

Inflation Monitor

April 2011



State Bank of Pakistan
Research Department

ISSN 1992-8327 (print)

ISSN 1992-8335 (online)

The analysis in this document is based on data:

- Provided by Federal Bureau of Statistics, Pakistan for domestic inflation analysis
- Retrieved from IMF & World Bank websites for global inflation analysis

http://www.sbp.org.pk/publications/Inflation_Monitor

Contents

1.	Overview	1
2.	Consumer Price Index	3
	2.1 Food Inflation	4
	2.2 Non-food Inflation	6
	2.3 Inflation Diffusion	7
	2.4 City-wise Inflation	8
	2.5 Income Group-wise Inflation	9
	2.6 Core Inflation	9
3.	Wholesale Price Index	11
4.	Sensitive Price Indicator	13
5.	Global Commodity Prices	14
	Annexure A:	17
	Table A1: CPI Inflation (YoY) by Groups	
	Table A2: Distribution of Price Changes of CPI Basket April 2011	
	Table A3: Top Ten Contributors to CPI Inflation in April 2011 (YoY)	
	Table A4: Distribution of YoY Price Changes - Selected CPI Items April 2011	
	Table A5: City-wise CPI Inflation (YoY) by Income Groups April 2011	
	Table A6: City wise CPI Inflation (YoY) in April 2011	
	Table A7: Income Group-wise Inflation	
	Table A8: Distribution of Price Change (YoY)-WPI Items: April 2011	
	Table A9: SPI Item-wise Price Movements	
	Table A10: Consumer Price Index Numbers by Major Groups and Selected Commodities	
	Table A11: Wholesale Price Index Numbers by Major Groups and Selected Commodities for April 2011	
	Table A12: Price Indices-Base 2000-01=100	
	Table A13: International Commodity Prices/Indices	
	Figure A1: CPI Non-food Inflation	
	Figure A2: Frequency Distribution of Price Changes of CPI Items April 2011	
	Figure A3: Frequency Distribution of Price Changes of WPI Items April 2011	
	Figure A4: Group-wise Inflation Diffusion Index and Respective/Overall YoY Inflation	
	Annexure B: Technical Notes	34

Team Leader

Dr. Muhammad Nadeem Hanif

nadeem.hanif@sbp.org.pk

Researchers

Imran Naveed Khan

imran.naveed@sbp.org.pk

Saghir Pervaiz Ghauri

saghir.pervaiz@sbp.org.pk

Editing

Umar Siddique

umar.siddique@sbp.org.pk

Overview

Inflation (YoY) measured by all price indices (CPI, WPI, and SPI) has been in double digits for 18 months now, including April 2011. A little comfort, though, the headline CPI inflation (YoY) eased from 13.2 percent in the previous month to 13.0 percent in April 2011. The annualized CPI inflation - measured by period average - also declined marginally in April 2011, to 14.1 percent, from 14.2 percent a month earlier. SPI inflation (YoY) also decelerated from 16.3 percent in the previous month, to 16.1 percent during April 2011. WPI inflation (YoY), however, increased significantly to 25.9 percent in April 2011 from 24.4 percent during March 2011.

Table 1.1: Inflation Trends (percent)

	CPI						Core Inflation				WPI		SPI**	
	General		Food		Non-food		NFNE *		Trimmed					
	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM
Mar-10	12.9	1.3	14.5	1.8	11.6	0.8	9.9	0.8	12.7	0.8	21.8	2.5	17.6	1.1
Apr-10	13.3	1.7	14.5	2.0	12.2	1.5	10.6	1.7	12.7	1.1	22.0	1.8	17.4	1.0
May-10	13.1	0.1	14.8	0.0	11.7	0.1	10.3	0.6	12.5	0.4	21.2	0.9	17.4	0.8
Jun-10	12.7	0.6	14.5	0.7	11.2	0.6	10.4	0.7	11.7	0.7	17.6	-0.6	16.5	0.4
Jul-10	12.3	1.2	12.8	1.5	12.0	1.0	10.3	0.5	12.0	0.7	18.7	1.7	14.9	1.8
Aug-10	13.2	2.5	15.6	5.1	11.2	0.3	9.8	0.4	12.5	0.7	19.2	2.6	16.2	2.6
Sep-10	15.7	2.7	21.2	5.3	11.0	0.3	9.4	0.4	12.8	0.9	21.5	2.1	19.1	3.5
Oct-10	15.3	0.6	20.1	0.1	11.3	1.1	9.3	0.7	12.8	1.0	23.8	3.1	20.9	1.7
Nov-10	15.5	1.5	20.5	2.2	11.1	0.9	9.5	1.0	13.4	1.2	24.7	3.5	22.5	3.3
Dec-10	15.5	-0.5	20.4	-1.9	11.4	0.8	9.5	0.7	13.6	0.7	25.7	1.1	21.5	-0.5
Jan-11	14.2	1.3	20.4	2.1	9.0	0.6	9.4	0.7	12.2	0.9	22.6	1.6	18.4	0.6
Feb-11	12.9	-0.7	17.7	-2.1	8.9	0.5	9.2	0.6	11.7	0.4	24.4	1.9	16.2	-1.0
Mar-11	13.2	1.5	18.0	2.0	9.1	1.0	9.5	1.0	11.9	1.1	25.4	3.3	16.3	1.2
Apr-11	13.0	1.6	17.2	1.4	9.5	1.8	9.4	1.6	11.6	1.2	25.9	2.3	16.1	0.9

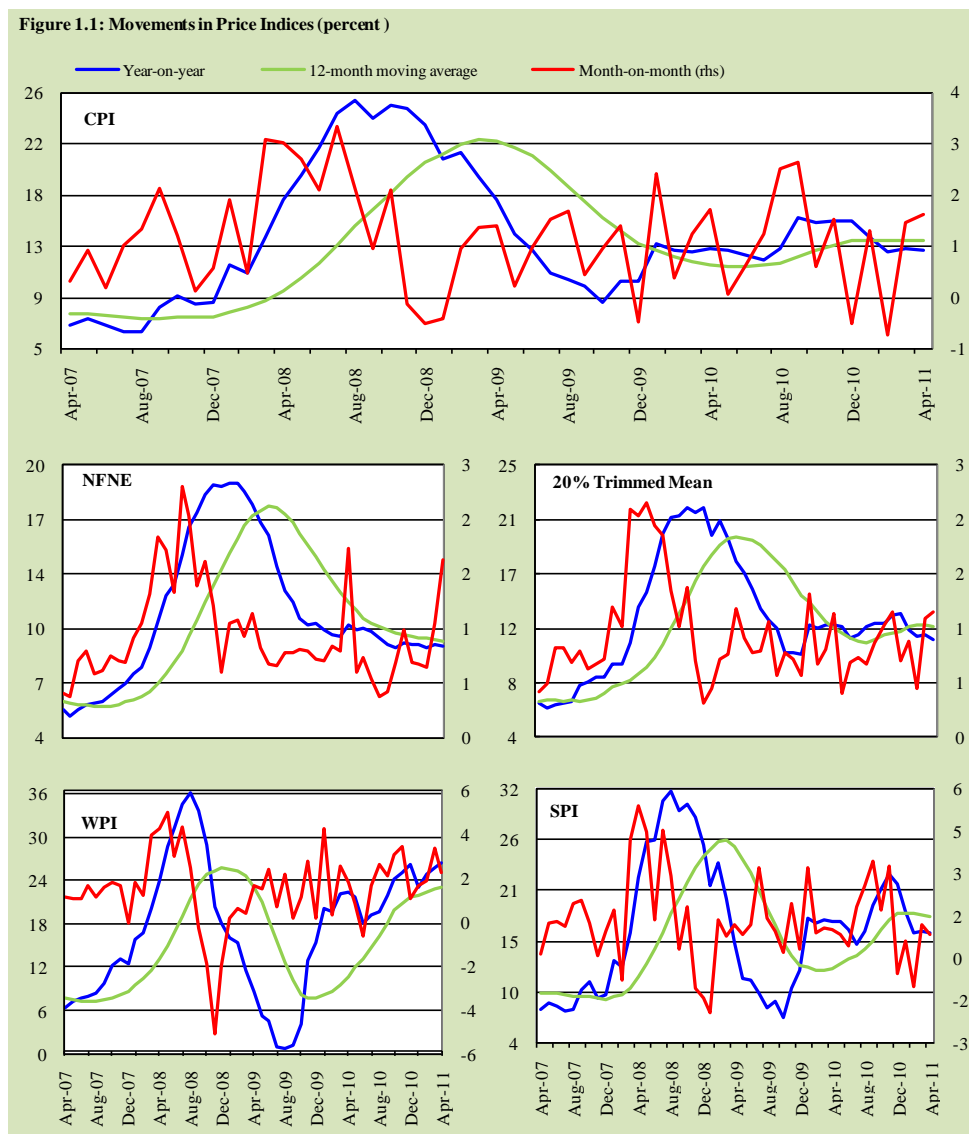
* NFNE is Non-food non-energy inflation; ** SPI for all income groups combined.

Both measures of core inflation, i.e., NFNE and 20% trimmed mean, showed a decline on YoY basis during April 2011 compared to March 2011, and were also lower than their levels observed during the corresponding period last year (see **Table 1.1 & Figure 1.1**). However, on MoM basis, both these measures recorded above 1.0 percent inflation during April 2011 on top of over 1.0 percent inflation in March 2011. It indicates further building up of inflationary pressures in the economy.

During April 2011, inflation diffusion for overall CPI basket decreased to 52.7 percent from 54.7 percent in March 2011, but was still higher by 7.3 percentage points when compared to corresponding month last year. However, diffusion of core inflation (NFNE) increased during the month under review to 62.3 percent as against 52.1 percent in March 2011.

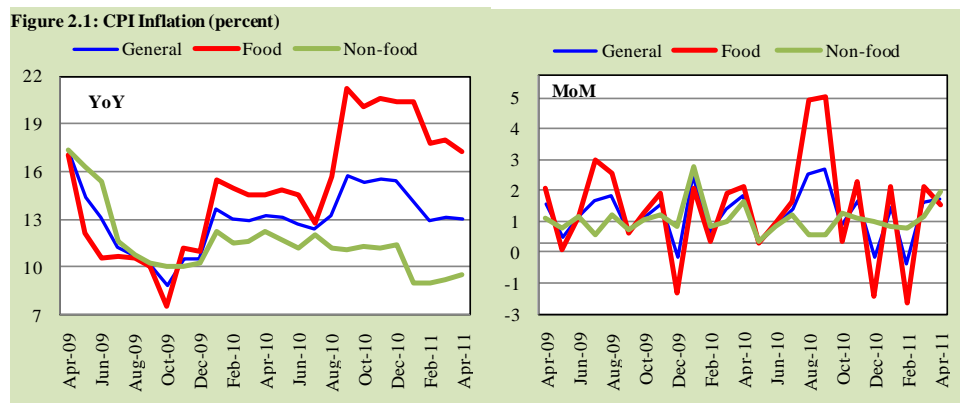
Some major reasons for strong inflationary pressures during the recent months were: (a) rise in international commodity prices specifically POL commodities,

precious metal, grains (except cotton), and edible oil; (b) increase in administrative prices of key fuel commodities; (c) higher domestic prices of fresh milk, potatoes and seasonal wearing (like printed voil); and (d) increase in vegetable ghee and cooking oil prices.



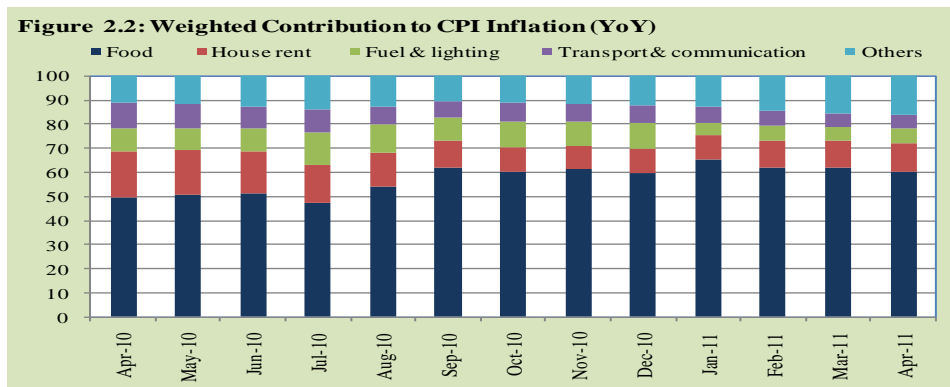
2. Consumer Price Index

CPI inflation (YoY) declined to 13.0 percent during April 2011 from 13.2 percent in the previous month. This marginal decline was mainly attributed to decline in food inflation (YoY). In contrast to CPI YoY inflation, month-over-month (MoM) inflation increased from 1.5 percent during March 2011 to 1.6 percent in April 2011 (see **Figure 2.1**).



Although CPI headline inflation (YoY) eased in the reviewed month compared to March 2011, it remained in double digits mainly due to relatively higher prices of key items following substantial rise in international commodity prices; specifically crude oil, metals and grains.

