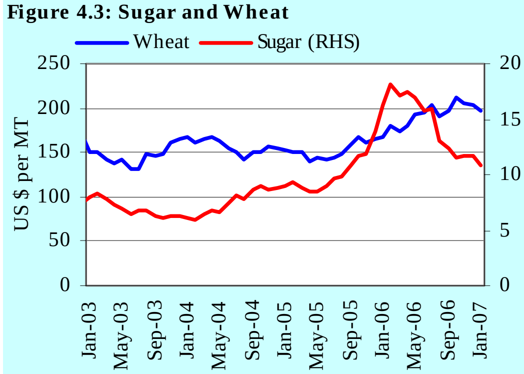
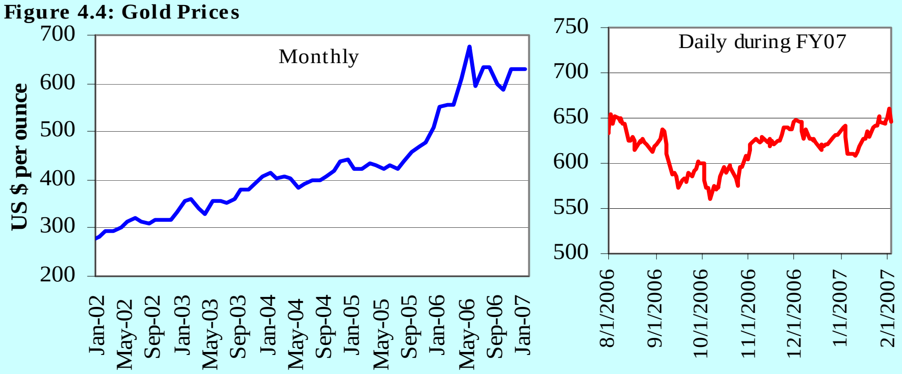


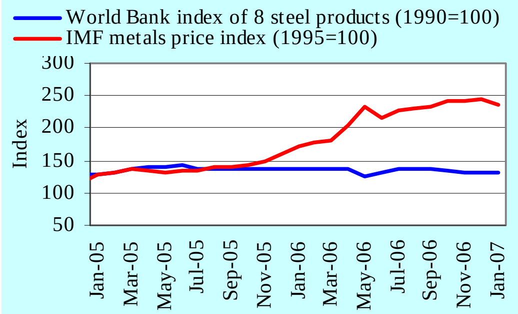
Figure 4.4: Gold Prices



Spot gold price in the international market remained higher at US$631.2 per ounce in January 2007 which was marginally up by 0.3 percent over the price of gold in the preceding month. It fluctuated in a wider range between $608 per ounce and $651.7 per ounce during the month under review. Moreover, the variation in gold prices increased during the month showing a standard deviation (SD) of 14.7 around a higher mean of US$631.2 per ounce compared to SD of 9.7 around mean of US$629.4 per ounce a month earlier. The price of gold in international market exhibited a YoY rise of 14.8 percent in January 2007 over the same month last year. This rise in price of gold was attributed to the increasing tension of USA with Iran, because of Iran's nuclear program and due to the expectations about higher crude oil prices in international market (Figure 4.4).

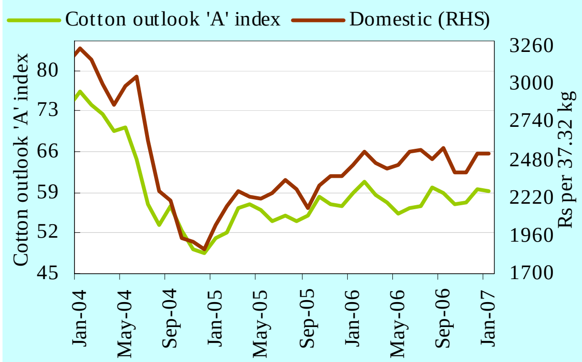
The prices of major metals showed mixed trends as compared to the previous month. Prices of nickel and tin continued on its rising trend. However unlike previous month prices of aluminum, copper, lead and zinc declined. The IMF metal price index also showed a marginal decline over December 2006. However it recorded a significant YoY growth of 36.2 percent in January 2007 but it was still less as compared to the YoY growth of 54 percent in the previous month. In contrast, steel prices – as measured by the World Bank index of 8 steel products[7] – exhibited a YoY decline of 5.2 percent in January 2007 (Figure 4.5).

Figure 4.5: Steel Prices



Cotton prices – represented by cotton outlook 'A' index[8] - depicted a rise of 0.1 percent in January 2007 over the corresponding month of last year in international market. However it registered negative growth as compared to the previous month. On the other hand the domestic cotton market showed YoY growth of 3.3 percent and a slight monthly growth of 0.04 percent (Figure 4.6).

