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Trend and Characteristics of Recent Inflation in Bangladesh

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Trend and Characteristics of Recent Inflation in Bangladesh*

1. Introduction

Inflation has emerged as a global phenomenon in recent months largely reflecting the impact of higher food and fuel prices and strong demand conditions especially in the emerging economies. In line with global trends, Bangladesh also experienced rising inflation with the 12-month average CPI inflation touching 9.94 percent in June 2008. The present cycle of rising inflation is the longest in the history of Bangladesh persisting for seven consecutive years which, in earlier episodes, usually showed fluctuating movements with the rising trend continuing for 2/3 years.

In the backdrop of recent global developments, this note examines some of the characteristics of inflation in Bangladesh including the contribution of major commodity groups to overall inflation in rural and urban areas.

2. Global Inflation: Trends and Policy Responses

The global economic growth is projected to slow down to 3.7 percent in 2008, down by more than one percentage point from 4.9 percent achieved in 2007. The forecast for global growth in 2009 is also low at 3.8 percent. The major drags on global economic growth are the slowdown in the US economy, unfolding credit crunch besetting US and Europe, and spillover effects of growth slowdown in major developed countries to other developed and emerging economies through trade, financial market, and other linkages. The current growth projections foresee a deceleration of real growth in emerging and developing economies to 6.7 percent in 2008 and further to 6.6 percent in 2009 from 7.9 percent in 2007.

Headline inflation in most advanced countries has hardened in recent months. Inflation in the US rose to 5.0 percent in June 2008 from 2.7 percent a year ago, driven by food and energy prices, which increased by 5.3 percent and 24.7 percent (year-on-year) respectively in June 2008. The US Federal Open Market Committee (FOMC) notes high uncertainty about inflation outlook and expects the inflation to moderate from the latter part of 2008. In the euro area, the harmonized index of consumer prices (HICP) inflation more than doubled to 4.0 percent in June 2008 from 1.8 percent a year ago. According to the Monetary Policy Committee (MPC), CPI inflation would peak around the end of this year in UK and then begin to fall back toward the target of 2 percent within a period of two years. In the euro area, HICP inflation is expected to remain well above the level consistent with price stability and, with upside risks to price stability, the situation is likely to continue for a more protracted period than previously thought.

Inflation in most emerging market economies (EMEs) rose at higher rates due to rising oil, other commodity, and food prices and greater weight of food and energy in consumption baskets. In China, CPI inflation increased to 7.1 percent in June 2008 (which moderated from a high of 8.7 percent in February 2008) from 4.4 percent a year earlier. In South Korea, CPI inflation increased to 5.5 percent in June 2008 from 2.5 percent a year ago mainly influenced by high oil prices. In Thailand, the increase in CPI inflation was from 1.9 percent in June 2007 to 8.9 percent in June 2008.

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In India, various measures of CPI inflation were in the range of 6.8 percent and 8.8 percent in May/June 2008 compared with values between 6.0 percent and 7.9 percent in March 2008 and between 5.7 percent and 7.8 percent in June 2007. The rise was mainly due to increase in food and services (miscellaneous group) prices. Inflation based on wholesale price index (WPI) in India rose to 11.9 percent on 12 July 2008 from 7.7 percent at end March 2008 and 4.8 percent a year ago. In Pakistan, CPI inflation stood at 21.5 percent in June 2008 compared with 8.8 percent in December 2007. In Sri Lanka, the revised Colombo CPI inflation (point-to-point) reached 28.2 percent in June 2008 against 18.8 percent in December 2007.

Key macroeconomic indicators in major EMEs show that: (i) CPI inflation ranged around a low of 4.8 percent and a high of 15.1 percent in May/June 2008; (ii) real policy rates (inflation adjusted) ranged from (-) 5.7 percent and 6.9 percent in July 2008; and (iii) the real effective exchange rate (REER) underwent depreciation on a year-on-year basis in June 2008 (an important exception being China).

Table 1: Inflation and Policy Responses in Selected Countries

Country	Key policy rate	Policy rate (latest)*	Changes in policy rate (basis points) July-June		Change since end March 2008	CPI inflation (June, y-o-y)		Current CPI inflation highest since	Real GDP growth (y-o-y)	
			2006/07	2007/08		2007	2008		2007	2008
USA	Federal Funds Rate	2.00 (30 April 2008)	50	(-) 300	(-) 25	2.7	5.0	May 1991	1.9	2.5
UK	Official Bank Rate	5.00 (10 April 2008)	75	0	(-) 25	2.4	3.8	Jun 1992	3.0	2.5
Euro area	Interest Rate on MROs	4.25 (9 July 2008)	125	25	25	1.9	4.0	May 1992	3.0	2.1
India	Reverse Repo Rate	6.00 (25 July 2006)	50	0	0	6.6	7.8	@	9.7	8.8
	Repo Rate	8.50 (25 June 2008)	125 (100)#	0 (150)#	75 (125)#					
China	Benchmark 1-year Lending Rate	7.47 (21 December 2007)	81	108	0	4.4	7.1	***	11.1	10.6
Pakistan	Repo Rate	13.00 (30 July 2008)	50	250	250	7.0	21.5	1970s	6.4	6.0
Sri Lanka	Reverse Repo Rate	12.00	150	0	0	13.5	28.2	All time	6.7	7.6 (1 st qr)
	Repo Rate	10.50	150	0	0					
Thailand	14-day Repo Rate	5.00 (7 Jun 2006)	50	...	...	1.9	8.9	Jul 1998	4.3	6.0
	1-day Repo Rate	3.50 (16 Jul 2008)	(-) 44**	(-) 125	25					
Bangladesh	Reverse Repo Rate	6.5 (3 Sep 2006)	46	0	0	9.2	10.04	1996	6.4	6.2
	Repo Rate	8.5 (12 Dec 2007)	125	(-) 75	0					

Note: MROs: Main Refinancing Operations, *: Date in parentheses indicates the last date of revision, @: CPI inflation of 7.9 percent in March 2008 was highest since April 1999, **: Change over 16 January 2007. Effective 17 January 2007, 1-day repo rate replaced 14-day repo rate as the policy rate, ***: CPI inflation of 8.7 percent in February 2008 was highest since May 1996, #: Indicates variation in cash reserve ratios.