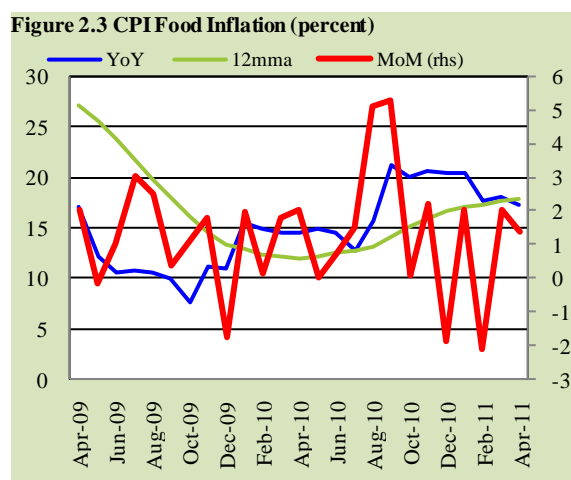
As CPI food inflation (YoY) showed decline during the month under review, the weighted contribution of food inflation to overall CPI inflation decreased (60.2percent) compared to the previous month (62.1 percent), and increased compared to what we observed during the same month last year (50.5 percent). Being a mirror image, weighted contribution of non-food group increased during April 2011 (39.8 percent) compared to the previous month (37.9 percent) and decreased compared to what we observed during the same month last year (49.5 percent). Within non-food group, weighted contribution of *house rent, fuel & lighting, education and cleaning, laundry & personal appearance* sub-groups recorded an increase during April 2011 (see **Figure 2.2**).



2.1 Food Inflation

CPI food inflation declined both on YoY and MoM basis. CPI food inflation (YoY) was 17.2 percent during the reviewed month compared to 18.0 percent in March 2011 and 14.5 percent during the same month last year. (see **Figure 2.3**).

This decline in CPI food inflation (YoY) was mainly due to decline in the prices of some key food staples like onions, pulse masoor, ginger and chicken compared to previous month.



Eight out of top ten contributors to CPI inflation (YoY) were from food group during April 2011, including fresh milk, vegetable ghee, meat, fresh fruits, vegetables, spices, readymade food and wheat flour. Combined weighted contribution of these food items in the overall CPI food inflation was 46.6 percent. Within the food group, just four items, i.e., fresh milk, vegetable ghee, meat, and fresh fruits contributed 57.7 percent to YoY food inflation (see **Table A3** in **Annexure A**).

Detailed analysis of price movements in CPI food basket reveals that out of the reported 110 commodities, 79 commodities including pulse moong, mash, ginger, sugar, potatoes exhibited price changes (YoY) in the range of 10 to 90 percent

during April 2011; one commodity of food group (cardamom small) witnessed more than 100 percent (152.1 percent) price change (YoY). On the other hand, prices of 4 commodities (onions, pulse masoor, ginger and chicken) declined and 4 showed no change during the month under review. Remaining 22 commodities showed price change (YoY) between 0 to 10 percent (see **Table A2 in Annexure A**).

During April 2011, food inflation on month-on-month (MoM) basis was 1.6 percent compared to 1.5 percent during the previous month. Commodity-wise analysis of price changes on MoM basis of the CPI food basket showed that 8 commodities including green carrot, kinnu, malta, peas, apple, turmeric powder, paper black and potatoes, recorded a double digit price change during April 2011, whereas 29 commodities including green chillies, cucumber, eggs, tomatoes, onions, chicken, garlic declined.

Further disaggregation (of 40 composite food items in the CPI basket) can be made on the basis of perishable and non-perishable commodities. Inflation (YoY) in the perishable group was 18.6 percent during April 2011, which was lower than the 26.9 percent in the previous month, but higher than 13.1 percent in the same month last year. Whereas inflation in perishable commodities on MoM basis showed increase and was recorded at 8.3 percent during April 2011 compared to 5.5 percent in March 2011. Prices of perishable commodities are often volatile and this was clearly seen in both YoY and MoM inflation numbers. Inflation (YoY) in non-perishable commodities increased to 17.0 percent in April 2011 compared to 16.8 percent in March 2011 and 14.8 percent in corresponding month last year. However, inflation (MoM) in this group of commodities declined to 0.4 percent during April 2011 compared to 1.5 percent in previous month (see **Figure 2.4 & 2.5**).

Figure 2.4: Non-perishable & perishable food items Inflation (YoY) - percent

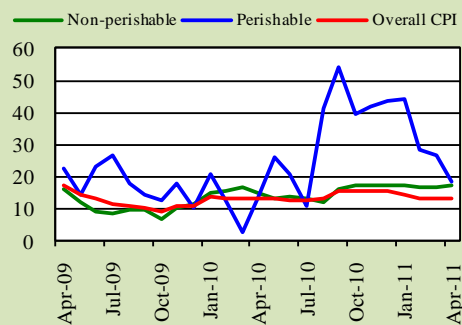
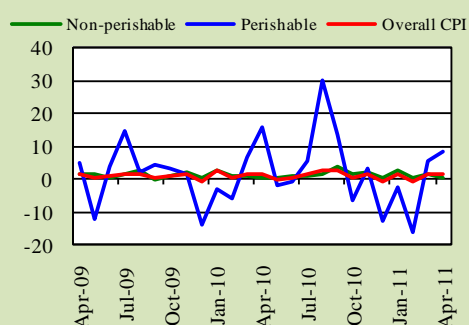


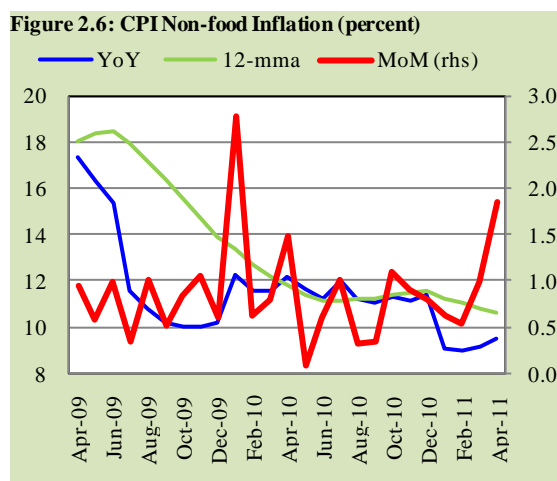
Figure 2.5: Non-perishable & perishable food items Inflation (MoM) - percent



2.2 Non-food Inflation

In contrast to overall CPI and food inflation (YoY), inflation in CPI non-food group increased marginally during the month under review to 9.5 percent compared to 9.1 percent in March 2011; however, it was still lower than its level observed during the corresponding month last year (12.2 percent). Out of the nine sub-groups of non-food group, inflation (YoY) in five sub-groups showed increase during April 2011. CPI non-food

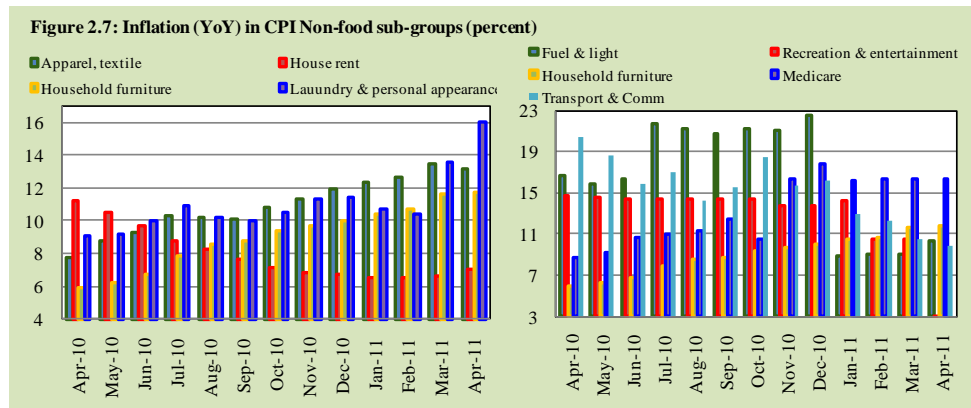
inflation also increased, on MoM basis, from 1.0 percent in March 2011 to 1.8 percent during April 2011 (see **Figure 2.6**).



Inflation (YoY) in *fuel & lighting* sub-group increased during April 2011, which was a result of increase in electricity tariff and kerosine oil price during April 2011. Inflation (YoY) in this sub-group reached 10.3 percent during April 2011 from 9.1 percent in March 2011. It was, however, still lower than 16.7 percent in April 2010. On month-on-month basis, inflation in this sub-group also increased to 0.7 percent during the reviewed month compared to zero percent last month.

Cleaning, laundry & personal appearance sub-group's inflation (YoY) also increased during April 2011 to 16.0 percent compared to 13.5 percent in March 2011 and 9.2 percent in the corresponding month last year. However, inflation (MoM) in this sub-group dropped to 2.6 percent during April 2011 from 3.1 percent in the previous month.

Inflation (YoY) in *house rent index* (HRI) increased to 7.0 percent during April 2011 from 6.6 percent in March 2011 and 11.2 percent in the same month last year. Inflation, on month-on-month basis, in this sub-group also increased to 0.9 percent during April 2011 compared to 0.7 percent in March 2011. (see **Figure 2.7 & A1** in **Annexure A**).



Seggregated analysis of 250 commodities included in CPI non-food basket reveals that prices of 10 commodities declined, 37 showed no change in their prices, 39 showed price changes between 0 to 5 percent, 47 depicted price changes between 5 to 10 percent and 117 commodities witnessed price changes of more than 10 percent. The commodities which showed significant YoY price change included silver (104.0 percent), glaxose-D (56.3 percent), gas cylinder (35.5 percent), and gold (29.0 percent) (see **Table A2 & A4** in the annexure).

2.3 Inflation Diffusion

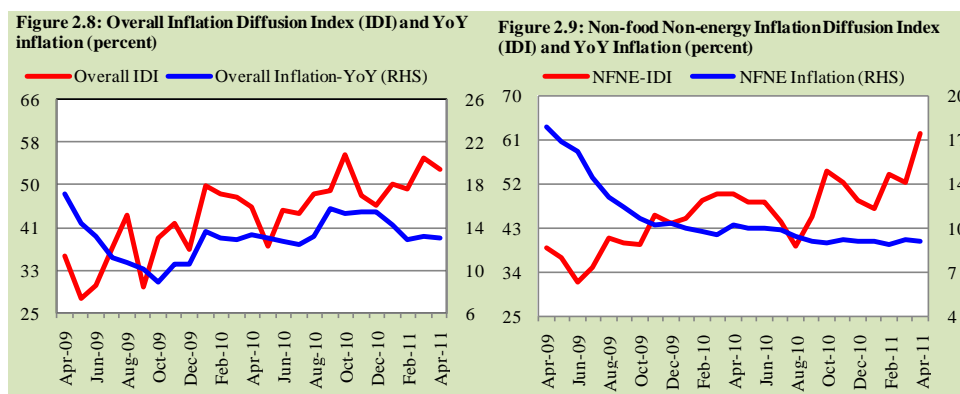
In order to see how widespread inflation is in the CPI basket (of 374 commodities), inflation diffusion index (IDI) can be used. It is based on MoM change in the prices of commodities¹.

Table 2.1: Inflation Diffusion Index - based on MoM change (percent)

	General	Food Beverages & Tobacco	Apparel, Textile & Footwear	Fuel & Lighting	Household Furniture & Equipment	Transport & Comm- unication	Recreation & Entertainment	Education	Cleaning, Laundry & Personal Appearance	Medicare	NFNE*
Apr-10	45.4	40.0	52.4	6.7	90.9	41.9	31.3	33.3	61.1	6.9	50.0
May-10	38.0	23.3	64.3	-6.7	84.1	14.0	43.8	33.3	61.1	10.3	48.3
Jun-10	44.6	43.1	69.0	26.7	75.0	37.2	-18.8	20.8	58.3	24.1	48.3
Jul-10	44.2	45.5	59.5	40.0	88.6	30.2	-6.3	12.5	55.6	10.3	44.4
Aug-10	47.9	69.7	61.9	26.7	90.9	30.2	18.8	12.5	13.9	3.4	39.2
Sep-10	48.3	61.8	69.0	20.0	88.6	20.9	0.0	20.8	38.9	20.7	45.3
Oct-10	55.2	52.7	81.0	73.3	93.2	44.2	25.0	16.7	61.1	17.2	54.7
Nov-10	47.6	42.3	76.2	20.0	95.5	30.2	18.8	29.2	58.3	10.3	52.2
Dec-10	45.5	38.9	81.0	53.3	93.2	27.9	12.5	0.0	52.8	13.8	48.7
Jan-11	49.9	61.5	78.6	20.0	84.1	30.2	31.3	25.0	27.8	13.8	47.0
Feb-11	48.9	43.5	78.6	20.0	86.4	53.5	31.3	16.7	44.4	17.2	53.9
Mar-11	54.7	62.0	78.6	40.0	88.6	32.6	18.8	25.0	66.7	10.3	52.1
Apr-11	52.7	31.8	76.2	33.3	93.2	55.8	31.3	58.3	72.2	20.7	62.3

*: Non-food-non-energy

¹ For details, see Appendix B



A slight decline in inflation diffusion index was in line with the change in headline inflation during April 2011 (see **Figure 2.8 & Table 2.1**). However, the inflation diffusion index for non-food non-energy group increased during April 2011 despite decline in core inflation (see **Figure 2.9**). IDI for NFNE group rose on the back of more than 1.0 percent increase in core inflation during the last couple of months. Out of nine groups (excluding house rent) in CPI basket, the diffusion indices of inflation for three groups included food beverage & tobacco, apparel, textile & footwear and fuel & lighting (accounting for 53.7 percent of the basket) showed decline during April 2011 whereas, remaining six groups depicted an increase in their inflation diffusion indices (see **Figure A4 of Annexure A**).