Figure 4.6: Cotton Prices



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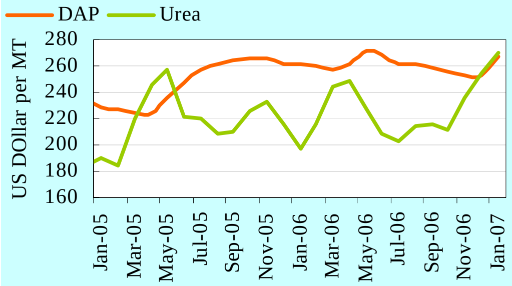
[7] The eight products are as follow: rebar (concrete reinforcing bars), merchant bars, wire rod, section (H-shape), plate (medium), hot rolled coil/sheet, cold rolled coil/sheet and galvanized iron sheet.

[8] Cotton (Cotton Outlook "CotlookA index"), middling 1-3/32 inch, average of cheapest 5 of 15 styles traded in Northern Europe, c.i.f.

Figure 4.7: Fertilizer Prices



Source: World Bank

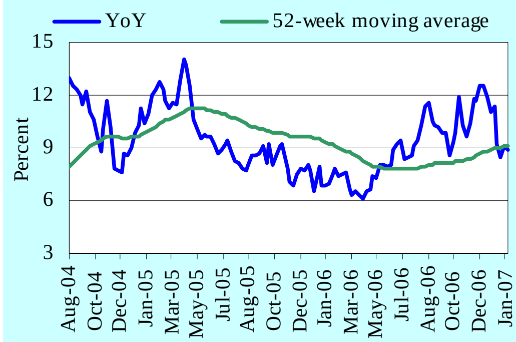
In fertilizer, the prices of DAP[9] and Urea both increased by 5.6 and 5.9 percent respectively in January 2007 over the preceding month. The prices of DAP in international market which was declining since June 2006, remained stable in December and then rose in this month. Whereas the prices of urea exhibited a YoY rise of 36.4 percent during January 2007 over the same month last year (Figure 4.7).

[9] DAP (diammonium phosphate).

5. Sensitive Price Indicator

In tandem with the CPI food inflation, SPI decelerated in January 2007. Thus the YoY growth that was recorded at 12 percent in December 2006 came down to 9.6 percent in January 2007- lowest since August 2006. However the long run trend indicated by 12-month moving average showed an increase in inflation in the month under review: 9.1 percent increase as compared to 8.9 percent in the previous month.

Figure 5.1: Weekly SPI Inflation



The major items contributing to the SPI inflation were pulses, onion, gas and other liquid fuel prices. About 50 percent of the total items in the SPI basket recorded double-digit YoY inflation during January 2007 with some of the items like pulses gram and mash, onions, red chillies, gas charges, electricity charges, etc. witnessing inflation of more than 40 percent. (Table A8 in Annexure A).

Weekly SPI also witnessed a decreasing trend in inflation during the month under review. Thus after recording a slight increase in the first week of January, weekly YoY SPI inflation has shown a decelerating trend since then (Figure 5.1).

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

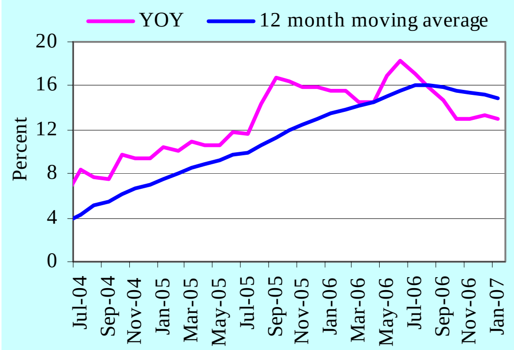
percent

	Up to Rs. 3000	Rs. 3001-5000	Rs. 5000-12000	Above Rs. 12000	All income groups
Jul-06	8.9	8.6	8.8	10.0	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	12.5	12.2	10.1	10.7
Dec-06	14.5	14.0	13.5	11.2	12.0
Jan-07	12.1	11.3	10.7	8.5	9.6

Amongst the different income groups the lowest income group was affected the most. Despite showing a slightly lower YoY inflation in January 2007, the lowest income group still maintained a persistent double digit increase in the sensitive price indicator. On the other end the least affected group was the highest income group with the YoY inflation showing single digit growth in January 2007 (Table 5.1). This is because most of the items showing high inflation have more significance to the lowest income group as compared to other income groups.

6. Wage Inflation in Construction Sector

Figure 6.1: Wage Inflation



Since the start of FY07, inflation in wages of construction workers has shown consistent decline in YoY growth, barring a couple of months. YoY wage inflation in January 2007 was recorded at 12.9 percent as compared to 13.3 percent in December 2006. Similarly, the long run trend of wage inflation (measured as 12-month moving average) continued to decelerate for the fifth consecutive month (Figure 6.1). The wages of skilled as well as unskilled workers registered a comparatively lower YoY growth of 12.5 and 16.3 percent respectively during the month under review compared to 12.9 and 16.8 percent during the preceding month. Further breakup exhibited that the wages of all types of labor, except carpenter, decelerated during the month of January 2007 as compared to the previous month (Table 6.1).

