# The Real Economy

2.1 The domestic economy of Bangladesh upheld its precise path and accelerating real GDP growth supported by broad-based economic activities until February of FY20. The global economic halt due to COVID-19 outbreak along with the confirmation of the outbreak locally in March 2020 have created some serious impediments to the achievement of real GDP growth of 8.2 percent in FY20. According to provisional estimates of BBS, real GDP of Bangladesh stood at BDT 11637.4 billion, recording 5.2 percent growth in FY20. However, this growth is the highest in the South Asian region (chart 2.1). Before the pandemic, the country was enjoying a higher growth path for the last few years and achieved a higher growth ever 8.2 percent in FY19, which topped all the countries in the Asia-pacific region.

2.2 Though various sectors of the economy were not performing as expectation during the first three quarters, growth of remittance and industrial production index was in line with the growth target of 8.2 percent. Afterwards, the first positive case of corona virus identified on March and to contain its spread government announced a national general holiday from March 26 to May 30. As a result, economic activities drastically plummeted during the last quarter of FY20 resulting a 2.9 percentage point fall in the growth compared to FY19, which was the largest one-year fall of growth since FY91.
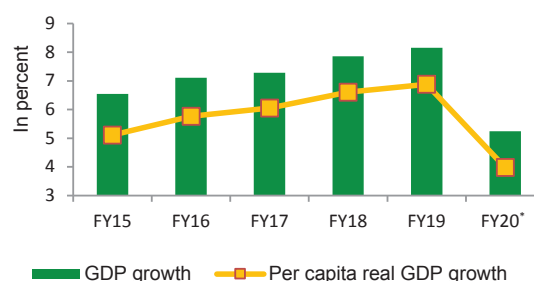
2.3 Provisional data of BBS showed that GDP at current market price was BDT 27963.8 billion for FY20 which was 10.0 percent higher compared to the preceding year. In FY20, per capita real GDP and GNI was estimated at

Chart 2.1 Growth in South Asian Countries in FY20
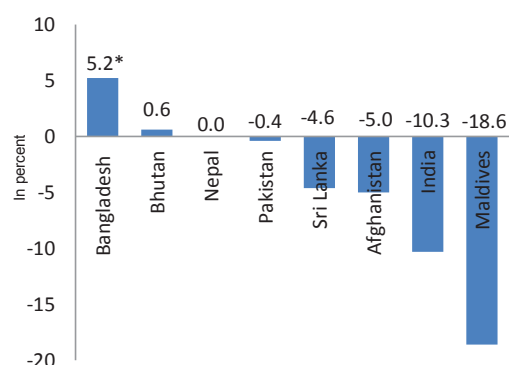
Source: *BBS.
WEO, October 2020, IMF (Projection for 2020).

Chart 2.2 Trends in Bangladesh Real GDP Growth

* Provisional
Source: BBS.

BDT 69452.1 and BDT 72781.4 respectively. During the same period, per capita nominal GDP and GNI were estimated at BDT 166888.2 (USD 1970.1) and BDT174888.2 (USD 2064.6) respectively.

Sectoral Growth Rate of GDP

2.4 Growth decomposition shows that,

although growth rate moderated due to COVID-19 pandemic in FY20, the industry sector continued to achieve the highest growth followed by services and agriculture sector. This reflects the sustainability of growth of the economy.
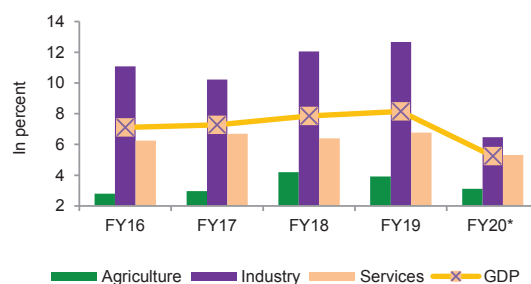
Agriculture Sector

2.5   The growth of agriculture sector decreased slightly to 3.1 percent in FY20 from 3.9 percent in FY19. The growth rate dropped due to moderation of growth in all sub sectors of agriculture viz. crops and horticulture, animal farming, forest and related services and fishing.