2.4 City-wise Inflation

City-wise data reveals that during April 2011, inflation (YoY) in the four (out of five) major cities was lower than the overall headline inflation. Only Peshawar saw 1.7 percentage points higher than overall headline inflation (see **Table 2.2**).

	Apr-10		Mar-11		Apr-11	
	MoM	YoY	MoM	YoY	MoM	YoY
Over all CPI	1.7	13.3	1.5	13.2	1.6	13.0
Islamabad	1.7	11.9	1.5	11.3	1.6	10.7
Lahore	2.1	13.0	1.9	9.0	1.6	9.2
Karachi	1.5	12.5	1.1	10.4	1.7	11.5
Quetta	0.8	12.9	1.2	12.9	1.8	11.2
Peshawar	2.2	12.5	1.7	13.7	0.7	14.7

The inflation data collected from 35 cities revealed that 23 cities recorded higher inflation than the overall inflation (YoY), while 12 remaining cities registered lower than average inflation during April 2011. The highest inflation (YoY) was recorded in Bahawalnagar, while Lahore registered the lowest inflation (YoY). The highest food inflation was recorded in D. I. Khan and the lowest in Sialkot during the month under review. While the highest non-food inflation (YoY) was recorded in Bahawalnagar, the lowest non-food inflation was observed in Islamabad (see **Table A6 in Annexure A**).

2.5 Income Group-wise Inflation (YoY)

Income group-wise inflation data indicates that all income groups, except the highest income group, experienced higher than the overall CPI and CPI non-food inflation during April 2011. While it was other way round in case of CPI food inflation; where inflation was higher than the overall (CPI food) inflation for the highest income group during April 2011 (see **Table 2.3**).

Table 2.3: Income Group-wise Inflation (YoY)

	General			Food			Non-food		
	Apr-10	Mar-11	Apr-11	Apr-10	Mar-11	Apr-11	Apr-10	Mar-11	Apr-11
Up to Rs. 3000	13.5	14.6	14.5	15.4	17.6	16.8	11.1	10.6	11.6
Rs. 3001-5000	13.4	14.2	14.1	15.2	17.6	16.7	11.3	10.1	11.0
Rs. 5000-12000	13.2	13.4	13.3	14.8	17.8	16.9	11.6	9.0	9.6
Above Rs. 12000	13.3	12.7	12.6	13.8	18.4	18.0	12.9	9.2	9.3
All income groups	13.3	13.2	13.0	14.5	18.0	17.2	12.2	9.1	9.5

City and income group-wise data, collected from 17 cities, showed that the highest inflation (YoY) was recorded in Bahawalpur for all income groups except highest income group. Sargodha had the highest inflation for highest income group. Sialkot recorded the lowest inflation (YoY) for all income groups except highest income group. Lahore had the lowest inflation for highest income group during April 2011 (see **Table A5 in Annexure A**).

2.6 Core Inflation

Core inflation (YoY) measured by NFNE dropped to 9.4 percent during April 2011 from 9.5 percent in the previous month and 10.6 percent in the corresponding month last year. However, on MoM basis NFNE core inflation showed significant increase of 0.6 percentage points and was recorded at 1.6 percent in April 2011 compared to 1.0 percent during March 2011 (see **Figure 2.10**).

Concept of Core Inflation

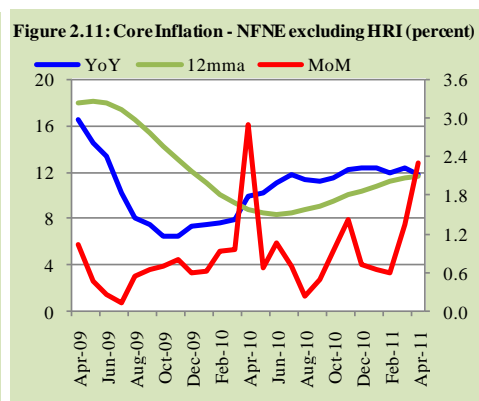
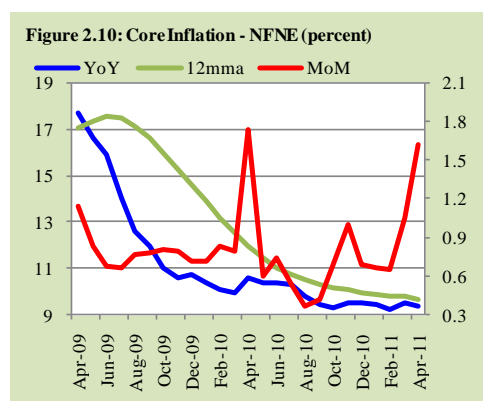
Core inflation has always centered in the deliberations of monetary policymakers for the past 25 years. However, despite its central role, there is still no consensus on how best to measure the core inflation. The most elementary approach, and the one that is probably the most widely used, consists of simply excluding certain categories of items (prices of which depicts relatively more volatility) while calculating the inflation rate. Items usually excluded are from food and energy groups. And thus we call this “excluding food and energy,” or non-food non-energy (NFNE), approach to core inflation measurement². The second method usually used to calculate core inflation is based on trimmed mean approach. In this approach a proportion of CPI basket from both ends (higher change and lower change) is trimmed and then (core) inflation is calculated from remaining basket. We use 20% trimmed mean approach for calculating core inflation. Specifically, 20%, means excluding

² It reflects origin (of this concept) of core inflation in the turbulent decade of the 1970s.

items with 10% weight from both upper and lower side of CPI basket after sorting according to change in prices.

In Pakistan, calculation of these measures is based on (CPI) 92 composite items' prices data released by FBS on monthly basis. While calculating the NFNE inflation, we exclude the overall food group (having weight of 40.34 percent) in addition to dropping six commodities (kerosine oil, petrol, diesel, electricity, CNG and natural gas) from energy group (with weight of 8.65 percent). Therefore total weight for NFNE basket is 51.01 percent. Since NFNE basket includes house rent index (HRI) – highest weight item in the CPI basket, we sometime also look into the NFNE inflation but further excluding the HRI. We call it NFNE excluding HRI measure of inflation. 20% trimmed mean core inflation is calculated after excluding items with 10% weight from each end (showing the higher and the lower YoY changes in the prices) from the CPI 92 composite items' basket³.

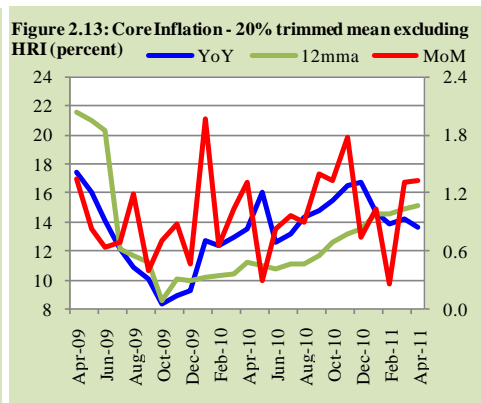
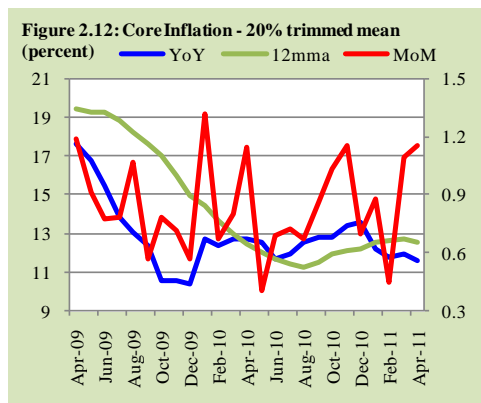
NFNE excluding HRI core inflation (YoY) dropped to 11.7 percent in April 2011 from 12.4 percent in March 2011. The same was 10.0 percent in April 2010. However, on MoM basis NFNE excluding HRI core inflation showed significant increase of 1.0 percentage points and was recorded at 2.3 percent in April 2011 compared to 1.3 percent during March 2011 (see **Figure 2.11**).



Core inflation (YoY) measured by 20% trimmed mean declined and was recorded at 11.6 percent during April 2011 from 11.9 percent in the previous month and 12.7 percent in the corresponding month last year. However, on MoM basis 20% trimmed mean core inflation showed an increase and was recorded at 1.2 percent in April 2011 compared to 1.1 percent during March 2011 (see **Figure 2.12**).

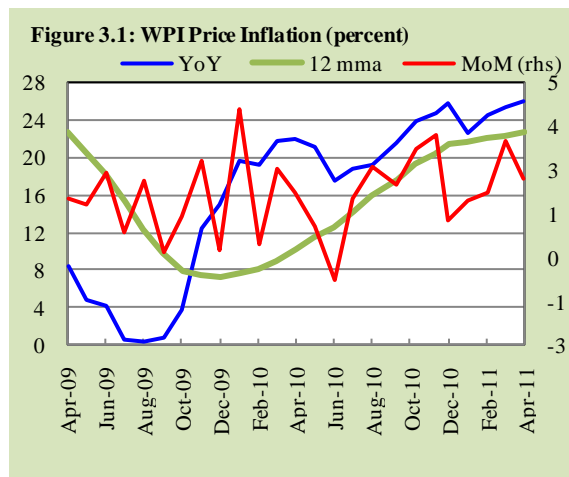
Excluding HRI from 20% trimmed mean basket, core inflation (YoY) eased to 13.7 percent in April 2011 from 14.2 percent in March 2011 and 13.5 percent in April 2010. However, on MoM basis '20% trimmed mean core inflation excluding HRI' showed no change and was recorded at 1.3 percent in April 2011 (**Figure 2.13**).

³ Wynne, Mark A. (2008), "Core inflation: A Review of Some Conceptual Issues," Federal Reserve Bank of St. Louis Review, May/June, Part 2, pp. 205-228.



3. Wholesale Price Index

WPI inflation (YoY) continued on increasing, reaching 25.9 percent during April 2011. This was higher compared to March 2011 inflation of 25.4 percent, and 22.0 percent during the corresponding month last year (see **Figure 3.1**). This increase was due to increase in non-food group's inflation (YoY) during April 2011 compared to March 2011.

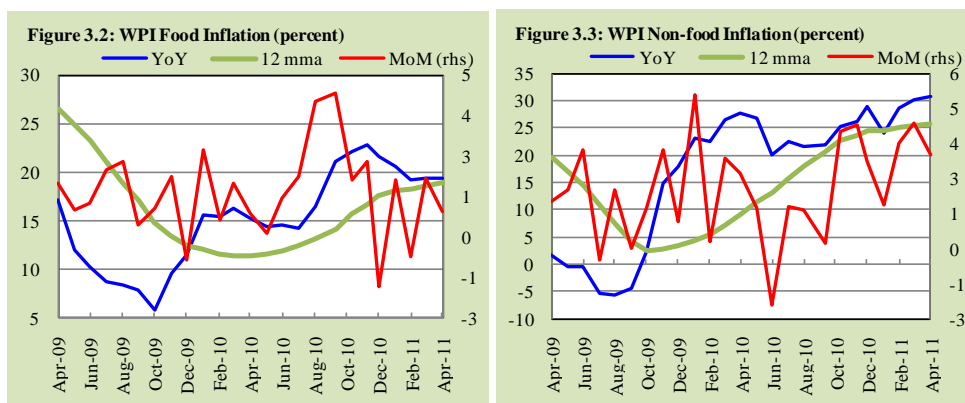


In contrast with the increase in WPI YoY inflation, inflation based on MoM declined and was recorded at 2.3 percent in April 2011 compared to 3.3 percent in March 2011. This (MoM basis) decline was contributed by both the food and the non-food group but share of non-food group was relatively greater.