Table 6.1: Wage Inflation FY07

	Jul- 06	Aug- 06	Sep- 06	Oct- 06	Nov- 06	Dec- 06	Jan- 07
Overall	***17.0***	***15.9***	***14.8***	13.0	13.0	13.3	12.9
Skilled:	**16.8**	**15.7**	**14.6**	**12.6**	**12.5**	**12.9**	**12.5**
Carpenter	15.0	13.4	13.3	11.8	11.9	12.1	12.4
Mason	18.4	17.8	15.2	12.6	12.5	12.6	12.1
Plumber	14.0	13.2	12.1	10.7	10.8	11.7	10.6
Electrician	19.8	18.6	17.8	15.1	14.8	15.0	14.9
Unskilled:	**18.5**	**16.9**	**16.4**	**16.2**	**16.6**	**16.8**	**16.3**
Laborer	18.5	16.9	16.4	16.2	16.6	16.8	16.3

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

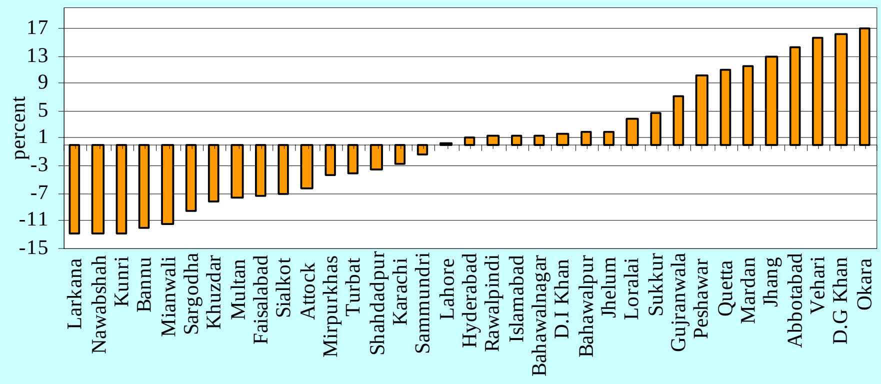


Figure 6.2 presents the picture of city wise deviation in wages from mean during the month of January 2007. Out of 35 cities, 19 recorded higher than average wage inflation and 16 cities witnessed lower than average inflation during the month. The highest wage inflation was evidenced in Okara followed by D.G.khan and Vehari whereas Larkana, Nawabshah, Kunri etc. showed lowest changes in wages. The month wise average wages of all types of workers increased by 12.9 percent during January 2007 over the corresponding month of last year and in the range of Rs 221.9 rupees per day for Kunri and Rs 400 rupee per day for Rawalpindi.

Annexure A

Table A1: CPI Inflation (YoY) by Groups

	Weights	Jan-03	Jan-04	Jan-05	Jan-06	Jan-07
I. Food Group	**40.3**	**2.6**	**7.8**	**10.4**	**8.2**	**8.7**
II. Non-Food Group	**59.7**	**3.9**	**3.4**	**7.2**	**9.2**	**5.2**
Apparel, textile, etc.	6.1	4.5	2.3	2.6	3.9	4.1
House rent	23.4	0.5	4.5	12.0	9.9	6.2
Fuel & lighting	7.3	9.0	2.8	3.0	12.3	5.8
Household furniture & equipt	3.3	3.1	2.6	7.3	4.4	7.2
Transport & com.	7.3	7.8	3.7	7.2	18.4	0.8
Recreation & entert.	0.8	0.9	-1.4	0.1	-0.3	0.1
Education	3.5	5.0	3.7	2.5	6.7	7.3
Cleaning, laundry, etc.	5.9	5.8	2.7	4.7	2.8	4.5
Medicines	2.1	3.5	1.5	1.1	2.4	9.9
Headline	**100**	**3.4**	**5.2**	**8.5**	**8.8**	**6.6**

Table A2: Distribution of Price Changes of CPI Basket, January 2007 (YoY)

Groups	% Changes	Total Number of Items	No. of Items in each Inflation Range			
			Decrease or no change (0 % or less)	Subdued increase (0 to 5%)	Moderate increase (5 to 10%)	Double digit increase (over 10%)
I. Food Group	**8.7**	**109**	**18**	**18**	**26**	**47**
II. Non-Food Group	**5.2**	**250**	**66**	**102**	**58**	**24**
Apparel, textile, etc.	4.1	42	6	19	15	2
House rent	6.2	1	-	-	1	-
Fuel & lighting	5.8	15	7	-	6	2
Household furniture & equipt	7.2	44	2	23	16	3
Transport & com.	0.8	43	17	12	6	8
Recreation & entert.	0.1	16	11	4	-	1
Education	7.3	24	6	12	3	3
Cleaning, laundry, etc.	4.5	36	1	22	9	4
Medicines	9.9	29	16	10	2	1
Overall	**6.6**	**359**	**84**	**120**	**84**	**71**

Note: Prices of 15 seasonal items were not reported during the month.