Source: IMF, websites of respective central banks.

Despite hardening of inflation, many central banks in advanced economies persisted with accommodative monetary policy fostering market liquidity and promoting growth (Table 1). In the face of the twin challenge of controlling inflation and remaining alert to downside risks from the slowdown in the advanced economies, the emerging and developing economies adopted varied responses. While countries like China, India, and Republic of Korea tightened their monetary stance, Malaysia kept its interest rates steady and Indonesia, Philippines, and Thailand eased rates.

In South Asia, some countries have taken steps to manage and cool off inflation expectations and tame the underlying inflationary dynamics. The Reserve Bank of India increased CRR to 8.75 percent in July 2008 which was raised to 8.00 percent in two stages in April and May 2008. The repo rate was also shifted upward to 8.50 percent in July 2008 as compared with 8.00 percent in June 2008 and 7.75 percent in July 2007. The State Bank of Pakistan increased the policy discount rate by 150 basis points to 12.00 percent in May 2008. At the same time, CRR for all deposits up to one year maturity was revised upward from 8.00 percent to 9.00 percent and SLR was increased from 18.00 percent to 19.00 percent. With rising inflationary pressures, monetary policy in major South Asian economies is likely to remain cautious as they continue to manage the threat of overheating

2.1 Global Commodity Prices: Recent Movements

In general, global commodity prices further firmed up in early 2008 led by sharp increases in crude oil, food, and agricultural raw material prices (Table 2). Rising food prices, led by rice, wheat, maize, and edible oils, reflected both increased demand (both for food and non-food uses such as bio-fuel production) and low stock of major crops. The IMF food price index rose by 44.4 percent (year-on-year basis) in June 2008 surpassing the past highest level seen in 1980.

Despite some recent improvement in prospects, the supply side pressures on global food prices are not likely to abate much especially with year ending global stock of major crops at multi-year lows. The US Department of Agriculture (USDA) foresees a decline by 1-3 percent during 2008-09 (on top of estimated decline of 5-6 percent in 2007-08) in global vegetable oils and oil meals stocks. In contrast, global wheat stock is expected to increase by nearly 15 percent during 2008-09 to about 133.1 million tons as against a decline by 8 percent in 2007-08. Similarly, global rice stock is likely to increase by 4 percent in 2008-09 to 82 million tons. According to International Sugar Organization (ISO), global sugar production is likely to exceed global consumption by about 9 million tons during 2007-08 (October-September) season. The International Cotton Advisory Committee (ICAC) foresees a 3 percent decline in world cotton production in 2008-09 leading to decline in cotton stock and resulting price increase by 12 percent in 2008-09.¹

Crude oil prices increased sharply in the global market due to several factors such as tight supply-demand balance, geo-political tensions, weakened US dollar against major currencies, and increased interest from investors and financial market participants (Table 3). Despite slowdown in the US economy and raising production by Saudi Arabia to its 27-year high (to 9.7 million barrels per day) in July 2008, crude oil (West Texas Intermediate, WTI) price reached USD 145.3 a barrel level on 3 July 2008. The WTI crude prices eased to around USD 127 per barrel level by 22 July 2008.

Table 2: Changes in International Commodity Prices

¹ The price of rice (Thailand 5%) declined from a quarterly average of USD 855.30 per metric ton during April-June 2008 to USD 693.50 in August 2008 while the price of wheat (US, HRW) declined from USD 346.50 per metric ton to USD 329.30 over the same period. The monthly average price of soybean oil was USD 1,537 per metric ton in June 2008 which declined to USD 1,323 in August 2008. For palm oil, the price declined from USD 1,213 per metric ton in June 2008 to USD 884 in August 2008. On the other hand, world sugar price increased from 26.74 cents/kg in June 2008 to 32.21 cents/kg in August 2008. Similarly, the prices of cotton and all types of fertilizer showed increasing trend since June 2008. The new World Bank commodity price indices for low and middle income countries (2000=100) for all commodity groups declined in August 2008 over June 2008 except fertilizers.

Commodity	Market price 2004		Index: 2004=100				Change (percent)		
	Unit	USD	2005	2006	2007	2008		Jun 08 over Mar 08	Jun 08 over Jun 07
						Mar	Jun		
Rice	MT	237.7	120	128	137	250	326	30.5	139.8
Wheat	MT	156.9	97	122	163	280	222	-20.7	56.3
Soybean oil	MT	616.0	88	97	143	240	247	3.1	82.7
Palm oil	MT	471.3	90	101	165	265	256	-3.5	49.8
Sugar	Kg (cent)	15.8	138	206	141	184	169	-8.1	30.6
Crude oil (average)	bbl	37.7	142	170	188	270	349	29.1	92.9
Cotton A index	Kg (cent)	136.6	89	93	102	129	124	-4.0	27.1

Source: World Bank commodity price data.

Table 3: Changes in Crude Oil Prices
(USD per barrel)

Year/month	Dubai crude	US WTI	Average crude price	Bangladesh import price ²
2001/02	21.61	23.68	22.66	24.04
2002/03	25.89	29.90	27.87	27.94
2003/04	29.04	33.74	31.37	35.54
2004/05	40.11	48.73	45.05	42.07
2005/06	57.64	64.22	61.45	59.02
2006/07	60.87	63.35	62.78	92.85
2007/08	90.29	97.02	94.44	125.75
Jun 2008	127.59	133.93	131.52	125.75
Jul 2008	131.22	133.38	132.55	138.57
Aug 2008	113.21	116.64	114.57	137.35
Sep 2008	...	...	...	114.41

Source: IMF, World Bank, BPC

The international crude prices are likely to remain at elevated levels in the near future largely due to tight demand-supply balance. The US Energy Information Administration (EIA) expects WTI (average) crude prices to remain at around USD 127.4 per barrel in 2008, up by 76 percent from USD 72.3 a barrel in 2007.³ The future markets also suggest that WTI prices are likely to remain at around USD 127 per barrel up to February 2009. The crude oil prices,

² The price refers to fob price. Usually, Bangladesh import price is higher than quoted world price for several reasons. The country-specific price for Bangladesh is set by the supplier on a monthly basis at the beginning of the month so that any price movement during the month is not reflected in the country's import price. A comparison of the average crude price and Indian basket price shows that the latter has always been lower than the world average price since 2001. On the other hand, for Bangladesh, import price has been higher than average crude price in all years since 2001/02 except 2004/05 and 2005/06.