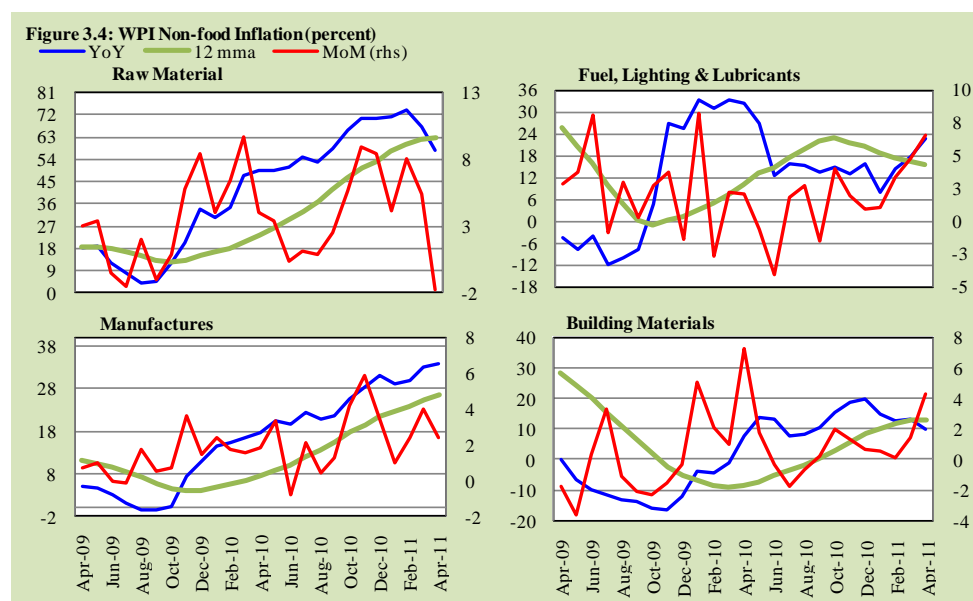
WPI inflation in April 2011, both on YoY and MoM basis, was largely due to higher commodity prices in international markets; particularly crude oil, grains (except cotton), edible oil, and metals.

WPI food inflation (YoY) remained unchanged at 19.4 percent in April 2011 at the level of March 2011 but was higher than 15.2 percent in April 2010. On MoM basis, WPI food inflation decreased significantly to 0.8 percent during the month under review compared to 1.8 percent during the last month (see **Figure 3.2**).

WPI non-food inflation (YoY) increased to its highest level (in the last thirty months) at 30.9 percent during April 2011 compared to 30.1 percent in March 2011 and 27.7 percent during the same month in 2010. On MoM basis, WPI non-food inflation was recorded at 3.3 percent during the reviewed month compared to 4.5 percent during previous month (see **Figure 3.3**).



Disaggregated analysis of WPI non-food group into its sub-groups reveals that this month's highest inflationary pressure (on YoY basis) came from *fuel lighting & lubricants* and *manufacturers* sub-groups. However, *raw material* and *building material* sub-groups showed deceleration during April 2011 compared to the previous month.



During April 2011, inflation (YoY) in ‘*Fuel Lighting and Lubricants*’ sub-group was 22.5 percent against 17.4 percent during the previous month and 32.4 percent during April 2010. For this sub-group, month-on-month inflation also increased (during April 2011) to 6.5 percent from its last month level of 4.8 percent. Increase in administered prices of fuels, following rise in international crude oil prices, was the main factor responsible for higher inflation in this sub-group.

In *Manufactures* sub-group, inflation (YoY) accelerated from 33.0 percent during March 2011 to 33.7 percent during April 2011. This was also significantly higher than 17.8 percent inflation recorded in this sub group during the same month last year. However, month-on-month inflation in this sub-group witnessed a deceleration to 2.4 percent during the reviewed month from 4.0 percent during the last month (see **Figure 3.4**). Detailed item-wise analysis of WPI basket shows that out of 106 items, 75 items recorded double digit inflation (YoY); out of which 31 were food items.

4. Sensitive Price Indicator

SPI inflation (YoY) in April 2011 decreased from 16.3 percent in March 2011 to 16.1 percent. It was also lower than 17.4 percent SPI inflation recorded in April 2010. On MoM basis SPI inflation declined to 0.9 percent during the month under review compared to 1.2 percent during the previous month (see **Figure 4.1**).

Income group-wise data suggests that incidence of inflation (YoY), during April 2011, was higher on lowest income group. SPI inflation (YoY) for lowest and lower middle income groups was higher than overall inflation during the reviewed month. However, SPI inflation (MoM) for these and upper middle income groups was lower than the inflation for the highest income group and the overall inflation (see **Table 4.1**).

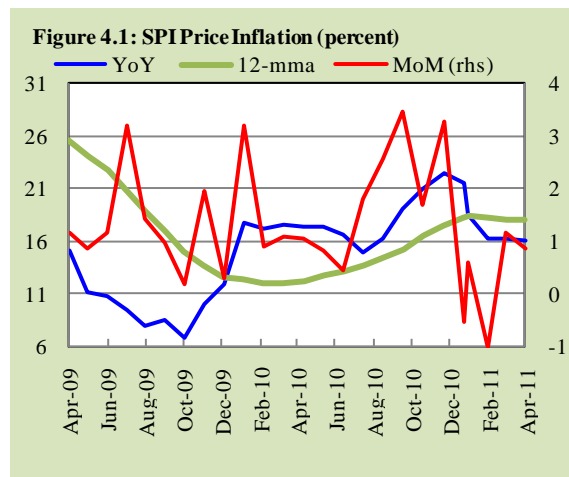


Table 4.1 : Income Group-wise SPI Inflation (percent)						
	Apr-10		Mar-11		Apr-11	
	YoY	MoM	YoY	MoM	YoY	MoM
Up to Rs. 3000	16.7	0.4	16.8	0.8	17.0	0.5
Rs. 3001-5000	16.7	0.4	16.2	0.8	16.2	0.5
Rs. 5000-12000	16.7	0.6	15.7	0.8	15.5	0.4
Above Rs. 12000	17.7	1.1	15.6	1.4	15.7	1.2
All income groups	17.4	1.0	16.3	1.2	16.1	0.9

5 Global Commodity Prices

Overall commodity prices in international markets continued on rising trend and registered 4.6 percent increase on MoM basis during April 2011 on top of 5.0 percent rise in the previous month. However, some ease was observed in YoY inflation in this month, depicted by deceleration of IMF (overall) commodity price inflation to 36.1 percent from 38.2 percent a month earlier. The current MoM rise in global commodities was attributed to inflation in all the subgroups including food, energy

and metal. However, a decline was observed in the prices of cotton (during April 2011) which resulted in the deceleration in its YoY inflation. Earthquake & tsunami in Japan; political unrest in Libya & some other oil producing countries; strong global demand on the back of economic recovery in US, European Union, Emerging economies & Russia and depreciation US dollar against major currencies were main factors responsible for the continued upward movement in the global commodity prices (see **Table 5.1**).

Table 5.1: Monthly Changes in Major Indices (percent)

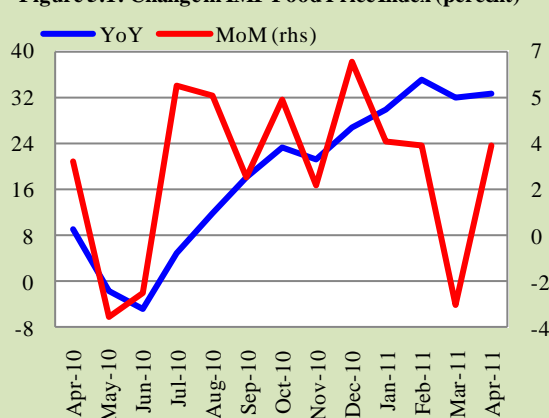
	YoY			
	Apr-10	Feb-11	Mar-11	Apr-11
Overall	48.3	36.9	38.2	36.1
Food	9.0	35.1	31.8	32.6
Metals	67.5	75.5	56.2	41.9
Energy	60.0	30.5	36.0	36.1
Cotton	55.1	166.3	167.7	145.9

	MoM			
	Apr-10	Feb-11	Mar-11	Apr-11
Overall	6.2	4.3	5.0	4.6
Food	2.8	3.4	-2.6	3.4
Metals	12.8	4.4	-4.7	2.4
Energy	6.0	4.7	9.4	6.1
Cotton	2.7	19.1	7.7	-5.7

Food Group

Food inflation rose further in the reviewed month. IMF food commodity prices index recorded 32.6 percent YoY gain in April 2011, which was not only 0.8 percentage points higher than last month food inflation but also 23.6 percentage points higher than the inflation during the corresponding month of preceding year. On MoM basis, food group registered 6.1 percent inflation in April 2011 as against 2.6 percent deflation in the previous month (see **Figure 5.1**). The strengthened food inflation was mainly driven by the rise in the prices of wheat, sugar, corn, and soybean oil

Figure 5.1: Change in IMF Food Price Index (percent)



during April 2011. Wheat prices US\$/MT up by US\$ 19.5 to US\$ 336.3 in the month under review. This rise in wheat prices was due to drought that has affected winter crops in the US, Europe, and China. While corn prices jumped by 102.5 percent (on YoY basis) in April 2011 compared to 82.8 percent rise during the last month due to late planting in the US on account of wet weather, fall in corn inventories and higher demand by US to produce ethanol. Global (YoY) inflation in sugar prices continued soaring since February 2011 and reached 46.5 percent in the month under review. It was the highest during the last thirteen months. The surge in sugar prices was due to decline in China's 2010/11 sugar output, higher demand from China, Indonesia & Bangladesh.

Non-food group

Within the non-food group, energy prices index inflation continued its upward trend on YoY basis during the last three months and reached 36.1 percent in April 2011 which was slightly higher than 36.0 percent inflation in the preceding month. The current energy inflation was mainly attributed to crude oil prices. Oil prices jumped to US\$ 116.3 per barrel in April 2011 from US\$ 84.2 per barrel in the corresponding month of preceding year (see **Figure 5.2**). In April 2011, crude oil prices soared by 38.2 percent on YoY basis compared with 37.0 percent rise in earlier month. Crude oil surged by 7.1 percent on MoM basis in April 2011, up for a ninth straight month, hitting the highest price level since August 2008. Supply risks given the continued political unrest in North Africa and the Middle East countries, OPEC's subdued response to production losses in Libya and

Figure 5.2: Crude Oil Prices (US\$ per barrel)

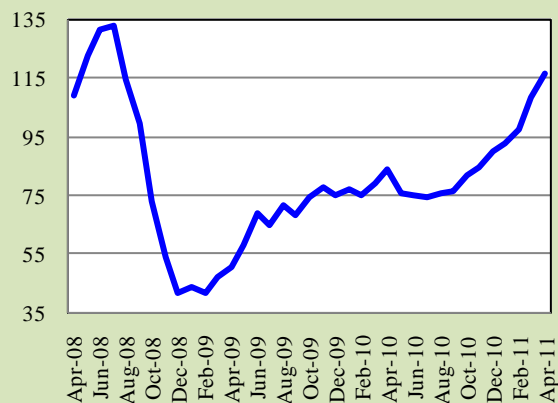
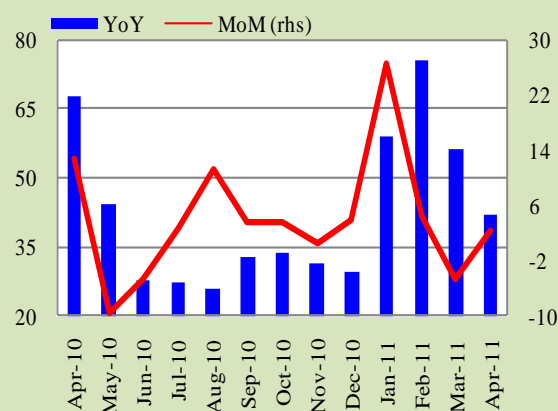


Figure 5.3: Monthly Changes in Matel Prices (percent)



Yemen on the back of the difficulty in replacing light/sweet crude, decline in stocks of products, rising demand to meet summer requirements, and depreciation of US dollar (1.6 percent depreciation against a broad group of currencies in April 2011) were the major contributing factors for upward movement in crude oil prices.

Among non-food group, metals sub-group recorded 41.9 percent inflation on YoY basis in the month under review compared 56.2 percent in the previous month. On MoM basis, metals prices rose 2.2 percent in April 2011, following a decline of 4.7 percent in March 2011 (see **Figure 5.3**). The strength in metals prices came from iron ore, tin, and aluminum on account of relatively tight supplies.