Table A3: Distribution of Price Changes - Selected CPI Items, January 2007

Groups	Decrease or no change	Subdued increase (upto 5%)	Moderate increase (5 to 10%)	Increase of over 10%
Food Group	Tomatoes Potatoes Chillies Green Chicken Farm Broiler (Live) Peas	Wheat Flour Fine/Superior. Wheat Flour Bag Wheat Milk Powder Loose/Packed	Toffee (Hilal) Tea Loose Kenya Av.Qlty 250G Rice Basmati Broken Av.Qlty Bread Plain Medium Size Fruit Juice Tetra Pack	Milk Fresh (Unboiled) Sugar Refined Beef With Bone Av.Qlty. Onion Cold Drink (Standard Siz)
Apparel & Textile	Ladies Sandal Bata Child Shoe Power Lite Bata Ladies Spoung Chappal Bata	Lawn Av.Qlty. Long Cloth Av.Qlty. Chaddar (W/Wear) (2X2.5 Mtr)	Shirting Av.Qlty. Tailoring Awami-Suit (Male) Tropical Suiting Law.Pur	Brassier Av.Qlty. Nylon Jogger 27 Size 2-5
House Rent Index			HRI	
Fuel & Lighting	Elect.Charges 301 - 1000 Uni, Elect.Charges Above 1000 Uni, Elect.Charges 101 - 300 Unit		Gas Chrg10.1157 - 13.4876Mmb, Gas Chrg Upto 3.3719 Mmbtu Gas Chrg 6.7438 - 10.1157Mmb	Gas Cylinder Stand. Size Firewood Whole
H/hold Furniture	Sewing Machine(Singer) Refg. Dawlence 10 Cft. D.Doo	Quilt (Lihaf) 3 Kg. Cotton Tea Set Pak. Chinaware 21 Pc, Blanket (90" X 54")	Bedsheet Single Bed Sup.Qlty, Celing Fan 48" Super Qlty, Bucket(Balti) Plastic Med.Si	Household Servant Female P/T Sofaset Wooden With Foam Sea Pedestal Fan 22" Super Qlty
Transport & Comm.	Petrol Super, Car Suzuki 800 Cc (W/O. A/C), Car Tax For 800Cc To 1300Cc	Car Service Charges Auto Rickshaw Fares Bus Fare Min (Within City)	Tyre Car With Tube General, Cng Filling Charges, Bus Fare Max (Within Cit	Train Fare Eco. > 500 Km. Aerogram For Saudi Arabia Air Fare Economy Class.
Recreation	Tv.Licence Feedomestic Daily "Nawa-E-Waqt" T.V. 20" Colored With R/Cont	Cinema A/C. Highest Class Cinema Non-A/C High Class Tape Recorder Cassette Blan		Dry Cell 1.5 Volt(Local)
Education	Govt. College Fee Ist. Year Govt. College Fee 4Th. Year, Com. C.D. (Tdk/Imation)	Paper Foolscape (27"X17") Exercise.Book Lined 80/100 P, Urdu Book Class Ix/X(T.B.B)	Ball Pen (Local) English Book Class Ix Or X, School Fee 2Nd-Ry Eng.Med.	School Fee Primary Eng.Med. Eng. Book Ist.Yr Complete Se Govt. University Fee Msc.
Cleaning & Laundry	Beauty Porl Hair Styl Charge	Haircut Charges For Men Toothpaste Macklines 70 Grm, Toothpowder Dentonic 90 Grm	Dry Cleaning Suit Coat Pant, Tissu Paper Perfumed 100 Pcs Brylcreem 210 Ml.	Gold Tezabi 24 Ct Finis 500 Ml Toothbrush Sheild A/Plauque
Medicare	Cac. 1000 Tab Betnesol Eye Drops Hydryllin Syrup 120 Ml.	Thermometer China Renitec Tab. 5 Mg. Amoxil Capsole 250 Mg.S	Jouhar Joshanda Galxos-D (450 Grms)	Doctor (Mbbs) Clinic Fee

Table A4: Top Ten CPI Items (Ranked by Weighted Contribution, Percentage changes and Weights)