³ These forecasts, made in July 2008, are based on the likely existence of a relatively tight demand-supply balance, significant global supply uncertainties, and continued high demand growth in China, the Middle-East and Latin America creating high and volatile international crude oil prices.

however, eased somewhat in August 2008 with the crude oil (Dubai) price falling to a monthly average of USD 113.21/bbl from USD 131.22 /bbl in July 2008.

Table 4: Nominal Price Forecasts of Selected Commodities in World Market

Commodity	Unit	2007	2008	2009	2010	2015	2020
Crude oil, average	USD/bbl	71.1	108.1	105.5	98.5	75.3	77.2
Coal, Australia	USD/m. ton	65.7	125.0	125.0	100.0	70.0	75.0
Palm oil	USD/m. ton	780.3	1,100.0	1,051.1	1,004.3	800.0	650.0
Soybean oil	USD/m. ton	881.4	1,300.0	1,212.9	1,131.6	800.0	730.0
Rice, Thailand, 5%	USD/m. ton	326.4	650.0	560.0	500.0	450.0	400.0
Wheat, US, HRW	USD/m. ton	255.2	380.0	340.0	300.0	260.0	240.0
Sugar, world	Cent/kg	22.2	28.0	30.0	32.0	34.0	36.0
Cotton	Cent/kg	139.5	165.0	160.0	156.9	145.0	135.0
Urea	USD/m. ton	309.4	425.0	350.0	310.0	260.0	220.0
TSP	USD/m. ton	339.1	750.0	500.0	380.0	290.0	240.0
DAP	USD/m. ton	432.5	900.0	500.0	400.0	310.0	260.0

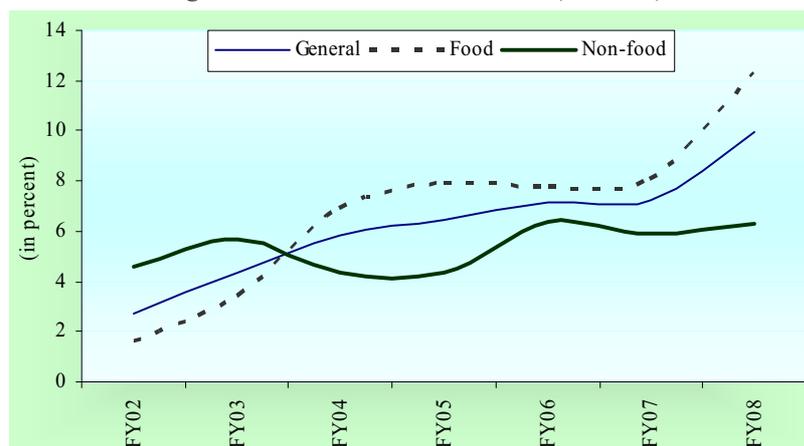
Source: World Bank

In the global market, although forecasts in the current environment are subject to considerable uncertainty, market analysts foresee that most prices are likely to remain relatively high in 2008 and 2009 after which they might decline (Table 4). Moreover, the anticipation is that prices would remain well above 2004 levels through 2015 for most food crops including rice and wheat.

3. Inflation in Bangladesh: Trends and Characteristics

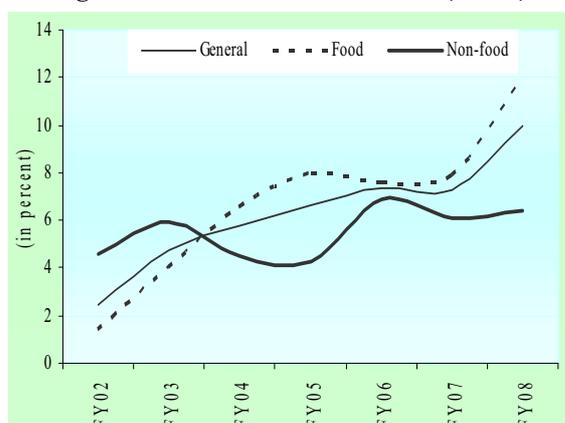
The CPI inflation in Bangladesh rose to 9.94 percent in June 2008; 9.99 percent in rural areas and 9.80 percent in urban areas (Figure 1). In June 2008, average food inflation was 11.95 percent in rural areas compared with 13.07 percent in urban areas. In the case of nonfood category, rural areas experienced inflation at a rate of 6.41 percent while the rate was 6.06 percent in urban areas (Figures 2 and 3). This shows that, in general, the urban people face higher food inflation relative to the rural population while the situation is reverse in the case of nonfood inflation.

Figure 1: 12-Month CPI Inflation (national)



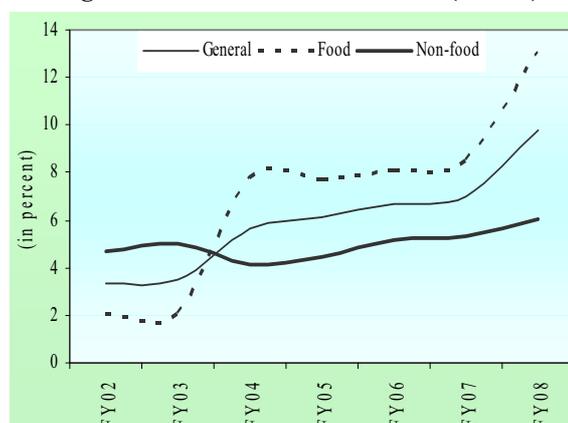
Source: BBS.