2.6   Among the subsectors, fishing achieved a growth of 6.1 percent in FY20 against 6.2 percent growth in FY19. Growth in agriculture and forestry subsector fell from 3.2 percent in FY19 to 2.1 percent in FY20. Under agriculture and forestry subsector, forest and related services registered the highest growth of 6.4 percent in FY20 which was 8.3 percent in FY19. Moreover, growth in animal farming and crops and horticulture subsectors also fell from 3.5 and 2.0 percent in FY19 to 3.0 and 0.9 percent in FY20 respectively.

Industry Sector

2.7   The industry sector, constituting more than one-third of gross value-added (GVA) in the economy, grew by around 6.5 percent in FY20, far below from 12.7 percent in FY19. This drop in growth was mainly led by low growth in all subsectors of industry hampered by ongoing COVID-19 pandemic. Among the subsectors, mining and quarrying; manufacturing; electricity, gas and water supply; and construction registered the growth of 4.4, 5.8, 6.2 and 9.1 percent in FY20 against 5.9, 14.2, 9.6 and 10.3 percent in FY19 respectively. The large

Chart 2.3 Trends in Sectoral Growth

* Provisional
Source: BBS.

Table 2.1 Sectoral Growth Rate of GDP

(Base year:FY06)

			FY17	FY18	FY19	FY20ᴾ
1.	**Agriculture**		**2.97**	**4.19**	**3.92**	**3.11**
	a)	Agriculture and forestry	1.96	3.47	3.15	2.08
		i) Crop and horticulture	0.96	3.06	1.96	0.89
		ii) Animal farming	3.31	3.40	3.54	3.04
		iii) Forest and related services	5.60	5.51	8.34	6.36
	b)	Fishing	6.23	6.37	6.21	6.10
2.	**Industry**		**10.22**	**12.06**	**12.67**	**6.48**
	a)	Mining and quarrying	8.89	7.00	5.88	4.38
	b)	Manufacturing	10.97	13.40	14.20	5.84
		i) Large and medium scale	11.20	14.26	14.84	5.47
		ii) Small scale	9.82	9.25	10.95	7.78
	c)	Electricity, gas and water supply	8.46	9.19	9.58	6.16
	d)	Construction	8.77	9.92	10.25	9.06
3.	**Services**		**6.69**	**6.39**	**6.78**	**5.32**
	a)	Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	7.37	7.45	8.14	5.02
	b)	Hotel and restaurants	7.13	7.28	7.57	6.46
	c)	Transport, storage and communication	6.76	6.58	7.19	6.19
	d)	Financial intermediations	9.12	7.90	7.38	4.46
		i) Monetary intermediation (banks)	9.95	8.51	7.38	4.19
		ii) Insurance	2.05	1.63	4.96	4.05
		iii) Other financial intermediation	9.06	9.05	11.55	9.48
	e)	Real estate, renting and business activities	4.80	4.98	5.23	4.85
	f)	Public administration and defence	9.15	8.47	6.40	6.02
	g)	Education	11.35	7.01	7.66	6.19
	h)	Health and social work	7.63	7.02	11.79	9.96
	i)	Community, social and personal services	3.62	3.65	3.72	3.61
Total GVA at constant basic price			**7.23**	**7.90**	**8.36**	**5.42**
GDP (at constant market price)			**7.28**	**7.86**	**8.15**	**5.24**

ᴾ Provisional
Source: BBS.

Box 2.1   Blue Economy of Bangladesh: Prospects and Challenges

The Oceanic Economy popularly known as blue economy has emerged as a crucial development issue for optimum use of the oceans, seas and marine resources for sustainable development. Among the sustainable development goals (SDGs), SDG-14 focuses on sustainable use of the oceans, seas and marine resources for sustainable development. Ocean assets provide food and energy which are essential ingredients of human life. By overlooking the three-fourth proportion of the surface of earth, it is tough to achieve sustainable economic development by 2030. Given this, Bangladesh has adopted steps to ensure sustainable use the oceans, seas and marine resources attaining inclusive development and goal related to SDG-14.