	Items	weights	YoY change Jan-06	YoY change Jan-07	Weighted Contribution
A. Ranked by Weighted Contribution					
1	House Rent Index (Combined)	23.43	9.87	6.18	22.07
2	Onions	6.66	12.67	11.89	12.22
3	Milk Fresh	0.59	17.11	142.10	10.46
4	Natural Gas	2.67	-0.69	16.47	6.54
5	Tomatoes	2.70	11.91	10.92	6.46
6	Meat	2.05	27.73	11.68	5.49
7	Vegetable Ghee	1.62	15.09	20.90	4.93
8	Tution Fees	2.36	6.64	8.77	3.03
9	Readymade Food	0.43	-3.81	62.64	3.03
10	Potatoes	1.68	8.11	10.27	2.76
	Total	**44.2**			**77.0**
B. Ranked by Percentage Change					
1	Onions	0.59	17.11	142.10	10.46
2	Tomatoes	0.43	-3.81	62.64	3.03
3	Besan	0.13	-0.29	52.87	0.83
4	Pulse Gram	0.20	25.01	47.33	1.15
5	Pulse Mash	0.10	-9.43	39.97	0.70
6	Air Fare	0.22	38.56	29.09	1.06
7	Gram Whole	0.15	30.24	22.55	0.46
8	Natural Gas	1.62	15.09	20.90	4.93
9	Gur	0.07	37.97	18.52	0.20
10	Pulse Moong	1.00	4.60	18.43	2.45
	Total	**4.5**			**25.3**
C. Ranked by Weights					
1	House Rent Index (Combined)	23.43	9.87	6.18	22.07
2	Milk Fresh	6.66	12.67	11.89	12.22
3	Wheat Flour	5.11	-0.54	3.11	2.45
4	Electricity	4.37	0.00	0.00	0.00
5	Bakery & Confectionary	2.98	1.63	4.99	1.91
6	Meat	2.70	11.91	10.92	6.46
7	Vegetable Ghee	2.67	-0.69	16.47	6.54
8	Tuition Fees	2.36	6.64	8.77	3.03
9	Transport Fare/Charges	2.12	22.99	2.76	1.12
10	Natural Gas	2.05	27.73	11.68	5.49
	Total	**54.5**			**61.3**

Note: Weighted contribution is the ratio of price change (YoY) of an item to the overall change in CPI multiplied with its weight; for exact formula see technical note 9 in annexure B.

Table A5: City-wise Inflation (YoY) by Income Groups, January 2007

		Upto Rs:3000			Rs 3001-5000		
		General	**Food**	**Non-Food**	**General**	**Food**	**Non-Food**
1	Lahore	7.3	9.9	5.4	6.5	8.0	5.4
2	Faisalabad	5.3	7.8	3.5	5.4	7.7	3.8
3	Rawalpindi	8.6	11.4	6.5	7.9	9.8	6.5
4	Multan	9.5	10.3	9.0	8.9	9.9	8.3
5	Gujranwala	8.4	11.9	6.0	8.2	10.9	6.4
6	Islamabad	8.4	10.5	7.1	8.4	10.6	6.9
7	Sargodha	9.2	12.7	6.7	8.6	11.7	6.4
8	Sialkot	7.3	9.9	5.4	7.0	9.2	5.5
9	Bahawalpur	8.9	10.9	7.6	9.0	11.4	7.4
10	Karachi	7.0	9.6	5.2	7.3	10.3	5.2
11	Hyderabad	7.0	7.6	6.6	6.7	7.5	6.1
12	Sukkur	5.9	6.4	5.5	5.3	5.3	5.3
13	Larkana	6.7	8.3	5.5	6.2	7.3	5.5
14	Peshawar	6.3	6.9	5.8	5.8	5.8	5.8
15	Bannu	6.3	5.6	6.8	7.8	7.6	7.8
16	Quetta	9.1	11.8	7.2	8.6	12.6	5.9
17	Khuzdar	7.0	9.1	5.5	6.8	7.9	6.0

		Rs 5001-12000			above Rs 12000		
		General	**Food**	**Non-Food**	**General**	**Food**	**Non-Food**
1	Lahore	6.1	7.5	5.0	5.7	7.7	4.2
2	Faisalabad	5.3	7.7	3.6	4.4	7.2	2.4
3	Rawalpindi	8.0	10.2	6.6	8.6	11.0	7.0
4	Multan	8.4	9.7	7.4	8.6	9.7	7.9
5	Gujranwala	8.4	11.3	6.4	8.4	12.3	5.8
6	Islamabad	8.5	9.8	7.5	9.5	11.4	8.2
7	Sargodha	7.9	10.5	6.0	6.3	10.3	3.4
8	Sialkot	6.8	9.3	5.1	6.3	9.4	4.1
9	Bahawalpur	8.4	11.6	6.2	6.9	11.3	3.8
10	Karachi	7.1	9.8	5.2	6.6	9.1	4.9
11	Hyderabad	6.5	7.2	6.0	6.1	7.2	5.4
12	Sukkur	5.0	4.9	5.1	4.8	4.7	4.9
13	Larkana	6.2	7.4	5.4	5.4	6.7	4.4
14	Peshawar	5.7	5.9	5.5	5.5	6.9	4.6
15	Bannu	8.2	8.5	8.1	8.2	9.4	7.3
16	Quetta	8.2	12.3	5.5	7.7	11.7	5.0
17	Khuzdar	6.6	8.3	5.4	5.9	7.3	4.8