Annexure A

Table A1: CPI Inflation by Groups (percent)

	Weights	MoM change			YoY change		
		Apr-10	Mar-11	Apr-11	Apr-10	Mar-11	Apr-11
I. Food Group	40.3	2.0	2.0	1.4	14.5	18.0	17.2
II. Non-Food Group	59.7	1.5	1.0	1.8	12.2	9.1	9.5
Apparel, textile, etc.	6.1	2.2	1.6	2.0	7.7	13.5	13.2
House rent	23.4	0.6	0.7	0.9	11.2	6.6	7.0
Fuel & lighting	7.3	-0.4	0.0	0.7	16.7	9.1	10.3
Household furniture & equipment	3.3	0.9	1.2	1.0	5.9	11.6	11.7
Transport & communication	7.3	5.8	1.7	5.1	20.5	10.5	9.8
Recreation & entertainment	0.8	10.0	0.1	0.2	14.7	10.5	0.6
Education	3.5	2.7	0.1	3.1	8.8	5.1	5.6
Cleaning, laundry, etc.	5.9	0.4	3.1	2.6	9.1	13.5	16.0
Medicare	2.1	2.6	0.2	2.5	8.6	16.3	16.3
Headline	100.0	1.7	1.5	1.6	13.3	13.2	13.0

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

Groups	% Changes	Total Number of Items		No. of Items in each Inflation Range							
				Decrease or no change (0% or less)		Subdued increase (> 0% but < 5%)		Moderate increase (> 5% but < 10%)		Double digit increase (over 10%)	
		Apr-10	Apr-11	Apr-10	Apr-11	Apr-10	Apr-11	Apr-10	Apr-11	Apr-10	Apr-11
I. Food Group	17.2	110	110	20	8	14	7	18	15	58	80
II. Non-Food Group	9.5	250	250	55	47	49	39	71	47	75	117
Apparel, textile, etc.	13.2	42	42	8	5	2	1	22	10	10	26
House rent	7.0	1	1						1	1	
Fuel & lighting	10.3	15	15	1	2	0		0		14	9
Household furniture & equipt	11.7	44	44	1	1	17	2	20	14	6	27
Transport & communication	9.8	43	43	18	6	3	7	9	7	13	23
Recreation & entertainment	0.6	16	16	2	8	7	7	2	1	5	0
Education	5.6	24	24	3	6	5	9	7	6	9	3
Cleaning, laundry, etc.	16.0	36	36	8	6	8	3	10	7	10	20
Medicines	16.3	29	29	14	13	7	7	1		7	9
Overall	13.0	360	360	75	55	63	46	89	62	133	197

Note: Prices of 14 seasonal items were not reported during the month.

Table A3: Top Ten Contributors to YoY CPI Inflation in April 2011

Items / Contributors		Weights	YoY change		Weighted Contribution
			Apr-10	Apr-11	
A. Ranked by Weighted Contribution					
1	Milk Fresh	6.66	16.65	21.01	12.10
2	House Rent Index	23.43	12.73	7.01	11.91
3	Vegetable Ghee	2.67	14.98	37.36	8.56
4	Meat	2.70	23.80	24.54	7.57
5	Fresh Fruits	1.62	7.52	45.18	6.53
6	Vegetables	1.77	24.82	23.27	3.85
7	Electricity	4.37	19.05	12.32	3.50
8	Spices	0.60	11.51	56.70	2.75
9	Readymade Food	1.68	13.15	18.58	2.75
10	Wheat Flour	5.11	8.90	4.70	2.46
Total		50.61			61.99
B. Ranked by Percentage Change					
1	Spices	0.60	11.51	56.70	2.75
2	Pulse Moong	0.22	108.62	46.37	1.15
3	Fresh Fruits	1.62	7.52	45.18	6.53
4	Vegetable Ghee	2.67	14.98	37.36	8.56
5	Jewellery	0.39	30.92	34.54	1.97
6	Eggs	0.41	-16.59	31.43	0.84
7	Cooking Oil	0.69	6.39	30.52	1.68
8	Honey	0.04	13.39	29.26	0.08
9	Toilet Soap	0.74	0.00	27.27	1.30
10	Besan	0.13	7.31	26.07	0.24
Total		7.51			25.12
C. Ranked by Weights					
1	House Rent Index	23.43	12.73	7.01	11.91
2	Milk Fresh	6.66	16.65	21.01	12.10
3	Wheat Flour	5.11	8.90	4.70	2.46
4	Electricity	4.37	19.05	12.32	3.50
5	Bakery & Confectionary	2.98	4.25	6.56	1.01
6	Meat	2.70	23.80	24.54	7.57
7	Vegetable Ghee	2.67	14.98	37.36	8.56
8	Tution Fees	2.36	6.54	6.72	1.02
9	Transport Fare/Charges	2.12	13.00	10.51	2.19
10	Natural Gas	2.05	16.91	4.49	1.03
Total		54.45			51.35

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 13.0 percent in April 2011.

Table A4: Distribution of Price Changes (YoY)- Selected CPI Items, April 2011

Groups	Decrease or no change	Subdued increase (up to 5%)	Moderate increase (5 to 10%)	Increase of over 10%
Food Group	Arvi Onion Pulse Masoor Ginger Chicken Ice Cream Walls Toffee (hilal) Chowkelate candy	Maida, Peas Coffee-Nescafe 75 gm. Cigarettes Gold Leaf Wheat Flour, Curry Powd. National 200 gms, Pulse Mash	Ice, Pickles Ahmed/Mitchelles Wheat, Vinegar Synthetic (Sirka) Biscuits-packed Sugar Refined Bread Plain Cigarettes K-2 Wheat flour bag Lactogen 400 gms Cuminseed White National,Vermicelli	Cardamom large, Milk Fresh, Chillies, Powd. National 200gm Cucumber (Kheera) Eggs, Watermelon Pulse Moong Vegetable Ghee, Muskmelon, Bottlegourd Cardamom small Tomatoes
Apparel & Textile	Gents shoes paul Bata, Gents sandal Bata, Child shoes Power lite Bata	Pullover gents Oxford/Bon.	Ladies sandal Bata Pullover ladies Oxford/Bon., Tailoring Coat-Pant Suit	Dopatta Georgette Georgette Long Cloth
House Rent Index	House Rent Index			
Fuel & Lighting	Gas Chrg 3.3719 - 6.7438 mmbtu Match box small Gas Charge10.1157 - 13.4876 mmbtu		Tube light Philips 40 watts	Gas Cylinder Standard Size, Bulb Philips 100- watts, Firewood whole Kerosine Oil
Household Furniture & Equipment	Washing machine Singer	Carpet plain, Wall clock quartz	Single bed without foam, Electric Iron Philips Electric Juicer for apple	Towel(3'x2'), Marriage Hall with furniture Dari Cotton (6'x2 1/2')
Transport & Communication	Car Tax for 800cc to 1300cc, Platform ticket, Postal envelope domestic, Postal registration charges	Internet charges, Motorcycle Honda cd- 70. Suzuki fare maximum Minibus fare	Car service charges, Taxi 4 Seater Fare Car Suzuki 800 cc, Bus fare	Tyre Car with tube General, High Speed Diesel HSD, Tyre Cycle , A/C Bus fare outside city
Recreation & Entertainment	Video Game Sega 16 Byte Daily "Dawn" Daily "Jang"	Tape recorder, Cinema a/c highest class, VID cassette TDK/Sony	Dry cell 1.5 Volt(local)	
Education	English book class V1 Govt. college fee 1st year, Govt. college fee 4th year	Pen ink dollar 57 ml bottle Maths book class V, Govt. engg. college fee 1st year	Exercise.book lined 80/100 pages, School fee 2 nd year Eng.Med. Govt. Med. College fee MBBS	Govt. University fee Msc., Paper foolscap (27"x17") Pencil Goldfish/Deer
Cleaning & Laundry	Surf (medium) 160 grams, Washing powder 1000 grams, Robin Blue (35 grams) Toothpaste Macklines 70 grams	Faccream Ponds (medium) Shampoo Plain Medora 200 ml, Perfume medium size Medora	Toothbrush shield, blade 7-O-Clock, Hair-colour begin (6 grams),Cleanser Powder Vim 1000 grams	Silver Tezabi 24 ct Blade Treet, Gold Tezabi 24 ct, Toilet Soap Lux 95 grams
Medicare	Betnovate-N Ointment 5 grams, Sancos syrup (50 ml) Calpol syrup 60 ml	Lederplex Syrup O.R.S. (Nimcol) Daonil Tab. 5 mg.		Glaxose-D (450 grams), Gripe-Water Woodwards Doctor (MBBS) clinic fee

Table A5: City-wise Inflation by Income Groups, April 2011

		Upto Rs:3000						Rs 3001-5000					
		General		Food		Non-Food		General		Food		Non-Food	
		MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY
1	Lahore	2.2	11.1	2.5	13.0	1.8	8.3	1.8	10.6	2.0	12.6	1.5	8.0
2	Faisalabad	1.9	10.8	2.4	12.4	1.3	8.3	1.9	11.7	2.2	12.9	1.4	10.1
3	Rawalpindi	0.9	11.7	0.2	16.1	1.8	5.7	0.8	11.2	0.1	15.0	1.8	6.4
4	Multan	1.0	15.7	0.6	18.1	1.6	12.6	1.1	15.0	0.7	17.7	1.5	11.6
5	Gujranwala	1.7	11.3	1.7	13.4	1.7	8.3	1.6	11.1	1.4	13.4	1.9	8.3
6	Islamabad	0.8	11.7	0.2	18.2	1.6	3.5	0.9	11.8	0.5	17.4	1.4	5.0
7	Sargodha	1.3	14.5	1.5	16.7	1.1	11.5	1.6	14.4	1.6	15.9	1.6	12.4
8	Sialkot	1.5	10.1	1.6	11.8	1.3	7.8	1.6	10.1	1.8	11.9	1.2	7.7
9	Bahawalpur	2.2	17.8	1.5	19.3	3.2	15.8	1.9	17.5	1.0	19.5	3.0	15.0
10	Karachi	1.5	13.6	0.7	16.6	2.7	9.7	1.5	12.9	0.7	15.5	2.6	9.7
11	Hyderabad	0.6	14.3	-0.8	14.9	2.7	13.4	0.4	14.4	-1.0	15.5	2.4	12.9
12	Sukkur	2.1	17.3	3.0	24.4	0.9	8.1	1.7	15.2	2.1	20.3	1.1	9.3
13	Larkana	1.0	15.4	0.9	19.8	1.2	9.5	1.2	15.7	1.2	19.8	1.2	10.7
14	Peshawar	2.5	16.5	2.0	18.2	3.2	14.3	2.4	16.2	1.7	17.6	3.1	14.6
15	Bannu	0.7	15.3	0.1	16.4	1.5	14.0	0.7	15.7	-0.1	16.8	1.6	14.4
16	Quetta	0.3	12.6	-0.9	15.0	2.1	9.1	0.0	11.2	-0.7	13.9	1.1	7.7
17	Khuzdar	0.0	13.8	1.1	17.1	-1.6	9.6	0.2	13.8	1.4	17.2	-1.3	9.7
		Rs 5001-12000						above Rs 12000					
		General		Food		Non-Food		General		Food		Non-Food	
		MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY	MoM	YoY
1	Lahore	1.6	9.5	1.9	12.1	1.3	6.6	1.7	8.8	2.0	12.2	1.4	-1.1
2	Faisalabad	1.9	11.1	2.2	13.5	1.4	8.5	2.0	10.2	2.4	13.8	1.5	-0.7
3	Rawalpindi	1.1	10.9	0.3	15.3	1.9	6.6	2.1	12.1	1.0	16.9	3.2	3.7
4	Multan	1.1	13.7	0.8	17.6	1.5	9.5	1.7	12.8	1.7	18.9	1.9	1.4
5	Gujranwala	1.6	10.6	1.4	13.7	1.9	7.4	1.9	10.2	1.7	14.1	2.1	1.0
6	Islamabad	1.0	10.5	0.3	16.6	1.7	4.4	1.7	10.7	0.7	17.2	2.8	0.9
7	Sargodha	1.8	14.8	1.7	16.1	2.0	13.4	3.5	16.8	4.1	20.1	2.8	7.0
8	Sialkot	1.7	9.4	2.1	11.5	1.2	7.2	2.0	9.5	2.8	11.7	1.1	0.8
9	Bahawalpur	1.7	16.2	0.9	20.3	2.7	11.7	2.2	15.4	1.4	22.0	3.3	1.6
10	Karachi	1.6	12.2	1.0	15.5	2.3	8.9	2.0	10.7	2.2	17.3	1.8	0.6
11	Hyderabad	0.5	13.9	-0.9	15.2	2.1	12.6	0.9	14.3	-0.4	16.4	2.3	7.7
12	Sukkur	1.6	14.5	2.0	19.8	1.3	9.5	1.8	14.2	2.1	19.3	1.5	7.3
13	Larkana	1.3	15.2	1.3	20.1	1.2	10.2	1.8	16.8	2.0	23.0	1.6	5.8
14	Peshawar	2.2	15.0	1.6	17.9	2.7	12.0	2.7	14.2	2.6	19.2	2.8	4.9
15	Bannu	1.2	16.1	0.5	17.3	1.9	14.8	2.3	16.2	2.4	18.8	2.1	9.3
16	Quetta	0.3	10.8	-0.4	14.2	1.2	7.0	1.3	11.7	0.8	15.8	1.9	2.2
17	Khuzdar	0.3	11.4	1.4	14.6	-0.9	8.1	1.1	10.0	2.4	13.9	-0.3	1.6