Figure 2: 12-Month CPI Inflation (Rural)



Source: BBS.

Figure 3: 12-Month CPI Inflation (Urban)



Source: BBS.

Table 5: Consumption Basket and Weights in CPI

Items	Rural CPI		Urban CPI	
	No. of item	Weight (%)	No. of item	Weight (%)
I. Food, beverage, and tobacco	106	62.96	113	48.80
Food	99	60.48	104	44.53
Beverage	3	0.96	3	2.40
Tobacco and products	4	1.52	6	1.87
II. Non-food	109	37.04	189	51.20
Clothing and footwear	33	6.88	48	6.79
Gross rent, fuel, and lighting	6	14.69	13	22.17
Furniture, household equipment	28	2.70	37	2.58
Medical and health expenses	5	2.79	16	2.97
Transport and communication	11	2.98	22	7.07
Education, recreation, others	11	3.20	19	6.40
Misc. goods and services	15	3.80	34	3.22
Total	215	100.00	302	100.00

Source: BBS

In Bangladesh, CPI inflation is constructed separately for rural and urban areas with detailed prices for 215 commodities and services (106 food and 109 non-food) in rural areas and 302

items (113 food and 189 non-food) in urban areas (Table 5). It can be seen from the table that consumption bundle and weight underlying rural CPI and urban CPI have significant differences. In urban areas, the number of items included in the consumption bundle is higher mainly due to larger coverage of nonfood items. In terms of weight, rural CPI has a higher dependency on food category (by nearly 14 percentage points) than urban CPI and the weight of the major staple food, rice, is more than double (24 percent) in rural areas compared with 11 percent in urban areas.

3.1 Statistical Characteristics of Inflation

Some statistical characteristics of monthly inflation over the period FY05-FY08 are given in Annex Table 1. The month-to-month variability of overall inflation rate, as measured by standard deviation, significantly increased in FY08 in both rural and urban areas. The variability of both food and nonfood inflation rose, but the increase was sharper for food inflation. It can also be seen that the variability of food inflation was higher in the urban areas during the year whereas nonfood inflation had higher variability in the rural areas. The value of skewness showed considerable variation indicating the presence of extreme price changes affecting the average values.

The monthly movement shows some changes in the seasonal pattern of inflation. In the case of general inflation, the peak is observed in March during FY08 in both rural and urban areas; which in earlier years usually occurred in June and sometimes in October in urban areas and January in rural areas. The peak for food inflation in FY08 is observed in June in both rural and urban areas (same as in FY07) but different from FY06. For nonfood inflation, the pattern does not seem to be uniform with the peaks occurring in February in rural areas and March in urban areas for FY08. The lowest monthly value of general inflation was in July in both rural and urban areas in FY08 which was in January in FY07. For food and nonfood inflation, the lowest inflation in both rural and urban areas was recorded in July in FY08. The above pattern shows that, in the case of food inflation, June (and to a lesser extent August and October) are the months when the rise in food prices picks up indicating the need to adopt price stabilization measures to reduce seasonal variation in food inflation.

3.2 International and Domestic Price Changes: Pass-Through Elasticity

The increase in prices of commodities included in the CPI basket in rural and urban areas during FY08, along with global price increase of important food items imported by Bangladesh, can be seen in Table 6. The average (weighted) price of food items increased by 14.0 percent in rural areas and 14.3 percent in urban areas during the year. For the non-food basket, the increase in prices during the year was less; 3.5 percent in rural areas and 3.6 percent in urban areas. In the rural areas, the price increase was led by wheat (62 percent), rice (38 percent), sugar (32 percent), edible oil (30 percent), milk (25 percent), and pulses (25 percent). In the urban areas, commodities experiencing high price hike included wheat (59 percent), edible oil (42 percent), rice (39 percent), pulses (38 percent), sugar (31 percent), and meat (16 percent).

If we compare domestic increase in prices of important food items with global price hike of these commodities, it can be seen that prices of wheat increased relatively more in the domestic market than in the global market but the situation is reverse in the case of rice and edible oil. An analysis by PAU of the relationship between domestic and world prices of

three important commodities—rice, wheat, and edible oil—shows that, while price changes of rice in domestic and international markets follow similar pattern, the domestic real price of wheat moves at similar pace as world real price of wheat (Mortaza and Rahman 2008).⁴ For soybean oil, real domestic price seems to have always remained higher than real world price indicating higher concentration of import based consumption.

Table 6: Global and Domestic Increase in Commodity Prices in CPI Basket

Commodity groups	Global (% change in June 2008 over June 2007)	Domestic [@] (% change in June 2008 over June 2007)	
		Rural	Urban
1. Food	...	14.00	14.34
Rice	154.2	38.27	39.34
Wheat	55.3	61.71	58.73
Pulses	...	24.56	37.99
Fish	24.3*	-22.12	-17.10
Meat	8.8**	9.66	15.67
Vegetables	...	-3.73	4.11
Fruits	...	13.18	8.53
Spices	...	0.93	13.14
Edible oil	79.6	30.06	41.74
Milk	...	25.28	12.43
Sugar	30.3***	32.25	31.17
Beverage	...	0.40	2.39
Tobacco and products	...	14.05	13.19
2. Non-food	...	3.50	3.64
Clothing and footwear	...	3.49	4.74
Gross rent, fuel, and lighting	...	3.17	1.15
Furniture, household effects	...	4.36	12.24
Medical and health services	...	1.02	3.97
Transport and communication	...	2.02	3.23
Education, recreation and others	...	3.01	2.86
Misc. good and services	...	8.57	11.49

Notes: Global price increases are based on World Bank and IMF primary commodity prices while domestic price increases are derived from CPI prices of BBS. [@] Based on CPI data of BBS; * global market (Norway); ** beef global market (Australia-New Zealand-US Ports); *** global free market.

