

Price and Inflation

Global Inflation Scenario

3.01 Headline inflation has risen rapidly in advanced economies and emerging markets and developing economies since the beginning of 2021, driven by increasing demand, input shortage, and rapidly rising commodity prices. On the contrary, the low income countries have faced relatively stable inflation due to subdued demand. Core inflation—the change in the prices of goods and services excluding food and energy—has risen less than the headline inflation; although the core inflation rate is also picking up in the recent months. As per the latest World Economic Outlook, October 2021 of IMF, inflation forecasts for the advanced economies and emerging markets and developing economies for 2021 are 2.8 percent and 5.5 percent respectively which were 0.7 percent and 5.1 percent respectively in 2020. These rising trends of inflation are anticipated to be occurred amid substantial relaxation of monetary and fiscal policies in numerous countries throughout the world for recovering from the deep contraction of economic growth in 2020 due to ongoing COVID pandemic. Moreover, as the global economic activities are gradually reopening in the recent months, the release of excess savings accumulated during the ongoing pandemic could further fuel private spending in the upcoming months. This combination of unprecedented factors may lead to create big concern about the possibility of persistently high inflation.

Inflation in SAARC and Other Asian Countries

3.02 Among the SAARC countries, Pakistan had the highest inflation rate of 8.9 percent in

Table 3.01 Inflation in SAARC and Other Asian Countries (In percent)

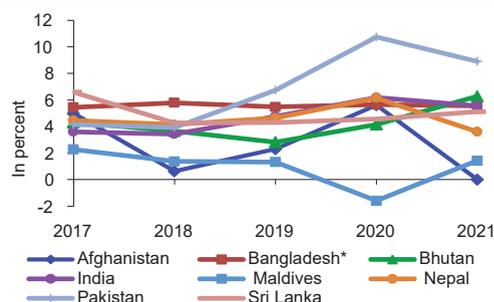
Countries	2017	2018	2019	2020	2021 ^P
1. Afghanistan	5.0	0.6	2.3	5.6	n/a
2. Bangladesh	5.4	5.8	5.5	5.6	5.6
3. Bhutan	4.3	3.7	2.8	4.2	6.3
4. India	3.6	3.4	4.8	6.2	5.6
5. Maldives	2.3	1.4	1.3	-1.6	1.4
6. Nepal	4.5	4.1	4.6	6.2	3.6
7. Pakistan	4.1	3.9	6.7	10.7	8.9
8. Sri Lanka	6.6	4.3	4.3	4.6	5.1
Other Asian countries					
9. Indonesia	3.8	3.3	2.8	2.0	1.6
10. Korea	1.9	1.5	0.4	0.5	2.2
11. Malaysia	3.8	1.0	0.7	-1.1	2.5
12. Myanmar	4.6	5.9	8.6	5.7	4.1
13. Singapore	0.6	0.4	0.6	-0.2	1.6
14. Thailand	0.7	1.1	0.7	-0.8	0.9

n/a Not available, ^P Projection.

Sources: 1. © Consumer price index (Base: FY06=100), Bangladesh Bureau of Statistics for Bangladesh data which are related to financial year (July-June).

2. World Economic Outlook, IMF, October 2021 for other data on calendar year basis.

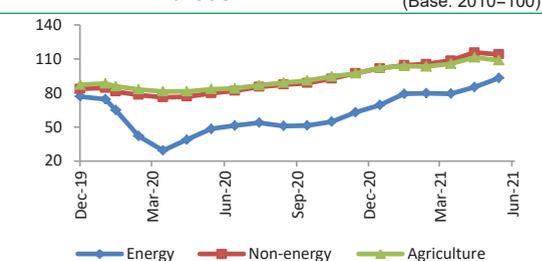
Chart 3.01 Inflation Situation in SAARC Countries



Sources: 1. Bangladesh Bureau of Statistics, figures related to financial year (July-June).

2. World Economic Outlook, IMF, October 2021

Chart 3.02 International Commodity Price Indices (Base: 2010=100)



Source: Commodity Market Outlook, The World Bank, October 2021

2021 followed by Bhutan (6.3 percent), Bangladesh (5.6 percent), India (5.6 percent), Sri Lanka (5.1 percent) and Nepal (3.6 percent). Maldives experienced the lowest rate of 1.4 percent inflation in 2021 in this region. Among the other Asian countries, Myanmar recorded the highest inflation rate of 4.1 percent, while Thailand may end up with the lowest rate of 0.9 percent (Table 3.01, Chart 3.01).