Table A6 : Income Group-wise Inflation (YoY)

	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07
Up to Rs. 3000								
General	8.0	7.6	9.3	9.4	8.8	9.3	10.1	7.6
Food	8.4	7.8	11.0	11.5	11.0	12.2	14.1	9.4
Non-food	7.6	7.6	8.1	8.0	7.3	7.2	7.4	6.3
Rs. 3001-5000								
General	7.7	7.5	9.2	9.3	8.7	9.0	10.0	7.3
Food	8.0	7.5	10.9	11.3	10.8	11.7	13.7	9.0
Non-food	7.5	7.5	8.1	7.9	7.3	7.1	7.4	6.1
Rs. 5000-12000								
General	7.6	7.5	9.0	9.0	8.4	8.4	9.3	6.9
Food	7.9	7.4	11.0	11.2	10.6	10.9	13.0	8.7
Non-food	7.3	7.5	7.7	7.5	6.8	6.6	6.8	5.6
Above Rs. 12000								
General	7.7	7.8	8.7	8.3	7.7	7.4	8.1	6.3
Food	7.6	7.4	11.3	11.3	10.3	9.7	11.9	8.7
Non-food	7.8	8.1	7.0	6.3	5.8	5.8	5.5	4.6
All income groups								
General	7.6	7.6	8.9	8.7	8.1	8.1	8.9	6.6
Food	7.8	7.4	11.1	11.3	10.5	10.6	12.7	8.7
Non-food	7.5	7.8	7.4	7.0	6.4	6.3	6.2	5.2

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

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

Table A8: SPI Item-wise Price Movements

S.No	Items	Unit	Price Jan -07	Percentage change over Jan-06	Dec -06
1	Wheat	Kg.	12.4	4.6	1.4
2	Wheat flour a.qlt.	Kg.	13.9	5.6	0.9
3	Rice basmti. broken	Kg.	21.4	5.9	1.1
4	Rice irri-6	Kg.	16.5	3.2	0.8
5	Masur pulse washed	Kg.	46.7	4.8	2.7
6	Moong pulse washed	Kg.	55.1	27.3	4.1
7	Mash pulse washed	Kg.	69.9	44.9	0.7
8	Gram pulse washed	Kg.	46.6	64.1	3.7
9	Beef	Kg.	118.2	11.2	0.0
10	Mutton	Kg.	223.0	11.9	0.1
11	Egg hen (farm)	Doz.	45.0	2.2	-10.4
12	Bread plain m.s.	Each	15.5	8.3	0.0
13	Sugar	Kg.	31.6	7.0	1.4
14	Gur	Kg.	38.9	18.9	-2.6
15	Milk fresh	Litr	26.6	12.6	-0.1
16	Milk powdered Nido	400g	120.0	11.6	0.2
17	Curd	Kg.	31.1	10.9	0.3
18	Veg.ghee tin	2.5k	222.5	9.3	3.0
19	Veg.ghee loose	Kg.	71.8	21.6	4.8
20	Mustard oil	Kg.	77.8	16.4	4.1
21	Cooking oil	2.5l	223.0	9.2	3.0
22	Potatoes	Kg.	12.9	-3.5	-28.5
23	Onions	Kg.	28.7	154.3	-19.9
24	Tomatoes	Kg.	17.4	-33.8	-62.3
25	Bananas	Doz.	30.5	23.3	8.1
26	Salt powdered	Kg.	4.8	25.1	0.0
27	Red chillies (powd)	Kg.	98.9	43.3	1.3
28	Garlic	Kg.	69.3	12.6	3.8
29	Tea packet	250g	69.9	13.0	0.2
30	Tea (prepared)	Cup	6.3	9.9	1.0

continued

S.No	Items	Unit	Price Jan -07	Percentage change over Jan-06	Percentage change over Dec -06
31	Cooked beef plate	Each	30.2	17.1	0.0
32	Cooked dal plate	Each	17.9	17.0	0.0
33	Cigarettes k-2	10's	7.9	12.0	0.0
34	Coarse latha	Mtr.	34.9	1.3	0.0
35	Lawn (avg.+s.qlty)	Mtr.	77.7	3.2	-0.7
36	Voil printed	Mtr.	37.1	2.3	-1.2
37	Shirting	Mtr.	65.4	5.2	0.0
38	Sandel gents bata	Pair	399.0	0.0	0.0
39	Sandel ladies bata	Pair	299.0	0.0	0.0
40	Chappal spng. Bata	Pair	89.0	0.0	0.0
41	Kerosene	Litr	39.1	7.0	0.0
42	Firewood	40kg	193.9	12.4	2.1
43	Elec. Bulb 60-wats	Each	12.1	6.2	0.5
44	Match box	Each	0.7	14.5	2.9
45	Washing soap	Cake	8.1	3.9	0.0
46	Bath soap lifebuoy	Cake	14.0	0.4	0.1
47	Chicken (farm)	Kg.	62.4	-1.4	7.5
48	Gas chrg. All clb. Comb	D.mmbt	243.7	167.5	0.0
49	L.p.g .(cylinder 11kg.)	Each	610.0	11.6	18.0
50	Elec.chrg.all slabs com	Bd. Unit	4.7	93.4	0.0
51	Petrol	Litr	55.8	-1.0	-3.5
52	Diesel	Litr	38.4	2.8	-1.3
53	Telephone local	Call	2.3	0.0	0.0
Max:				**167.5**	**18.0**
Median				**9.3**	**0.1**
Min:				**-33.8**	**-62.3**