Source: Authors' calculations

The pass-through of international prices of rice, wheat, and edible oil to domestic consumers shows a higher pass-through for wheat, followed by edible oil and rice.⁵ Between March 2006 and March 2008, the pass-through is estimated at 80.6 percent for wheat, 68.8 percent for edible oil, and 48.9 percent for rice. In addition, short run pass-through elasticities have been estimated at 0.19 for rice, 0.14 for wheat, and 0.15 for edible oil.⁶ This implies that if

⁴ Mortaza, M.G. and H. Rahman, 2008, 'Transmission of International Commodity Prices to Domestic Prices in Bangladesh,' Working Paper Series: WP0807, Policy Analysis Unit, Bangladesh Bank, June 2008.

⁵ The pass-through is also affected by import-domestic consumption ratios of specific commodities which vary significantly for the three commodities. In FY07, the import-consumption ratio was 1.8 percent for rice, 50.8 percent for wheat, and 59.3 percent for edible oil.

⁶ The results are based on monthly data covering 1:2000 to 3:2008. The corresponding long run elasticities are 0.33 for rice, 0.31 for wheat, and 0.55 for edible oil. Moreover, the less than unity elasticity indicates the impact

import price in domestic currency increases by 10 percent, the domestic price would increase by 1.9 percent for rice, 1.4 percent for wheat, and 1.5 percent for edible oil in the short run. In the long run, the corresponding increases would be 3.3 percent for rice, 3.1 percent for wheat, and 5.5 percent for edible oil. More importantly, the above results indicate low impact of increase in international prices on domestic prices for these three commodities, especially for rice and wheat. This shows that it would be more realistic for the government to follow commodity specific import policies rather than a common policy, especially for those goods that have higher consumption weights in the CPI and have higher import share in total consumption. Obviously, this also points to the importance of bringing an effective mix of improved short run trade policy interventions and medium term policies of increasing domestic supply through stimulating investment and enhancing productivity.

3.3 Contribution of Commodity Groups to Inflation

The average contribution of major commodity groups included in the CPI basket in rural and urban areas to inflation during FY08 is shown in Table 7. Over the year, the contribution of food items to overall inflation was 76 percent in the rural areas and 67 percent in the urban areas. Conversely, the contribution of nonfood items was 24 percent in the rural areas compared with nearly 33 percent in the urban areas. Of the food items, the contribution of rice was 73 percent in rural areas and 31 percent in urban areas. Other important contributors were other cereals; gross rent, fuel, and lighting; and edible oil.

The yearly average, however, masks significant seasonal variations which can be seen from monthly data on inflation (see Appendix Table 2A and 2B). The contribution of rice to overall inflation in rural areas was 31 percent in June 2007 which rose to a high of 108 percent in April 2008 and slightly declined to 90 percent in June 2008. In urban areas, similar contribution of rice was 13 percent in June 2007 which increased to 50 percent in June 2008. Moreover, significant variation in contribution arising from seasonal price fluctuations is also noticed especially for food commodities in both rural and urban areas.⁷ As expected, the contribution of nonfood items displays much less seasonal variation.

Table 7: Average Contribution of Commodity Groups to Inflation: FY08

	Rural	Urban
Total	100.00	100.00
Food	76.00	67.27
Rice	72.62	31.38
Other cereals	15.54	15.96
Pulses	1.82	2.06
Fish (fresh) & dry fish	-18.77	-8.32
Eggs and meat	4.41	6.63
Vegetables	9.04	5.69
Fruits	1.69	2.92
Spices	3.30	3.10

of the government's efforts to insulate domestic prices of these commodities from the adverse impact of higher international prices.

⁷ For several commodities, the contribution varies from positive to negative values depending upon the season of the year. For example, the contribution of vegetables to overall inflation was significantly high during August to December 2007 largely due to the impact on vegetable production resulting from consecutive floods and the cyclone (Sidr).

Edible oils & fats	9.81	11.17
Milk and milk products	3.46	3.73
Miscellaneous food items	1.42	3.36
Beverage	0.02	1.53
Tobacco & products	0.95	1.80
Non-food	24.00	32.73
Clothing and footwear	2.77	5.17
Gross rent, fuel & lighting	11.82	15.43
Fur. furn. H/H eq, & op.	2.38	3.38
Med.& health exp.	0.96	1.79
Transport & communication	1.56	3.14
Rec.ent. edu. & cul. ser.	0.61	1.51
Miscellaneous goods & services	4.18	2.81

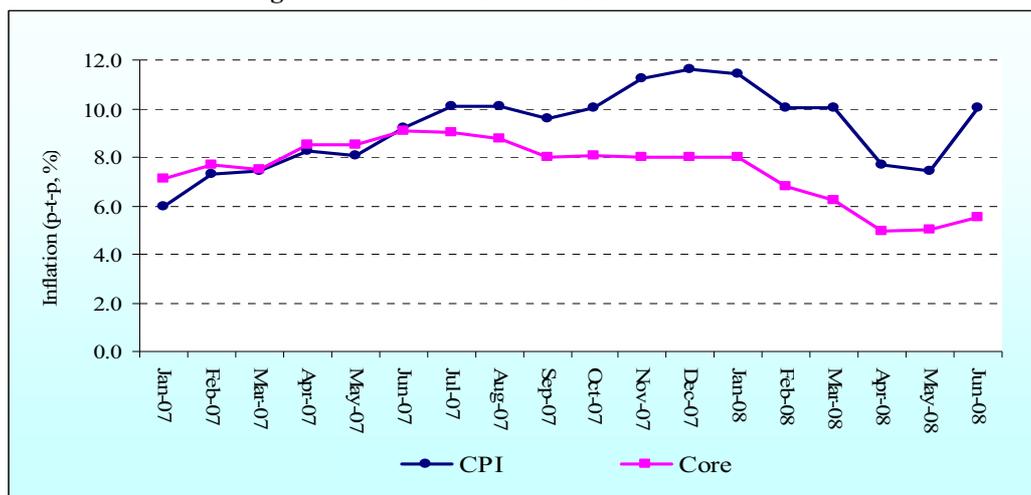
Source: Authors' calculations.