3.03 Energy price index rose sharply in June 2021 compared to that of June 2020. In contrast, increases in non-energy and agriculture indices were of lower extent (Chart 3.02). Energy, non-energy and agriculture indices stood at 93.15, 114.03, and 108.71 respectively in June 2021. Crude oil price was USD 71.80/bbl in June 2021, 82.00 percent higher than a year's ago price. Rice price decreased by 10.40 percent to USD 466.0/mt, while wheat price soared by 31.40 percent to USD 263.5/mt during the period under review. Commodity markets were affected by the uneven recovery from the COVID-19 pandemic and supply chain disruptions.

Consumer Prices in Bangladesh

3.04 Annual average inflation based on consumer price index (CPI) depicted an upward trend during the first four months of FY21. For the rest eight months of the financial year, the inflation rate maintained a declining trend. As a result, the annual average headline inflation rate slightly declined to 5.56 percent in June 2021 from 5.65 percent in June 2020 but it was higher than the target (5.40 percent) set in monetary policy due mainly to a rising trend of food inflation (Table 3.02, Chart 3.03, and Appendix-3: Table VII). In July 2020 average inflation marginally declined to 5.64 percent and

Table 3.02 Monthly Trend of Inflation in FY21

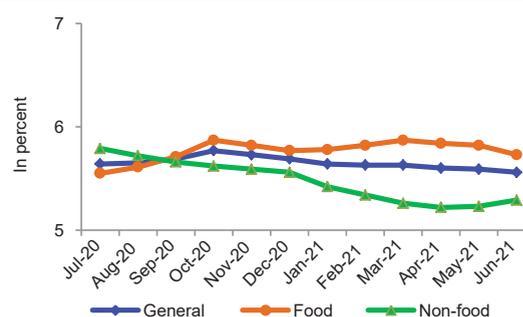
(12-month average: FY06=100)

Months	General	Food	Nonfood
Jul-20	5.64	5.55	5.79
Aug-20	5.65	5.61	5.72
Sep-20	5.69	5.71	5.66
Oct-20	5.77	5.87	5.62
Nov-20	5.73	5.82	5.59
Dec-20	5.69	5.77	5.56
Jan-21	5.64	5.78	5.42
Feb-21	5.63	5.82	5.34
Mar-21	5.63	5.87	5.26
Apr-21	5.60	5.84	5.22
May-21	5.59	5.82	5.23
Jun-21	5.56	5.73	5.29

Source: Bangladesh Bureau of Statistics .

Chart 3.03 Monthly Trend of Inflation in FY21

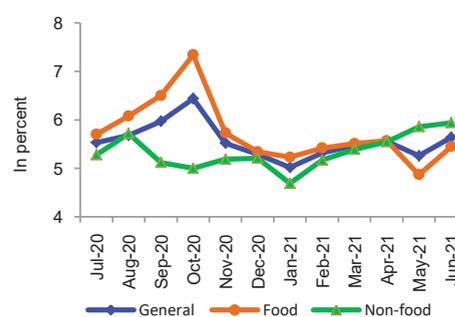
(12-month average: FY06=100)



Source: Bangladesh Bureau of Statistics.

Chart 3.04 Monthly Trend of Inflation in FY21

(Point-to-point : FY06=100)



Source: Bangladesh Bureau of Statistics.

thereafter it started to gradually increase and reached to 5.77 percent in October 2020 due mainly to disruption of supply chains owing

from the devastating COVID-19. However, with the substantial improvement of the pandemic situation of COVID-19, average inflation rate experienced a falling trend from November 2020 to June 2021.