Table A6: City-wise Inflation in CPI (YoY) April 2011

	High inflation cities				Low inflation cities		
	General	Food	Non-food		General	Food	Non-food
Bahawalnagar	18.0	18.4	17.7	Vehari	12.9	13.7	12.2
D.I.Khan	17.5	23.7	12.6	Loralai&Cantt	12.9	15.3	11.1
Jhang	16.5	17.8	15.4	Khuzdar	12.7	15.3	10.5
Bahawalpur	16.3	20.4	12.7	Rawalpindi	11.5	15.9	8.0
Bannu	16.0	17.6	14.8	Karachi	11.5	16.3	7.7
Kunri	15.9	18.4	13.9	Quetta	11.2	14.9	8.0
Larkana	15.6	20.6	11.5	Attock	11.1	15.9	7.3
D.G. Khan	15.4	20.0	11.8	Islamabad	10.7	17.1	5.6
Mardan	15.4	17.8	13.4	Faisalabad	10.7	13.6	8.1
Sargodha	15.2	17.0	13.7	Gujranwala	10.6	13.7	8.0
Shahdadpur	15.2	19.0	12.2	Sialkot	9.5	11.6	7.7
Nawabshah	15.0	18.0	12.7	Lahore	9.2	12.2	6.6
Mianwali	14.9	16.3	13.7				
Samundari	14.9	17.9	12.5				
Peshawar	14.7	18.4	11.7				
Sukkur	14.6	19.8	10.6				
Mirpur Khas	14.6	17.9	11.9				
Turbat	14.4	18.3	11.5				
Hyderabad	14.1	15.5	12.8				
Okara	14.0	16.7	11.7				
Multan	13.6	18.0	9.9				
Jehlum	13.4	18.2	9.5				
Abbotabad	13.4	17.9	9.7				

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

Table A7 : Income Group-wise Inflation (percent)

	MoM				YoY		
	Apr-10	Mar-11	Apr-11		Apr-10	Mar-11	Apr-11
<u>Up to Rs. 3000</u>							
General	1.3	1.4	1.3		13.5	14.6	14.5
Food	1.7	1.5	1.0		15.4	17.6	16.8
Non-food	0.8	1.2	1.7		11.1	10.6	11.6
<u>Rs. 3001-5000</u>							
General	1.3	1.4	1.3		13.4	14.2	14.1
Food	1.8	1.6	1.0		15.2	17.6	16.7
Non-food	0.9	1.2	1.7		11.3	10.1	11.0
<u>Rs. 5000-12000</u>							
General	1.5	1.4	1.4		13.2	13.4	13.3
Food	1.9	1.8	1.1		14.8	17.8	16.9
Non-food	1.2	0.9	1.7		11.6	9.0	9.6
<u>Above Rs. 12000</u>							
General	2.0	1.6	2.0		13.3	12.7	12.6
Food	2.2	2.4	1.9		13.8	18.4	18.0
Non-food	1.9	1.1	2.0		12.9	9.2	9.3
<u>All income groups</u>							
General	1.7	1.5	1.6		13.3	13.2	13.0
Food	2.0	2.0	1.4		14.5	18.0	17.2
Non-food	1.5	1.0	1.8		12.2	9.1	9.5

Table A8: SPI Item-wise Price Movements					
S.No	Items	Unit	Prices Apr-11	Percentage change	
				YoY	Monthly
1	Wheat	Kg.	26.2	5.4	-4.3
2	Wheat flour average qlt.	Kg.	30.3	5.0	-2.1
3	Rice basmti.broken	Kg.	53.9	20.5	0.9
4	Rice irri-6	Kg.	41.8	21.0	1.8
5	Masur pulse washed	Kg.	114.6	-6.5	-3.9
6	Moong pulse washed	Kg.	140.9	45.7	-0.2
7	Mash pulse washed	Kg.	158.3	3.0	-0.5
8	Gram pulse washed	Kg.	70.7	22.1	-2.3
9	Beef	Kg.	225.6	20.9	1.3
10	Mutton	Kg.	436.4	25.4	1.2
11	Egg hen (farm)	Doz.	65.3	30.5	-14.8
12	Bread plain	Each	28.5	4.6	1.4
13	Sugar	Kg.	66.6	8.5	0.7
14	Gur	Kg.	80.4	13.7	-0.9
15	Milk fresh	Ltr	52.7	20.9	3.1
16	Milk powdered nido	400g	200.0	11.1	0.0
17	Curd	Kg.	60.8	18.3	2.3
18	Veg.ghee tin	2.5kg	489.0	32.5	1.9
19	Veg.ghee loose	Kg.	165.3	42.7	-0.8
20	Mustard oil	Kg.	168.2	24.0	-0.2
21	Cooking oil	2.5ltr	489.0	32.5	1.9
22	Potatoes	Kg.	22.5	20.3	18.1
23	Onions	Kg.	19.6	-41.5	-10.5
24	Tomatoes	Kg.	27.8	21.9	-19.5
25	Bananas	Doz.	54.4	32.4	3.7
26	Salt powdered	Kg.	7.6	11.8	0.5
27	Red chillies(powder)	Kg.	259.8	57.2	-1.6
28	Garlic	Kg.	183.4	17.0	-8.3
29	Tea packet	250g	151.3	16.2	0.0
30	Tea (prepared)	Cup	13.5	26.0	1.0
31	Cooked beef plate	Each	55.9	18.5	2.1
32	Cooked dal plate	Each	35.8	21.5	1.0
33	Cigarettes k-2	10's	13.7	5.0	0.0
34	Coarse latha	Mtr.	68.3	36.1	13.7
35	Lawn (avg.+s.qlty)	Mtr.	121.0	17.1	10.3
36	Voil printed	Mtr.	62.9	22.4	10.9
37	Shirting	Mtr.	96.0	15.5	6.6
38	Sandel gents Bata	Pair	499.0	0.0	0.0
39	Sandel ladies Bata	Pair	399.0	5.3	0.0
40	Chappal spng. Bata	Pair	139.0	7.8	0.0
41	Kerosene	Litr	95.0	24.4	9.3
42	Firewood	40kg	387.9	25.0	1.9
43	Elec. Bulb 60-wats	Each	24.2	21.2	0.4
44	Match box	Each	1.0	0.0	0.0
45	Washing soap	Cake	16.5	25.6	1.2
46	Bath soap lifebuoy	Cake	28.0	27.3	4.9
47	Chicken (farm)	Kg.	131.9	-6.4	-7.5
48	Gas chrg. All clb. Comb	mmbtu	337.2	0.0	0.0
49	L.P.G.(cylender 11kg.)	Each	1213.4	43.5	2.3
50	Elec.chrg.all slabs comb	per unit	9.1	6.4	0.4
51	Petrol	Ltr	84.4	14.1	8.1
52	Diesel	Ltr	93.6	26.1	11.8
53	Telephone local	Call	3.6	48.3	0.0
Maximum				57.2	18.1
Median				20.5	0.5
Minimum				-41.5	-19.5

Table A9: Distribution of Price Change (YoY) - WPI Items: April 2011

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

Table A10: Consumer Price Index Numbers by Major Groups and Selected Commodities				
Item and Specification	Weights	Index		
		Apr-10	Mar-11	Apr-11
General	100.00	223.44	248.55	252.58
Food & Beverages.	40.34	252.53	292.04	296.03
1 Wheat	0.48	285.63	318.36	312.73
2 Wheat Flour	5.11	297.87	315.46	311.87
3 Maida	0.11	280.45	285.36	284.23
4 Besan	0.13	206.89	262.20	260.83
5 Rice	1.34	280.58	324.80	326.06
6 Pulse Masoor	0.22	339.93	327.01	323.80
7 Pulse Moong	0.22	323.59	473.14	473.63
8 Pulse Mash	0.20	340.41	354.93	356.67
9 Pulse Gram	0.43	199.20	249.02	243.42
10 Gram Whole	0.15	213.55	244.20	247.62
11 Mustard Oil	0.05	249.12	303.51	302.63
12 Cooking Oil	0.69	234.30	301.50	305.82
13 Vegetable Ghee	2.67	250.40	343.03	343.96
14 Sugar	1.95	224.54	242.07	242.94
15 Gur	0.07	271.56	317.82	313.20
16 Tea	1.26	205.69	230.13	233.48
17 Milk Fresh	6.66	252.03	297.95	304.97
18 Milk Powder	0.11	216.92	241.27	243.80
19 Milk Products	0.56	233.05	270.22	275.23
20 Honey	0.04	212.85	274.86	275.14
21 Cereals	0.09	254.44	278.47	278.93
22 Jam, Tomato, Pickles & Vinegar	0.25	188.03	220.79	221.40
23 Beverages	0.73	189.57	213.45	218.31
24 Condiments	0.34	247.85	260.61	270.99
25 Spices	0.60	235.47	362.88	368.99
26 dsy Fruit	0.28	343.91	401.23	401.59
27 Bakery & Confectionary	2.98	150.69	160.02	160.57
28 Cigarettes	0.95	226.38	239.93	239.91
29 Betel Leaves & Nuts	0.19	202.92	221.02	227.55
30 Rrdymade Food	1.68	256.45	302.86	304.09
31 Sweetmeat & Nimco	0.38	262.22	319.55	323.45
32 Fish	0.27	215.06	252.94	253.79
33 Meat	2.70	333.07	408.52	414.80
34 Chicken Farm	0.92	261.43	277.00	261.01
35 Eggs	0.41	189.63	294.12	249.24
36 Potatoes	0.61	193.90	210.88	235.18
37 Onions	0.65	346.90	228.33	196.26
38 Tomatoes	0.51	166.20	233.74	200.36
39 Vegetables	1.76	272.13	316.46	335.46
40 Fresh Fruits	1.62	260.81	310.58	378.65
Apparel, Textile & Footwear.	6.10	167.51	185.96	189.61
41 Cotton Cloth	1.62	174.83	198.97	206.80
42 Silk, Linen, Woolen/Cloth	0.58	169.41	194.26	199.06
43 Tailoring Charges	0.86	182.83	208.30	210.70
44 Hosiery	0.15	182.07	208.64	213.29
45 Rrdymade Garments	1.20	152.94	170.06	173.21
46 Woolen Rrdymade Garments	0.15	200.07	224.38	224.85
47 Footwear	1.53	157.25	162.99	163.12
House Rent.	23.43	211.25	224.01	226.06
48 House Rent Index (Combined)	23.43	211.25	224.01	226.06

(continued)

(continued)

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

Item and Specification	Weights	Index		
		Apr-10	Mar-11	Apr-11
Fuel And Lighting.	7.29	242.79	265.98	267.73
49 Kerosene	0.14	485.36	519.18	577.96
50 Firewood	0.48	343.89	413.52	416.01
51 Match Box	0.13	200.00	200.00	200.00
52 Bulb & Tube	0.13	131.43	151.72	152.25
53 Electricity	4.37	189.54	212.76	212.90
54 Natural Gas	2.05	326.56	339.82	341.22
H.Hold. Furniture & Equipment Etc.	3.29	173.31	191.75	193.61
55 Utensils	0.37	159.81	174.20	174.88
56 Plastic Products	0.11	211.75	240.09	245.21
57 Suitcase	0.05	167.23	188.94	191.49
58 House Hold Equipments	0.10	161.49	180.90	182.06
59 Furniture (Rrdy Made)	0.31	188.05	207.40	208.78
60 Furnishing	0.64	164.60	185.40	187.80
61 Elect. Iron Fans & Washing Machine	0.19	166.44	176.81	181.00
62 Sewing Machine, Clock And Needles	0.13	150.79	164.72	167.17
63 Refrigerator & Air conditioner	0.18	135.36	147.27	151.59
64 Marriage Hall	0.04	209.66	250.79	251.69
65 House Hold Servant	1.19	183.86	202.85	203.91
Transport & Communication.	7.32	224.60	234.57	246.59
66 Petrol	1.73	247.15	252.16	274.94
67 Diesel	0.21	488.79	522.56	589.76
68 CNG . Filling Charges	0.16	226.80	236.39	239.42
69 Service Charges	0.38	180.89	195.12	198.57
70 Vehicles	0.26	135.90	147.11	149.11
71 Tyre & Tube	0.28	171.32	202.76	208.19
72 Transport Fare/Charges	2.12	285.36	300.79	315.36
73 Train Fare	0.15	253.24	287.05	287.05
74 Air Fare	0.10	365.51	369.79	369.79
75 Communication	1.93	127.83	127.95	127.96
Recreation & Entertainment.	0.83	139.17	139.80	140.01
76 Recreation	0.34	142.98	142.98	142.98
77 Entertainment	0.49	136.50	137.57	137.94
Education.	3.45	191.30	195.83	201.93
78 Tuition Fees	2.36	186.97	192.31	199.53
79 Stationery	0.35	185.57	198.86	202.86
80 Text Books	0.69	217.09	214.66	218.49
81 Computer & Allied Products	0.05	85.71	86.67	86.67
Cleaning Laundry & Per. Appearance.	5.88	185.00	209.13	214.65
82 Washing Soap & Detergent	1.55	169.59	185.29	187.94
83 Toilet Soap	0.74	186.50	216.07	237.36
84 Tooth Paste	0.40	118.81	121.80	122.13
85 Shaving Articles	0.35	154.91	168.13	169.94
86 Cosmetics	1.43	168.43	179.78	180.15
87 Watches	0.06	140.04	152.72	155.62
88 Jewellery	0.39	422.82	546.44	568.85
89 Laundry Charges	0.22	195.42	227.10	231.04
90 Hair Cut & Beauty Parlour Charges	0.73	171.69	195.06	196.89
Medicare.	2.07	163.25	185.11	189.81
91 dsugs & Medicares	1.08	133.32	139.16	148.23
92 Doctor's Fee	1.00	195.50	234.63	234.63