3.4 Changes in Core Inflation

The above analysis shows that recent inflation in the country has significantly been influenced by seasonal and short-run volatility rather than underlying monetary events. In such situations, focus on CPI inflation as the operational guide to monetary policy has limitations as changes in CPI inflation might be highly influenced by volatile and non-trend components. These factors cause changes in prices that are transitory and reversible in nature such as those emanating from supply side shocks (e.g. floods and other natural disasters) and similar unexpected phenomena. In view of the above, core inflation which separates persistent components of inflation is often treated as a better guide to monetary policy. The estimate of core inflation, made by the Policy Analysis Unit (PAU), shows that core inflation increased from 7.1 percent in January 2007 to a high of 9.1 percent in June 2007.⁸ Since then, it declined to 8.0 percent in December 2007 and reached a low of 5.5 percent in June 2008. A comparison of the movement of core inflation vis-à-vis CPI inflation on point-to-point basis shows that while core inflation was above CPI inflation in the first half of 2007, core inflation steadily declined in recent months, reflecting the outcome of the prudent monetary policy (Figure 4).

⁸ The core inflation has been measured by applying the exclusion method. Using 27 sub-groups of CPIs for both rural and urban areas, core inflation is measured by taking non-volatile subgroups having standard deviation of less than 2 among all sub-groups in rural and urban areas. As a result, core inflation retained about 48 percent of the total weight of the CPI commodity basket. See, Shahiduzzaman, Md. and M. G. Mortaza, "Should Bangladesh Monitor Core Inflation for Conducting Monetary Policy?," Policy Paper 0803, Policy Analysis Unit, Bangladesh Bank, May 2008.

Figure 4: Trends of CPI and Core Inflation Rates



Source: Authors' calculations.

4. Conclusions

A good agricultural production, especially in the *boro* season, and the pursuit of prudent monetary measures by the Bangladesh Bank along with supportive fiscal and growth promoting measures by the government played key roles in containing inflationary pressures in FY08 in Bangladesh relative to many other countries in similar situations. The Bangladesh Bank's monetary policy stance for July-December 2008 also remains supportive of increased domestic production which, along with keeping demand side pressure under control, has been adopted as the most effective strategy to fight inflation in the country.⁹ In view of the characteristics of recent inflation as analyzed in this note, it is expected that overall inflationary pressure during FY09 would remain largely subdued although some temporary volatility in inflation rates may occur due to non-monetary factors (e.g. adjustment in administered fuel prices, impact of Ramadan, and unexpected supply bottlenecks for specific commodities) in the backdrop of tight and potentially volatile world market for food and other commodities.

In the domestic market, rice prices have not fallen after the record harvest of *boro* rice raising total rice production to nearly 30 million metric tons in FY08 from 27.3 million metric tons in FY07. The production of wheat was also higher, rising to 8.3 million metric tons from 7.4 million metric tons in FY07. It appears that the producers, millers, and traders of rice are probably holding larger stocks of food grains than they normally hold in view of the past experience of instability in the rice market and sharp increase in rice prices over the past few months. This shows the importance of putting emphasis on ensuring a good *aman* rice harvest in the coming season in order to dampen rising rice price expectations and bring normalcy in the domestic rice market.

The current monetary policy stance of the Bangladesh Bank intends to ensure reasonable price stability and provide support to high and sustainable economic growth. In this context, the policy keeps in view a real GDP growth rate of 6.5 percent and an average inflation rate of around 9.0 percent in FY09. The preference, however, would be to bring it down further keeping in view the complexities of globally transmitted inflation and the need to conditioning perception of inflation in the range 5.5-6.0 percent in the next 2/3 years so that an inflation rate of around 4.5 percent can emerge as the medium term objective. This is

⁹ See, Monetary Policy Statement July-December 2008, Bangladesh Bank, 17 July 2008.

needed to ensure smooth integration of the domestic economy into the global economy and pursue the goal of sustained high growth over the medium term.

Moreover, in view of the current inflation dynamics, along with ensuring maximum and uninterrupted domestic production and supply of food and other essential commodities and more efficient functioning of the supply chains and the markets, it would be important to keep a close watch on several macro indicators such as aggregate demand pressures that might emanate from undue expansion in private sector lending including term lending; turn around in capital goods imports reflecting strong investment demand; strong growth in consumer spending especially in consumer durables; widening trade deficit; and increasing fiscal pressures and adopt timely countervailing measures if necessary.

Appendix Table 1A: Statistical Characteristics of Food Inflation

	FY05			FY06			FY07			FY08		
	National	Rural	Urban	National	Rural	Urban	National	Rural	Urban	National	Rural	Urban
Mean	7.46	7.30	7.86	7.95	8.01	7.82	7.75	7.53	8.26	10.52	10.22	11.24
Median	7.51	7.30	7.83	7.97	8.13	7.78	7.65	7.42	8.27	10.77	10.41	11.63
Max.	7.91	7.99	8.24	8.40	8.50	8.14	8.11	7.93	8.53	12.28	11.95	13.07
Min.	(Jun. 05) 6.97	(Jun. 05) 6.60	(Oct. 04) 7.56	(Aug. 05) 7.66	(Aug. 05) 7.62	(Aug. 05) 7.55	(Jun. 07) 7.45	(Jun. 07) 7.24	(Jun. 07) 7.98	(Jun. 08) 8.45	(Jun. 08) 8.27	(Jun. 08) 8.88
Std. dev.	(Jul. 04) 0.27	(Jul. 04) 0.41	(Apr. 05) 0.24	(Mar. 06) 0.22	(Apr. 06) 0.31	(Nov. 05) 0.20	(Aug. 06) 0.23	(Aug. 06) 0.27	(Aug. 06) 0.18	(Jul. 07) 1.38	(Jul. 07) 1.30	(Jul. 07) 1.56
Skewness	-0.50	-0.15	0.41	0.41	-0.14	0.25	0.42	0.46	-0.09	-0.21	-0.17	-0.28
Kurtosis	2.73	2.44	1.98	2.34	1.63	1.68	1.56	1.51	1.68	1.49	1.51	1.46

Source: Authors' calculations.