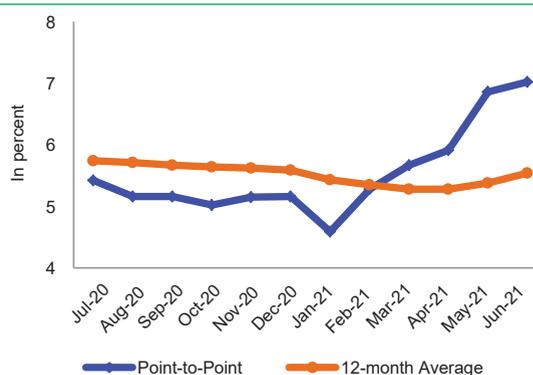
3.05 Inflation rate at point-to-point basis stood at 5.64 percent in June 2021 which was lower than 6.02 percent in June 2020 (Chart 3.04). Subdued demand alongside bumper agricultural production and effective coordination between fiscal and monetary authorities were the key influential factors which played a crucial role in keeping inflation rate under control in the financial year under review.

3.06 Annual average food inflation experienced somewhat an increasing trend and rose from 5.55 percent in July 2020 to 5.73 percent in June 2021. On the other hand, average non-food inflation experienced a declining trend in FY21. The point-to-point food inflation experienced a significant volatility in FY21 due to pandemic situation of COVID. In July 2020 the point-to-point food inflation was 5.70 percent which sharply increased until October 2020 and decelerated thereafter reaching at 5.45 percent in June 2021. The highest point-to-point food inflation was 7.34 percent in October 2020 which was 6.54 percent in June 2020 (Appendix-3: Table VII).

3.07 Annual average non-food inflation had an uninterrupted downward trend for the whole financial year except for the last two months, that is, May and June 2021. The annual average non-food inflation stood at 5.79 percent in July 2020, which incessantly came down at 5.22 percent in April 2021. However, average non-food inflation experienced somewhat an increasing trend during the last two months of FY21 and finally stood at 5.29 percent in June 2021 which was significantly lower than 5.85

Chart 3.05 Core Inflation

(Base: FY06=100)



Source: 1. Bangladesh Bureau of Statistics.
2. Research Department, Bangladesh Bank.

Table 3.03 Annual Average CPI Based Inflation

(Base: FY06=100)

Group	Weight	FY18	FY19	FY20	FY21
a. National level					
General Index	100.00	245.22 (5.78)	258.65 (5.48)	273.26 (5.65)	288.44 (5.56)
Food	56.18	266.64 (7.13)	281.33 (5.51)	296.86 (5.56)	313.86 (5.73)
Non-food	43.82	217.76 (3.73)	229.58 (5.43)	243.00 (5.85)	255.85 (5.29)
b. Rural					
General Index	100.00	244.17 (5.69)	256.74 (5.15)	271.20 (5.63)	286.37 (5.59)
Food	61.41	259.86 (6.9)	273.55 (5.27)	289.08 (5.68)	306.4 (5.99)
Non-food	38.59	219.21 (3.48)	230.01 (4.93)	242.74 (5.53)	254.51 (4.85)
c. Urban					
General Index	100.00	247.17 (5.95)	262.17 (6.07)	277.06 (5.68)	292.27 (5.49)
Food	46.52	283.19 (7.63)	300.3 (6.04)	315.83 (5.17)	332.08 (5.15)
Non-food	53.48	215.83 (4.08)	229 (6.1)	243.34 (6.26)	257.64 (5.88)

Note: Figures in parentheses represent annual inflation.

Source: Bangladesh Bureau of Statistics.

percent in FY20. On the other hand, point-to-point non-food inflation rate displayed a mixed trend throughout FY21.

3.08 The point-to-point non-food inflation rate which was 5.22 percent in June 2020 experienced an erratic course down to 4.69 percent in January 2021 and thereafter gradually increased to 5.94 percent in June 2021 (Appendix-3: Table VII).

Table 3.04 Annual Average National Level CPI by Consumption Basket Sub-groups

Group/sub-group	Weight	(Base: FY06=100)				
		FY19	FY20	FY21	% Change FY20	% Change FY21
General index	100	258.65	273.26	288.44	5.65	5.56
1. Food, beverage and tobacco	56.18	281.33	296.86	313.86	5.52	5.73
2. Non-food of which	43.82	229.58	243.00	255.85	5.85	5.29
i) Clothing & footwear	6.84	277.64	290.00	298.14	4.45	2.81
ii) Gross rent, fuel & lighting	14.88	206.98	220.70	228.29	6.63	3.44
iii) Furniture, furnishing, household equipment & operation	4.73	265.25	282.67	298.15	6.57	5.48
iv) Medical care & health expenses	3.47	215.31	230.07	247.86	6.86	7.73
v) Transport and communications	5.8	235.23	248.48	271.45	5.63	9.24
vi) Recreation, entertainment, education & cultural services	4.28	186.72	190.13	193.61	1.83	1.83
vii) Miscellaneous goods and services	3.82	239.87	259.27	288.53	8.09	11.29

Source: Bangladesh Bureau of Statistics.