Table A11: Wholesale Price Index Numbers by major Groups and Selected Commodities

Item and Specifications	Apr-10	Feb-11	Mar-11	Apr-11
General	241.88	288.24	297.86	304.58
Food	248.53	289.24	294.48	296.72
1 Wheat	288.95	317.02	321.74	313.76
2 Wheat flour	292.35	302.64	305.58	300.85
3 Maida	281.62	283.75	285.92	285.22
4 Besan	186.24	237.62	239.29	234.61
5 Rice	327.54	385.58	388.71	393.72
6 Maize	257.27	367.90	392.20	391.76
7 Jowar	265.54	374.71	386.24	385.88
8 Bajra	205.70	283.01	287.44	292.89
9 Beans	287.58	311.17	317.30	319.89
10 Gram whole	226.16	255.30	260.23	262.72
11 Gram split	178.63	234.71	233.79	228.57
12 Masoor	322.96	308.46	300.71	292.85
13 Mash	278.91	314.64	316.89	315.37
14 Moong	326.34	467.51	484.84	491.04
15 Potatoes	191.91	206.08	213.93	248.45
16 Onions	343.94	290.67	247.36	191.58
17 Tomatoes	123.45	271.23	265.61	215.88
18 Vegetables	293.72	297.61	299.41	320.68
19 Fresh fruits	191.36	203.39	227.19	255.16
20 Dry fruits	256.58	328.15	332.05	331.55
21 Fresh milk	214.21	245.41	248.98	252.98
22 Powdered milk	223.08	241.84	245.04	245.09
23 Milk food	176.71	196.81	203.69	207.84
24 Vegetable ghee	275.74	398.19	399.78	395.72
25 Mustard & rapeseed oil	277.73	367.42	376.85	377.17
26 Cotton seed oil	285.94	371.09	380.91	386.62
27 Cooking oil	227.57	277.21	286.52	293.64
28 Oil cakes	316.98	377.34	384.05	393.95
29 Gur	253.75	291.87	281.96	279.86
30 Sugar refined	224.70	242.50	247.50	246.81
31 Chicken	267.65	266.65	281.22	273.30
32 Eggs	189.54	269.14	303.21	254.86
33 Fish	146.09	150.37	149.72	150.76
34 Meat	319.04	377.52	384.94	389.39
35 Spices	252.01	343.65	370.47	380.36
36 Condiments	299.80	306.47	311.44	313.17
37 Salt	169.17	192.07	196.00	196.00
38 Tea	171.16	183.54	194.17	195.13
39 Beverages	144.43	158.02	160.16	163.75
40 Mineral water	128.75	146.43	149.72	152.67
41 Fruit prepared/preserved	199.63	227.04	233.20	239.08
42 Vegetables prepared/preserved	184.35	204.34	212.13	215.31
43 Sugar confectionary	100.51	100.57	100.59	100.67
Raw material	285.83	434.70	458.34	450.47
44 Cotton	257.15	487.18	522.87	503.45
45 Cotton seeds	271.30	355.91	358.16	362.89
46 Mustard/rapeseeds	290.79	378.46	369.01	367.55
47 Tobacco	233.16	262.07	262.58	260.69
48 Sugar cane	514.21	566.09	594.40	601.95
49 Wool	140.66	153.73	153.70	164.33
50 Hides	134.42	151.24	154.59	156.19
51 Skins	103.35	110.13	113.06	122.98
52 Pig iron	321.93	321.93	321.93	321.93

(continued)

(continued)

Table A11: Wholesale Price Index Numbers by major Groups and Selected Commodities

Item and Specifications	Apr-10	Feb-11	Mar-11	Apr-11
Fuel & light	318.67	349.84	366.57	390.47
53 Coal	141.00	160.00	160.00	160.00
54 Coke	610.70	693.98	693.98	791.13
55 Diesel oil	479.20	486.97	511.15	577.53
56 Motor sprit	244.57	237.66	249.46	272.22
57 Mobil oil	202.36	216.39	228.69	233.37
58 Furnace oil	373.11	469.12	511.39	536.84
59 Kerosine oil	467.69	481.70	505.51	571.16
60 Natural gas	256.00	256.00	256.00	256.00
61 Electricity ind. Supply tariff-b	201.01	220.68	222.49	222.49
62 Elec. Agriculture tariff-d	205.07	238.86	238.86	238.86
63 Fire wood	283.62	332.95	353.66	357.11
Manufacture	164.72	206.86	215.17	220.30
64 Sole leather	134.06	134.06	134.06	140.01
65 Chrome leather	212.23	212.23	212.23	228.63
66 Cotton yarn	162.69	255.82	271.58	267.49
67 Blended yarn	182.14	235.34	236.81	251.42
68 Nylon yarn	123.53	174.09	174.70	185.96
69 Cotton textiles	152.04	168.34	176.73	183.61
70 Hosiery	157.29	176.56	183.80	196.13
71 Silk & reyon textiles	149.62	163.50	172.28	174.29
72 Woolen textiles	143.32	147.42	148.80	149.53
73 Jute manufactures	132.09	148.17	162.85	174.73
74 Mattresses	142.61	157.11	160.17	165.50
75 Rrdy made garments	118.87	123.89	125.26	125.26
76 Utensils	148.88	156.01	159.13	160.39
77 Plastic products	141.25	156.45	164.24	168.07
78 Glass products	179.81	192.67	194.87	198.87
79 Chemicals	206.18	236.37	244.64	250.25
80 Dying materials	92.57	96.14	96.14	96.14
81 Soaps	183.97	199.26	216.05	223.03
82 Cosmetics	123.62	161.81	175.12	178.84
83 Drugs & medicines	118.79	127.60	132.18	135.67
84 Fertilizers	307.46	358.17	386.96	427.49
85 Pesticides & insecticised	149.39	162.74	171.34	184.80
86 Machinery	178.80	199.80	199.80	207.45
87 Transports	131.55	162.78	162.78	169.28
88 Tyres	219.20	229.57	229.61	243.64
89 Tubes	193.47	214.77	214.77	229.40
90 Audio-visual instruments	92.31	94.02	96.27	100.49
91 Other electrical goods	131.27	142.51	142.51	152.72
92 Cigarettes	197.49	262.35	262.35	262.35
93 Paper	105.98	114.45	114.45	114.45
94 Matches	124.26	130.85	130.85	130.85
95 Foot wear	192.15	199.97	199.97	204.94
Building material	217.18	225.57	228.81	238.63
96 Cement	126.28	135.31	135.55	135.55
97 Bricks	248.68	316.98	319.61	325.74
98 Cement blocks	170.83	172.23	172.23	175.73
99 Tiles	99.67	99.67	99.67	101.37
100 Iron bars & sheets	287.66	293.43	296.76	314.21
101 Pipe fittings	183.46	193.87	195.80	196.51
102 Timber	208.88	227.30	230.68	231.22
103 Glass sheets	177.94	188.34	188.29	191.40
104 Paints & varnishes	149.43	180.97	212.43	218.35
105 Sanitary wares	162.56	163.29	163.37	163.37
106 Wires and cables	270.43	286.09	287.17	304.05

Table A12: Price Indices - Base 2000-01=100

Period	CPI			WPI			SPI *
	Overall	Food	Non-food	Overall	Food	Non-food	
2004-05	121.98	125.69	119.47	124.14	125.03	123.50	126.52
2005-06	131.64	134.39	129.78	136.68	133.78	138.78	136.43
2006-07	141.87	148.21	137.59	146.18	145.67	146.53	149.29
2007-08	158.90	174.36	148.44	170.15	173.27	167.88	170.55
2008-09	191.90	215.69	175.82	201.10	213.54	192.04	209.29
2009-10	214.41	242.59	195.36	226.49	239.01	217.39	236.87
2009 Jan.	190.09	210.33	176.40	192.91	208.80	181.35	204.02
Feb.	191.90	211.58	178.59	194.19	210.31	182.46	206.78
Mar.	194.53	216.13	179.92	195.00	212.16	182.51	208.40
Apr.	197.28	220.46	181.61	198.28	215.69	185.61	210.85
May.	197.74	220.04	182.66	201.29	217.50	189.49	212.62
Jun.	199.69	222.23	184.45	206.13	219.81	196.17	215.09
Jul	202.77	228.93	185.08	207.57	224.31	195.39	222.00
Aug	206.21	234.69	186.95	212.16	229.52	199.53	225.18
Sep	207.14	235.59	187.90	212.53	230.34	199.57	227.34
Oct	209.11	238.12	189.49	215.01	232.35	202.39	227.73
Nov	212.02	242.40	191.48	220.98	236.69	209.55	232.14
Dec	210.99	238.16	192.62	221.43	235.06	211.51	232.81
2010 Jan.	216.09	242.91	197.95	230.80	241.37	223.11	240.25
Feb	216.93	243.17	199.19	231.64	242.67	223.61	242.37
Mar	219.65	247.55	200.78	237.51	246.68	230.84	244.98
Apr	223.44	252.53	203.77	241.88	248.53	237.04	247.50
May	223.58	252.62	203.94	243.98	248.81	240.47	249.51
Jun	225.03	254.42	205.15	242.44	251.73	235.68	250.61
Jul	227.79	258.19	207.23	246.48	256.40	239.26	255.13
Aug	233.50	271.35	207.91	252.93	267.12	242.60	261.70
Sep	239.69	285.63	208.62	258.22	279.03	243.08	270.74
Oct	241.17	285.89	210.93	266.19	283.96	253.26	275.31
Nov	244.84	292.20	212.81	275.46	290.52	264.50	284.33
Dec	243.60	286.64	214.50	278.38	286.07	272.78	282.83
2011 Jan	246.76	292.52	215.82	282.96	291.06	277.07	284.47
Feb	244.93	286.26	216.98	288.24	289.24	287.51	281.56
Mar	248.55	292.03	219.15	297.86	294.48	300.32	284.83
Apr	252.58	296.04	223.19	304.58	296.72	310.30	287.28

*: all groups combined

Table A13: International Commodity Prices/Indices				
	Jan-11	Feb-11	Mar-11	Apr-11
Energy				
Crude Oil (US\$ per barrel)*	92.7	97.7	108.7	116.3
IMF Energy Index (2005 =100)	173.3	181.5	198.6	210.7
WB Energy Index (1990=100) @	320.4	333.7	365.4	389.1
Food (\$/MT)				
Rice	528.4	532.8	509.0	500.6
Wheat	326.6	348.2	316.8	336.3
Sugar	29.7	29.3	25.9	23.9
Palm Oil	1,238.6	1,248.6	1,142.2	1,123.8
Soybean Oil	1,257.1	1,268.4	1,245.1	1,279.0
Non-Food Non-Energy				
Cotton Outlook 'A' Index #	178.9	213.2	229.7	216.6
IMF Metal Price Index (2005=100)	245.5	256.2	244.2	250.1
Copper (\$/MT)	9,533.2	9,880.9	9,503.4	9,482.8
Alluminum (\$/MT)	2,439.7	2,515.3	2,555.5	2,667.4
Iron Ore (\$ cents/dry MT)	179.6	187.2	169.4	179.3
Tin (\$/MT)	27,439.4	31,619.7	30,590.9	32,347.7
Nickel (\$/MT)	25,621.2	28,412.2	26,710.4	26,332.2
Zinc (\$/MT)	2,375.8	2,473.5	2,341.5	2,371.5
Lead (\$/MT)	2,584.0	2,595.6	2,624.0	2,719.4
Uranium (\$/pound)	63.9	65.0	63.5	57.8
DAP (\$/MT)	533.2	558.1	483.9	497.1
Urea (\$/MT)	367.5	375.0	380.0	413.8
\$/MT = US\$ per metric tonne.				
* Crude Oil (petroleum), simple average of three spot prices; Dated Brent, West Texas Intermediate, and the Dubai Fateh				
# 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/				
DAP: Diammonium Phosphate				
@ World Bank commodity index for low and middle income countries				
Source: IMF and World Bank.				