Maximum: June (dominant), August, October
Minimum: March-April, July (dominant)-August and November

Appendix Table 1B: Statistical Characteristics of Non-food Inflation

	FY05			FY06			FY07			FY08		
	National	Rural	Urban	National	Rural	Urban	National	Rural	Urban	National	Rural	Urban
Mean	4.26	4.31	4.16	5.53	5.75	4.97	5.86	6.19	4.98	6.81	7.02	6.25
Median	4.24	4.26	4.15	5.66	5.86	5.12	5.78	6.07	4.95	6.82	7.07	6.32
Max.	4.43	4.54	4.49	6.41	6.90	5.18	6.44	6.93	5.34	7.35	7.60	6.72
Min.	(Aug. 04) 4.14	(Aug. 04) 4.16	(Jun. 05) 3.92	(Jun. 06) 4.42	(Jun. 06) 4.37	(Apr. 06) 4.54	(Jul. 06) 5.42	(Jul. 06) 5.65	(Jun. 07) 4.73	(Feb. 08) 6.09	(Feb. 08) 6.31	(Mar. 08) 5.52
Std. Dev.	(Jan. 05) 0.10	(Feb. 05) 0.15	(Dec. 04) 0.17	(Jul. 05) 0.73	(Jul. 05) 0.93	(Jul. 05) 0.24	(Mar. 07) 0.37	(Mar. 07) 0.46	(Jan. 07) 0.20	(Jul. 07) 0.44	(Jul. 07) 0.46	(Jul. 07) 0.41
Skewness	-0.30	0.41	0.45	-0.26	-0.19	-0.82	0.47	0.50	0.32	-0.22	-0.18	-0.41
Kurtosis	1.61	1.52	2.31	1.61	1.58	2.03	1.80	1.80	1.86	1.70	1.65	1.92

Source: Authors' calculations.

Maximum: February-April, June (dominant)-August
Minimum: January-March, July (dominant) and December

Appendix Table 1C: Statistical Characteristics of General Inflation

	FY05			FY06			FY07			FY08		
	National	Rural	Urban	National	Rural	Urban	National	Rural	Urban	National	Rural	Urban
Mean	6.15	6.19	6.04	6.97	7.20	6.44	6.95	7.05	6.68	9.03	9.08	8.92
Median	6.15	6.19	6.02	7.03	7.27	6.43	6.98	7.08	6.66	9.33	9.37	9.25
Max.	6.49	6.65	6.16	7.16	7.39	6.68	7.20	7.28	7.02	10.00	10.03	9.93
Min.	(Jun. 05)	(Jun. 05)	(Oct. 04)	(Jun. 06)	(Jan. 06)	(Jun. 06)	(Jun. 07)	(Jun. 07)	(Jun. 07)	(Mar. 08)	(Mar. 08)	(Mar. 08)
	5.88	5.79	5.97	6.65	6.84	6.26	6.72	6.80	6.50	7.49	7.57	7.29
	(Jul. 04)	(Jul. 04)	(Feb. 05)	(Jul. 05)	(Jul. 05)	(Jul. 05)	(Jan. 07)	(Jan. 07)	(Jan. 07)	(Jul. 07)	(Jul. 07)	(Jul. 07)
Std. Dev.	0.17	0.24	0.07	0.16	0.17	0.14	0.14	0.15	0.14	0.95	0.93	1.00
Skewness	0.24	0.14	0.73	-0.57	-0.77	0.38	-0.07	-0.16	0.79	-0.41	-0.41	-0.41
Kurtosis	2.82	2.59	2.04	2.13	2.43	2.18	2.40	2.12	3.60	1.57	1.58	1.54

Source: Authors' calculations.

Maximum: January, March, June (dominant) and October

Minimum: January-February and July (dominant)

Appendix Table 2A: Contribution of Major Commodity Groups to Inflation in Rural Areas