3.09 Core inflation (non-food, non-fuel) on point-to-point basis increased by 1.90 percentage point to 7.02 percent in June 2021 from 5.12 percent in June 2020. In contrast, annual average core inflation decreased by 0.22 percentage point to 5.54 percent in June 2021 from 5.76 percent in June 2020 (Chart 3.05).

3.10 In FY21, the average rural inflation rate was 5.59 percent which was 0.10 percentage point higher than the average urban inflation rate of 5.49 percent. The annual average rural inflation rate was at 5.63 percent in FY20. The average rural food inflation increased to 5.99 percent in June 2021 from 5.68 percent in June 2020. On the other hand, the average rural non-food inflation decreased to 4.85 percent in June 2021 from 5.53 percent in June 2020 (Table 3.03 and Chart 3.06).

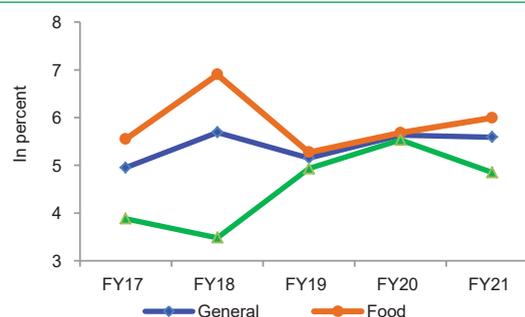
3.11 The average urban food inflation decreased slightly to 5.15 percent in June 2021 from 5.17 percent in June 2020. Similarly, the average urban non-food inflation fell to 5.88 percent in June 2021 from 6.26 percent in June 2020 (Chart 3.07).

Food Grain Production

3.12 Total food grain production (rice and

Chart 3.06 Rural Inflation

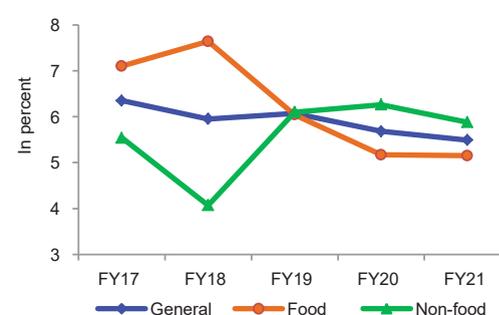
(12-month average: FY06=100)



Source: Bangladesh Bureau of Statistics.

Chart 3.07 Urban Inflation

(12-month average: FY06=100)



Source: Bangladesh Bureau of Statistics.

wheat) stood at 38.7 million metric tons in FY21, which was 37.6 million metric tons in FY20. Total government procurement of food grain stood at 1.6 million metric tons in FY21

which was lower by 0.3 million metric tons than that of FY20. Total government and private imports of food grain stood at 6.7 million metric tons in FY21, which was about 0.3 million metric tons higher than that of FY20. The government distributed 2.3 million metric tons of food grain under its Public Food Distribution System (PFDS) in FY21, which was 0.5 million metric tons lower than that of the preceding year. Government food grain stock at the end of the FY21 stood at 1.4 million metric tons, which was 1.1 million metric tons at the end of FY20 (Table 3.05).

Wage Rate Trends

3.13 The general wage rate index was increased by 6.12 percent in FY21 which was 6.35 percent in FY20. The wage rate indices of three sub-sectors namely agriculture, industry, and service sectors increased by 6.39, 5.51 and 6.07 percent respectively in FY21 which were 6.48, 5.99 and 6.41 percent respectively in FY20 (Table 3.06, Chart 3.08). The growth of wage rate indices for all the three sub-sectors were lower in FY21 compared to the preceding year due to recurrent shocks of the COVID-19 pandemic. Within the industry sub-sector, the growth of wage rate index for production (7.43 percent) was higher than that of construction (4.42 percent).