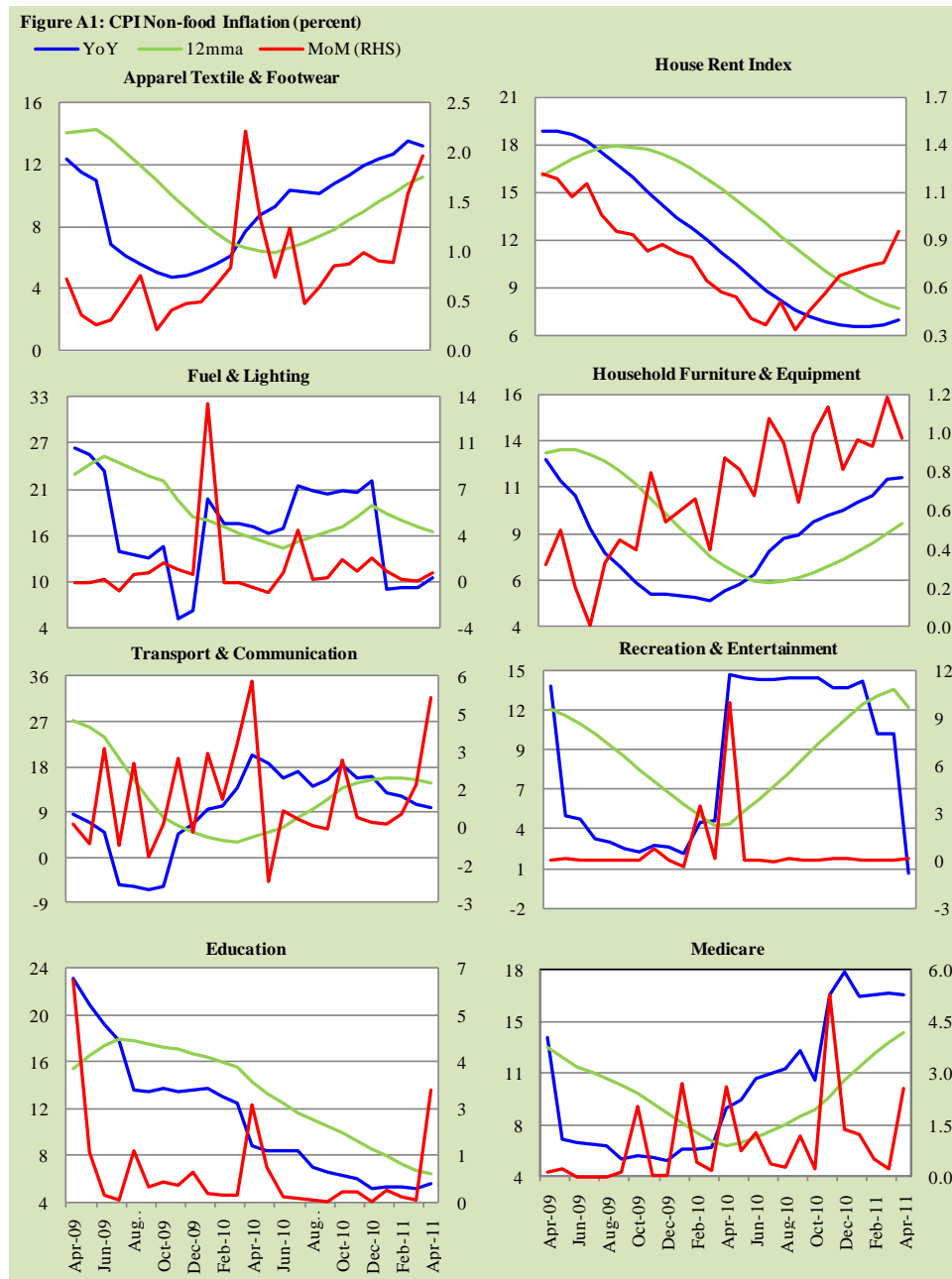


Figure A2: Frequency Distribution of Price Changes of CPI Items, April 2011

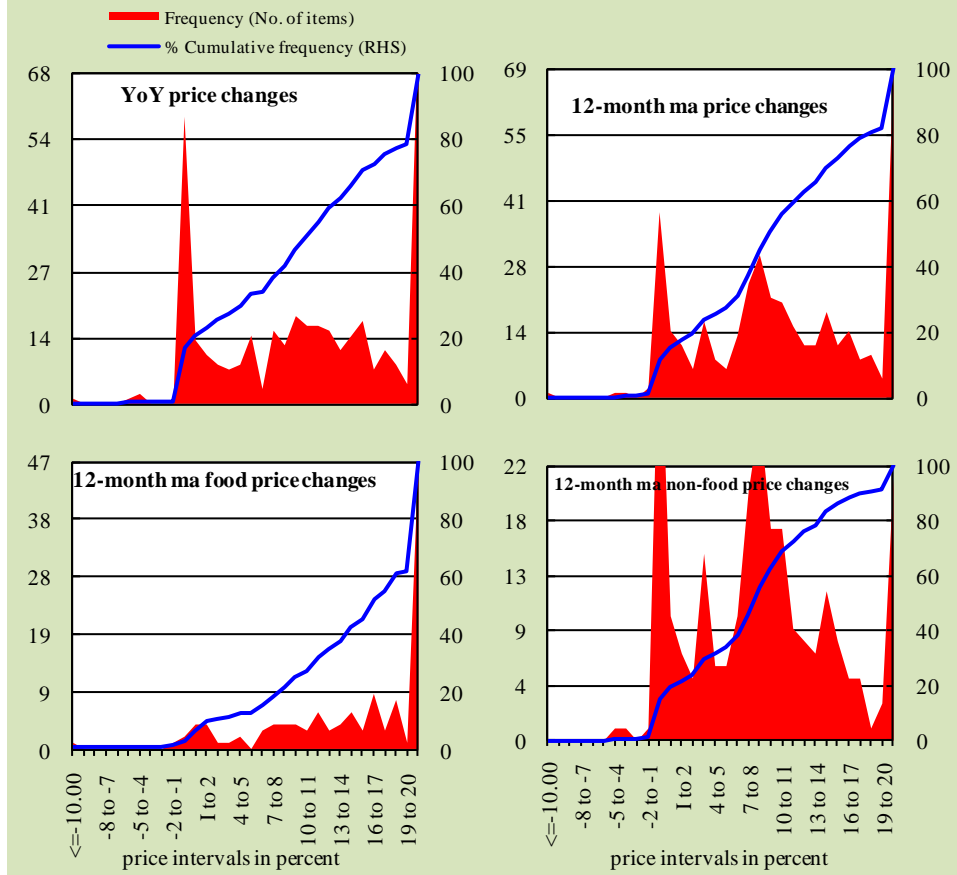


Figure A3: Frequency Distribution of Price Changes of WPI Items, April 2011

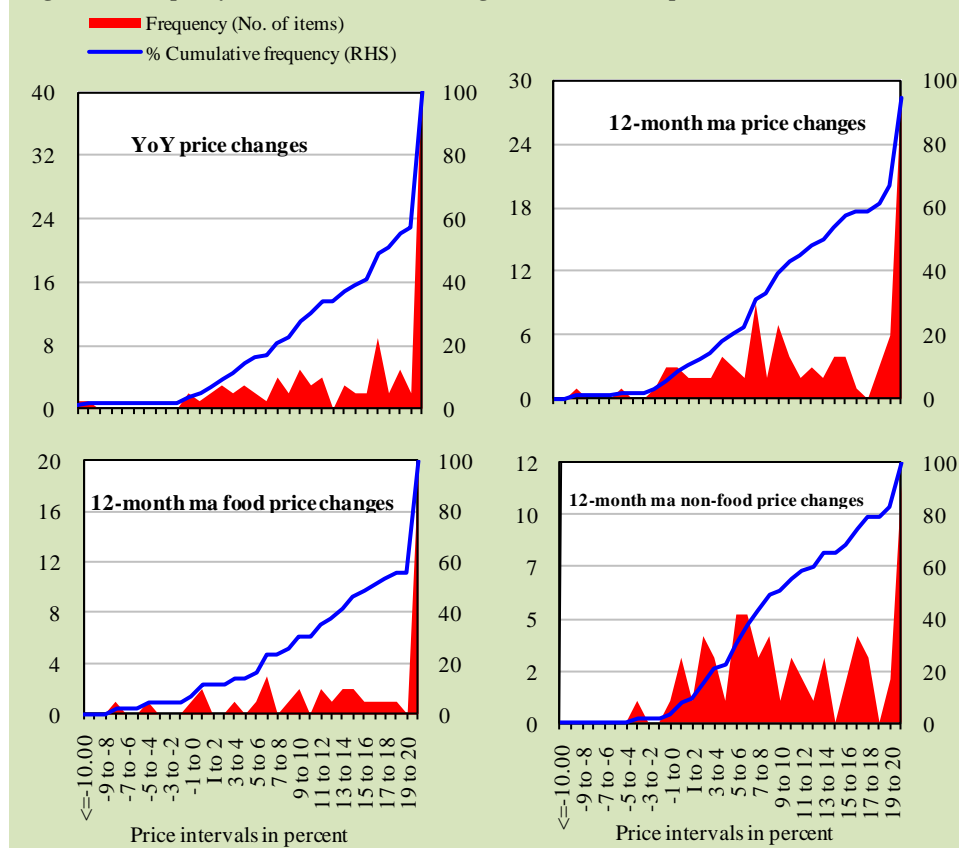
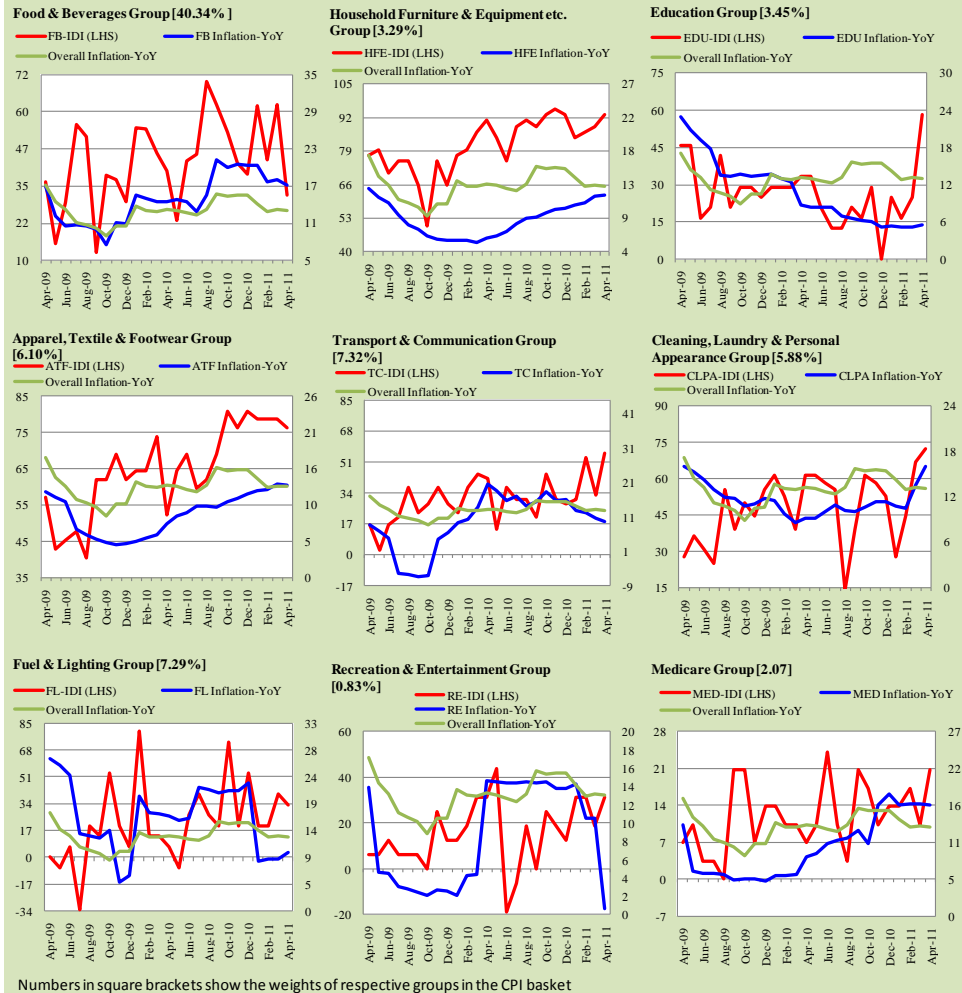


Figure A4: Group-wise Inflation Diffusion Index (IDI) and Respective Overall YoY Inflation (percent)



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 (kerosine 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

Methodology for Estimating Inflation Diffusion Index for Pakistan

We constructed an index to measure the spread of inflation in the 374 commodities of the CPI basket. It is based on month-on-month (MoM) change in the prices of these commodities and can be obtained by estimating what is known as an 'inflation diffusion index' (IDI) as below:

$$\frac{\text{Number of Commodities with } \uparrow \text{ in MoM change} - \text{Number of Commodities with } \downarrow \text{ in MoM change}}{\text{Number of Commodities for which prices are reported}} * 100$$

Thus, it is the difference between the share of items with increasing prices (i.e. depicting inflation) and the share of items with falling prices (i.e. depicting deflation) in CPI amongst the commodities for which prices have altered or remained constant⁴.

Based upon commodity level price data from July 2001 to February 2011 we computed inflation diffusion indices overall (general) CPI basket and for all groups in CPI basket (except House Rent Index being single item). A simple analysis⁵ suggests that IDI is a leading indicator for Pakistan's YoY inflation.

⁴ We do not observe the prices of certain commodities (like the seasonal items) during certain periods of time. To calculate the inflation diffusion index we consider the commodities for which prices have been reported (irrespective of changed or not) during the month under review.

⁵ Formal test shows one way 'Granger' causality from IDI to YoY inflation.