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
			Monthly averages			
Jan-06	284.9	311.2	156.0	286.1	267.9	261.2
Feb-06	287.4	311.4	156.2	287.4	267.9	262.1
Mar-06	286.5	312.1	157.7	287.8	269.6	262.8
Apr-06	290.9	313.9	159.4	291.0	274.3	265.9
May-06	293.4	319.9	163.6	292.7	297.7	273.5
Jun-06	299.2	329.4	165.6	297.8	302.0	278.8
Jul-06	303.9	332.7	168.9	301.7	302.0	281.8
Aug-06	306.0	334.5	170.4	305.7	303.6	284.0
Sep-06	312.4	338.2	173.7	310.1	303.7	287.6
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

Source: Federal Bureau of Statistics

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

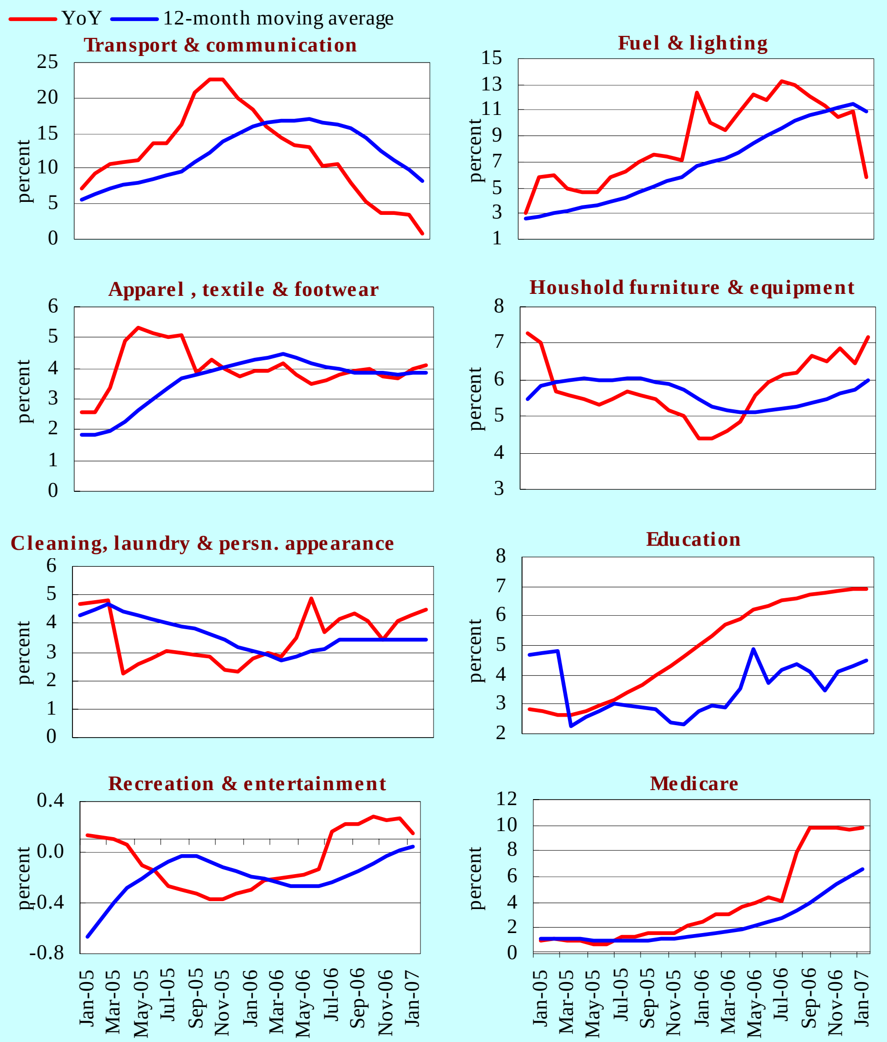


Figure A2: Frequency Distribution of Price Changes of CPI Items, January 2007

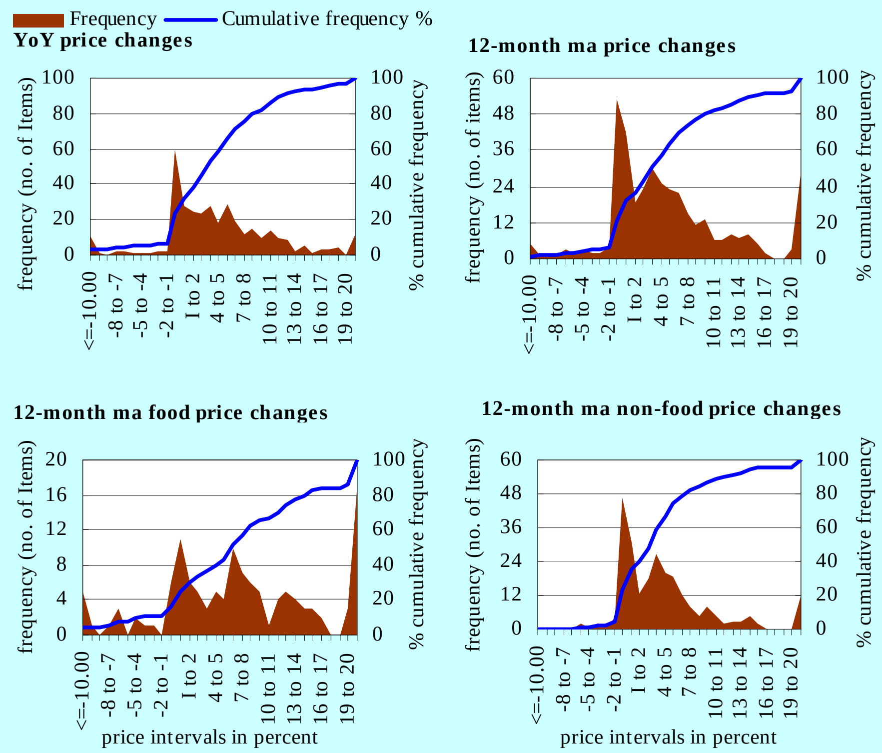
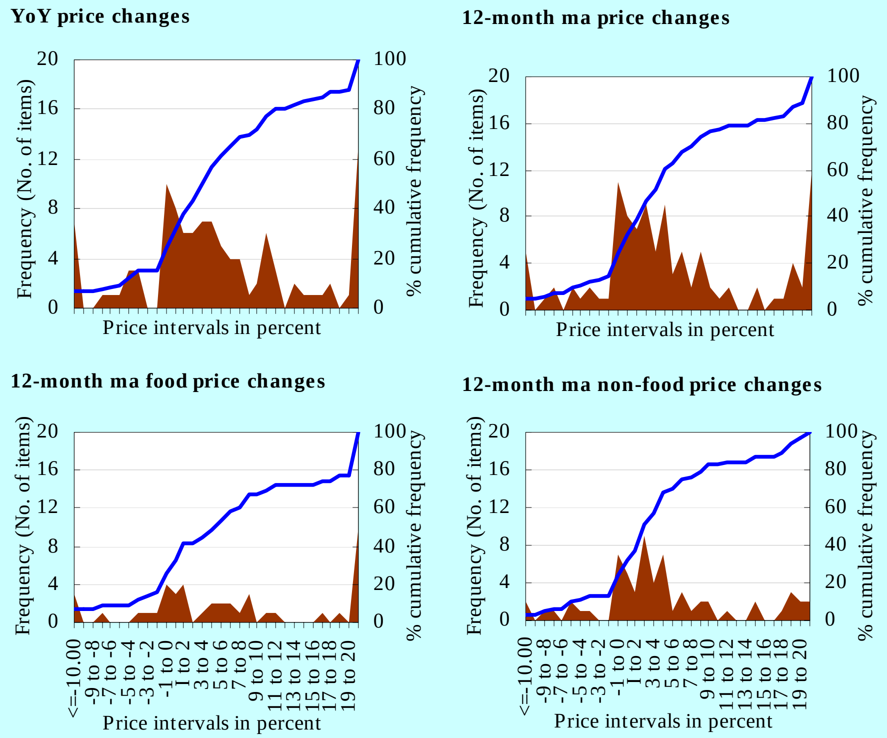


Figure A3: Frequency Distribution of Price Changes of WPI Items, January 2007



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, list of which is given in Table A3.

4. YoY inflation is the percent change of an index in a given month over the index in the same month of the last year. It is computed as follows:

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

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:

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

   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:

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

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 changes in their prices in a given month.
      ii. 20 percent of the items showing extreme changes are excluded with 10 percent of the items at the top of the list (corresponding to cumulative weight of 90% or more) and 10 percent of the items at the bottom of the list (corresponding to cumulative weight of 10 percent or less).
      iii. The weighted mean of the price changes of the rest of the items is core inflation.

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

$\alpha_{it-12} = \frac{I_{it-12}}{I_{t-12}}$; 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