Near Term Inflation Outlook

3.14 Consumer price index inflation rates for advanced economies, and emerging market and developing economies for 2022 have been projected at 2.3 percent and 4.9 percent respectively (Table 3.07). Against the backdrop of COVID-19 pandemic, highly uncertain inflation outlook prevails for near and mid-term period. Although, in the baseline projection,

Table 3.05 Food Situation

Particulars	(Million metric tons)			
	FY18	FY19	FY20	FY21
Production Target	37.3	37.3	40.0	39.6
Actual Production	37.4	37.4	37.6	38.7
Total Imports (Government and Private)	9.8	5.8	6.4	6.7
Procurement	1.5	2.4	1.9	1.6
Public Food Distribution	2.1	2.6	2.8	2.3
Closing Stock	1.3	1.7	1.1	1.4

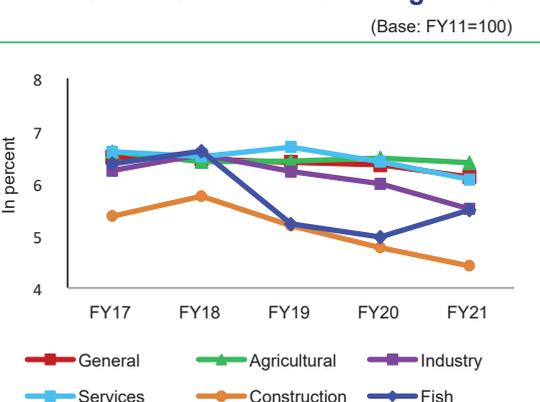
Source: Food Planning and Monitoring Unit, Ministry of Food.

Table 3.06 Trends of Wage Rate Indices

	(Base: FY11=100)			
	FY18	FY19	FY20	FY21
General	150.59 (6.46)	160.23 (6.40)	170.39 (6.35)	180.83 (6.12)
Agriculture	150.27 (6.41)	159.92 (6.42)	170.28 (6.48)	181.16 (6.39)
Agriculture	150.23 (6.40)	159.91 (6.44)	170.32 (6.51)	181.23 (6.41)
Fish	152.63 (6.61)	160.59 (5.22)	168.58 (4.97)	177.84 (5.49)
Industry	149.45 (6.55)	158.74 (6.22)	168.24 (5.99)	177.52 (5.51)
Construction	145.32 (5.75)	152.86 (5.19)	160.17 (4.77)	167.24 (4.42)
Production	157.81 (8.08)	170.66 (8.14)	184.65 (8.21)	198.37 (7.43)
Services	154.44 (6.51)	164.78 (6.69)	175.33 (6.41)	185.99 (6.07)

Note: Figures in parentheses are annual percentage changes.
Source: Bangladesh Bureau of Statistics.

Chart 3.08 Growth Rate of Wage Index



Source: Bangladesh Bureau of Statistics.

Box 3.01 Measurement of Momentum and Base Effect of CPI Inflation in Bangladesh

Inflation measurement has two key dimensions, which include economic and statistical factors. Economic factors arising from the price movement of different commodities in the CPI basket can be ascribed to momentum. On the other hand, the statistical factors which stemmed from the price swing twelve months earlier can be attributed as the base effect. This box attempts to figure out the base effect of consumer price index (CPI) inflation in Bangladesh, considering the current situation of COVID-19 and its impacts.

The base effect has been calculated according to the methodology of the ECB (2005)¹. Inflation is measured in the form of percentage change in the CPI of a given month (I_t) over the index value of 12 month earlier (I_{t-12}). Accordingly, the change in inflation from one period to another involves two effects, which can be approximated in the following equation:

$$\pi_t - \pi_{t-1} = [(I_t - I_{t-1})/I_{t-1}] * 100 + [I_{t-13} - I_{t-12})/I_{t-13}] * 100$$

Where the left hand side of the equation exhibits the change between the current and previous month's inflation. The first part of the right-hand side of the equation refers to the price momentum. The second part shows change in the price index from 12 months earlier, which is the base effect.