	May 2007	Jun 2007	Jul 2007	Aug '2007	Sep '2007	Oct '2007	Nov '2007	Dec '2007	Jan 2008	Feb 2008	Mar 2008	Apr '2008	May 2008	Jun 2008
Food	62.50	65.27	68.59	69.40	70.45	71.78	74.71	75.90	76.49	76.98	79.21	80.93	81.43	87.17
Rice	29.53	30.58	39.21	41.09	43.30	50.69	50.76	74.83	81.19	95.63	101.11	108.11	107.49	90.05
Other cereals	7.63	7.11	8.46	12.80	11.93	11.56	13.39	14.50	15.30	16.70	17.44	24.37	24.42	17.89
Pulses	2.58	2.80	2.66	1.81	1.14	0.75	0.70	0.37	0.70	0.63	2.06	3.64	5.54	3.91
Fish (fresh) & dry fish	8.42	8.19	1.37	-10.53	-11.00	-17.54	-15.90	-20.81	-18.76	-22.35	-23.57	-36.21	-34.42	-21.47
Eggs and meat	7.35	7.07	6.55	6.39	6.24	4.34	4.05	3.68	4.21	3.85	3.25	3.67	3.79	3.35
Vegetables	5.66	5.99	8.90	19.60	18.62	19.84	18.16	15.09	7.48	-1.51	-1.59	-2.03	-10.73	-2.26
Fruits:	-0.53	1.28	0.41	1.01	0.97	0.66	1.66	1.69	2.12	1.82	1.71	3.83	4.41	1.56
Spices	-1.33	-0.64	2.67	8.21	8.97	11.84	9.54	3.73	-1.81	-2.48	-4.30	-0.32	-0.53	0.27
Edible oils & fats	7.65	8.18	7.27	10.18	10.77	10.88	10.54	9.57	9.67	10.61	9.40	12.26	10.90	7.17
Milk and milk products	1.14	1.05	0.96	1.34	0.70	3.29	3.07	3.07	3.74	3.95	4.05	5.35	6.53	6.35
Miscellaneous food items	-6.03	-4.92	-1.88	-3.72	-2.86	-2.13	0.84	1.66	2.77	3.81	2.14	2.15	4.78	11.42
Beverages	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.05	0.05	0.04
Tobacco & products	2.63	1.26	1.23	0.98	0.37	0.37	0.73	0.33	0.42	0.39	1.54	1.50	1.94	2.11
Non-food	37.50	34.73	31.41	30.60	29.55	28.22	25.29	24.10	23.51	23.02	20.79	19.08	18.58	12.83
Clothing and footwear	5.57	4.90	4.39	4.03	3.25	2.79	2.56	2.50	2.29	2.01	1.92	2.74	2.57	2.38
Gross rent, fuel & lighting:	18.46	16.92	15.32	15.11	15.72	14.42	12.84	12.34	11.73	11.46	10.66	8.68	8.49	4.61
Fur. furn. H/H eq. & op.	4.06	3.57	3.13	2.95	2.93	3.06	2.78	2.53	2.36	2.62	1.80	1.51	1.54	1.16
Med.& health exp.	1.91	1.98	1.56	1.40	1.36	1.25	1.05	0.94	0.90	0.75	0.58	0.69	0.69	0.28
Transport & communication	2.49	2.37	2.24	2.28	1.93	1.81	1.59	1.53	1.59	1.50	1.46	1.19	0.88	0.59
Rec.ent. edu. & cul. ser.	0.95	0.60	0.47	0.50	0.57	0.63	0.58	0.54	0.66	0.52	0.46	0.71	0.76	0.95
Miscellaneous goods & services	4.42	4.73	4.67	4.66	4.04	4.59	4.20	4.04	4.28	4.50	4.17	3.80	3.94	3.22

Source: Authors' calculations.

Appendix Table 2B: Contribution of Major Commodity Groups to Inflation in Urban Areas

	May 2007	Jun 2007	Jul '2007	Aug 2007	Sep 2007	Oct '2007	Nov '2007	Dec 2007	Jan 2008	Feb 2008	Mar 2008	Apr 2008	May 2007	Jun 2008
Food	56.41	56.70	61.53	63.14	63.41	63.45	69.56	69.42	66.85	67.52	68.73	65.70	64.63	78.96
Rice	17.05	12.92	15.00	19.02	17.11	22.27	23.20	35.88	35.99	36.48	39.92	46.82	44.52	50.08
Other cereals	9.01	7.99	9.65	12.19	13.21	13.31	16.21	14.63	16.73	17.22	17.85	23.01	23.49	17.96
Pulses	3.63	2.43	2.75	1.62	1.64	0.46	0.32	0.57	0.80	1.81	2.51	3.29	5.54	6.09
Fish (fresh) & dry fish	8.28	10.70	5.89	-2.59	-4.48	-8.36	-10.23	-8.59	-6.03	-7.85	-9.37	-18.63	-20.58	-15.71
Eggs and meat	9.95	9.19	10.02	9.17	8.67	6.53	5.29	5.68	5.32	5.80	4.48	4.25	6.25	9.11
Vegetables	-1.04	2.47	6.68	13.96	12.00	10.45	14.03	7.75	1.40	0.05	-0.27	-3.60	-11.32	1.97
Fruits:	0.25	0.76	2.32	3.81	3.50	1.75	3.31	3.46	2.92	3.13	4.09	2.59	3.06	1.65
Spices	-2.22	-1.62	0.66	3.25	6.61	9.70	13.18	3.28	-1.26	-2.00	-3.47	-0.51	2.32	3.31
Edible oils & fats	9.08	8.27	8.57	9.87	10.24	12.34	11.00	9.77	9.86	13.25	12.46	12.68	15.22	11.68
Milk and milk products	3.09	2.61	1.82	2.11	3.88	5.62	5.24	5.42	4.30	2.26	3.08	3.36	4.24	3.62
Miscellaneous food items	-2.73	-2.52	-0.95	-1.23	-0.54	0.61	2.11	2.82	4.19	5.39	6.14	7.77	9.85	9.11
Beverages	0.00	0.00	0.82	1.55	1.50	1.50	1.21	1.68	2.75	2.35	1.84	1.78	0.33	0.65
Tobacco & products	4.87	3.81	2.50	1.17	1.45	1.74	1.55	1.74	0.90	1.39	2.07	2.50	2.71	2.78
Non-food	43.60	43.30	38.47	36.86	36.59	36.55	30.45	30.58	33.15	32.48	31.26	34.31	35.37	21.04
Clothing and footwear	9.16	7.88	6.71	6.74	6.40	6.27	5.38	5.28	4.95	4.99	3.63	3.82	4.30	3.63
Gross rent, fuel & lighting	18.71	24.52	21.00	19.85	19.37	18.70	15.20	14.89	15.34	14.34	14.18	15.68	15.15	2.87
Fur. furn. H/H eq. & op.	3.36	2.88	3.05	2.86	2.93	3.10	2.63	2.95	3.74	3.99	3.98	4.41	4.28	3.56
Med.& health exp.	1.85	1.72	1.82	1.78	1.80	1.88	1.56	2.07	2.08	1.85	1.79	1.81	1.87	1.33
Transport & communication	5.70	3.90	3.40	3.15	3.24	3.17	2.70	2.62	3.57	3.85	3.83	2.67	3.03	2.58
Rec.ent. edu. & cul. ser.	2.82	1.85	1.40	1.30	1.45	1.30	1.08	1.07	1.38	1.36	1.34	2.79	2.47	2.06
Miscellaneous goods & services	2.23	2.15	2.33	2.37	2.44	3.08	2.60	2.38	2.48	2.23	2.63	3.62	4.55	4.17

Source: Authors' calculations.