Impact of Base Effect on CPI Inflation

The Bangladesh economy witnessed a significant fluctuation in CPI inflation during the COVID-19 pandemic period. This box considers the sample period ranging from 2020M01 to 2021M06 in order to understand the base effect during the COVID-19 pandemic period. Four segments of the chart outline the base effect for the four CPI series, i.e., headline, food, non-food, and core. In May 2020, an unfavourable (positive) base effect outweighed the fall in price momentum (Chart A). However, the fall in price momentum in headline inflation came from negative price momentum in food inflation (Chart B). Although the price momentum is strong, the favourable (negative) base effect kept the headline inflation lower during July-September 2020. The strong price momentum resulted from the rise in the price of rice, fish, and vegetables but was moderated by the fall in the price of eggs, meat, and spices. The favorable base effect was diminished during the last three months of 2020, resulting in a spike in headline inflation in October 2020 (Chart A). However, the favourable base effect significantly lowered the headline inflation in January 2021, despite substantial price momentum.

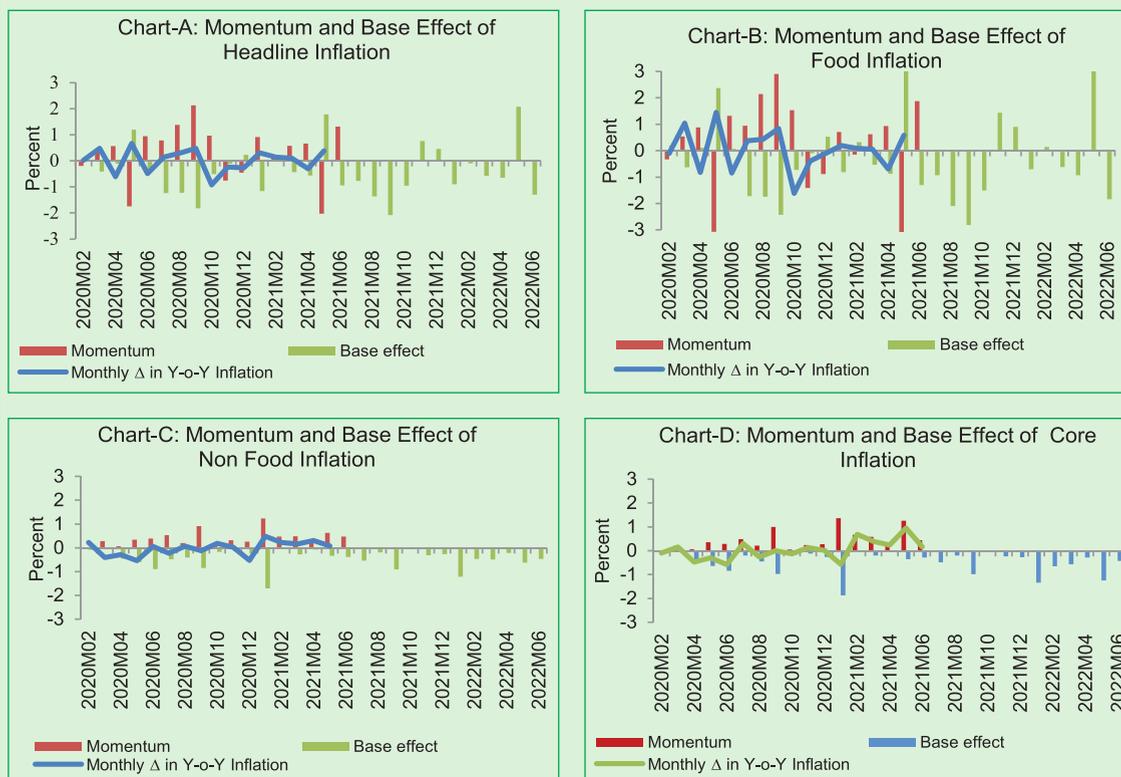
Price momentum dropped considerably in May 2021 although an unfavourable base effect uplifted the headline inflation (Chart A and B). On the other hand, inflation in June 2021 increased because of strong price momentum for both food and non-food items (Chart B and C). A similar pattern of price momentum and base effect interaction was observed in food inflation, which indicated strong influence of food inflation on headline CPI inflation. The observed price momentum for both the headline CPI as well as food inflation was highly volatile during the COVID-19 period. The commencement of two nationwide lockdowns at the end of March 2020 and mid April 2021 caused the food inflation momentum to fall in the next month, seemingly indicating that people stockpiled food items, which consequently cut down the demand for food items in the next month. Charts C and D indicate that the base effect for non-food inflation remained favourable for the sample period, which was very much similar to the core inflation.

¹ ECB (2005). Base effects and their impact on HICP inflation in early 2005', European Central Bank, Monthly Bulletin, January 2005.

Box 3.01 (Continued)

Inflation Outlook for FY22

Twelve months ahead, the base effect can be calculated by the aforesaid method, which can be used to give an insight into the inflation by how much it would be manifested to increase or decrease. From the base effect calculated for the twelve months ahead, it is evident that favorable base effects will dampen the headline inflation in FY22 because of the negative price changes in the base period of food inflation, except for the months of November, December, 2021, and May 2022.



Source: Calculations are done by the BB's research staff based on CPI data published by the Bangladesh Bureau of Statistics.

Conclusion

The analysis finds that both the momentum and base effect revealed the true change in the price level. Therefore, inflation development needs to be assessed in a timely manner to determine whether the headline inflation originates from underlying inflationary pressure or from the impact of base effects, which may help in formulating prudent policies for effective inflation management.

across most economies, inflation is expected to come down to its pre-pandemic levels in 2022, but three major factors, identified behind the uncertain inflation outlook, are housing prices, structural transformation in labour markets, and

food prices. It is noteworthy that global food prices have risen by 40.0 percent since the beginning of the pandemic. As per the world Economic Outlook, October 2021 of the IMF, this situation has some implications especially

for low income countries, where the share of food in consumption basket is high. The FAO food price index for May 2021 stood at 127.1, which was 93.1 in June 2020.

3.15 Food and Agriculture Organization (FAO), in its biannual flagship publication Food Outlook June 2021, stated that in 2021-22 global rice production and utilization would reach new peaks, while stocks remain ample. Assuming normal growing condition, world rice production was forecasted to expand by 1.0 percent in 2021 to an all-time high of 519.1 million tonnes. Global wheat supplies in the new season 2021-22 are expected to increase further, given large carryover stocks and the forecast record production in 2021. World wheat production in 2021 was forecasted to surpass the last year's record by 1.4 percent to reach a new all-time high level of 785.8 million tonnes.

3.16 In the national budget of Bangladesh for FY22, the annual target for the average inflation rate has been set at 5.30 percent. In the first four months of FY22 (July-October 2021), the average inflation rate was 5.50 percent which was 0.20 percentage point higher than the annual target. The average food and non-food inflation rates for the same months were found 5.32 percent and 5.64 percent respectively. The country's inflation situation is heavily dependent on food price movements due to its higher weight in the commodity basket. With the recent rising food price trend in the global market, taming inflation may face some challenges in the coming months. However, with the bumper rice production in Q4 of FY21 and the government's effective drives for increasing food stock both from domestic and external sources are expected to ease the inflationary pressure especially in the coming months. Most importantly, despite

Table 3.07 Global Inflation Situation

	In percent			
	2019	2020	2021 ^P	2022 ^P
World	3.5	3.2	4.3	3.8
Advanced Economies	1.4	0.7	2.8	2.3
Euro Area	1.2	0.3	2.2	1.7
Emerging Market and Developing Economies	5.1	5.1	5.5	4.9
Emerging and Developing Asia	3.3	3.1	2.3	2.7
Bangladesh	5.5	5.6	5.8	5.6
China	2.9	2.4	1.1	1.8
India	4.8	6.2	5.6	4.9
Pakistan	6.7	10.7	8.9	8.5
Sri Lanka	4.3	4.6	5.1	6.3
United States	1.8	1.2	4.3	3.5

^P Projection.

Source: World Economic Outlook, IMF, October 2021.

implementation of handsome amount of stimulus packages, the money supply remained well contained and is anticipated to remain within the safe limit in FY22 and with the completion of some big infrastructure projects like Padma Multipurpose Bridge by 2022, the domestic supply chain may substantially improve in the coming months. These are considered to be favourable for lessening inflationary pressure in the near, short and medium term in Bangladesh. However, any further deterioration of the pandemic situation of COVID-19, global price hike, and unexpected crop losses due to natural calamities may yield upward inflationary spiral which have to be taken care of.