Bangladesh has 710 km long coastline with an exclusive economic zone of 200 Nautical Miles inside the Bay of Bengal. Marine fisheries contribute 19.4% of the total fish production of the country. Besides, on an average, 81% of the international tourists visit Cox's Bazaar in Bangladesh. The ocean of Bangladesh is contributing a noteworthy role to its overall socio-economic growth through increasing up the economic activities across the country and especially to the coastal zone at southern part. A new economic area for Bangladesh is demarcated in the Bay of Bengal. Already, Bangladesh has taken steps to flourish its Blue Economy in order to utilize its new marine resources. Since 2015, the Government of Bangladesh (GoB) has undertaken a number of consultations and workshops on Blue Economy. In addition, Seventh-Five Year Plan of Bangladesh has mentioned twelve actions for maintaining a prosperous and sustainable Blue Economy, which include fisheries, renewable energy, human resources, transshipment, tourism and climate change among others. Moreover, in 2017, the "Blue Economy Cell' under Ministry of Foreign Affairs (MoFA), GoB has been established with the mandate to coordinate Blue Economy initiatives across sectoral ministries. Blue Economy has the prospect to contribute Bangladesh economy on a much higher level. Twenty six potential Blue Economy sectors have been identified by the MoFA which include the fishery, maritime trade and shipping, energy, tourism, coastal protection, maritime safety and surveillance for development of blue economy in Bangladesh.

Shipping: Mostly the Bangladesh's external freight trade is seaborne (2018) which is 90% of the total freight trade of the country. Therefore, it appears that our economy may heavily depend on freight trade in future. So, to retain the huge amount of freight charges within the country, incentives might be provided to local shipping companies to add more ships to the existing fleet. Besides, coastal shipping, seaports, passenger ferry services, inland water way transport, ship building and ship recycling industries should get more importance to carry on sustainable economic growth of our country.

Fishery: Experts opine that fish alone has 500 varieties besides snails, shell-fish, crabs, sharks, octopuses and other animals. It is estimated that Bangladesh catches only 0.70 million tons of fish every year out of the total 8 million tons of fish available in the Bay of Bengal. It is worthwhile to mention that 15 percent of the protein is provided from sea resources for the people across the world. As many people depend on oceans for their livelihood and foods, increased efforts are needed to save ocean resources.

Oil and gas: Bangladesh is yet to assess the true potential of its offshore gas prospects. Bangladesh could also have gas fields in its area of the sea. Bangladesh possess some gas fields in the land and like Myanmar, Bangladesh may have the potentials to get more gas fields in the sea which may add

to the total reserve of gas of the country. Besides, oil and gas, sea salt, ocean renewable energy, blue energy (osmosis) and biomass, aggregates mining (sand, gravel, etc.) and marine genetic resource should get more attention as ocean resources. Therefore, these plenty of potential may contribute to our sustainable economic development in future.

Tourism: Globally, coastal tourism is the largest market segment and represents 5 per cent of world GDP and contributes 6-7 per cent of total employment. In 150 countries, it is one of five top export earners. It is the main source of foreign exchange for one-half of Least Developed Countries (LDCs). Coastal tourism includes a) beach-based recreation and tourism, b) tourist activities in proximity to the sea, and c) nautical boating including yachting and marinas. Sustainable tourism can create new employment opportunities and reduce poverty. So, Bangladesh can earn foreign exchange from tourism industry which may contribute to GDP growth as well as help achieve SDGs by 2030. It is reported that the country has 75 outer-islands which could be utilized for tourists both local and foreign. Exploring and exploiting these resources through the use of appropriate technology, the economy of Bangladesh can grow rapidly.

Bangladesh gained a defined maritime zone in the Bay of Bengal after a longtime dispute settlement of maritime boundary with India and Myanmar. Bangladesh may pay attention in advancing its Blue Economy to utilize its vast sea region with sea-based resources through ensuring a sustainable balance between the protection of marine ecosystem and marine resources. Now, Bangladesh can create more spaces to ensure economic growth through fresh investments in marine trade and commerce. The country has so far, explored only a few number of Blue Economy sectors such as fisheries and aquaculture, shipbuilding, ship breaking, salt generation and port facilities. Besides, most of these sectors are following traditional methods. Therefore, there still remains ample opportunities as well as challenges for exploring large number of blue economy sectors, safeguarding mangrove and ocean grass, addressing environmental changes and managing carbon discharge, and introducing innovative technology for further development to contribute in achieving sustainable development goals.

and medium scale and small scale subsectors of manufacturing sector also registered lower growth at (5.5 and 7.8 percent respectively) in FY20 compared to 14.8 and 11.0 percent growth respectively in FY19.

2.8   Provisional data on Quantum Index of Industrial Production (QIIP) of FY20 showed a growth of only 0.3 percent which was much lower than the growth of the same period of preceding year (Appendix-3, Table-VIII). Out of the major groups of manufacturing industry, pharmaceuticals and medicinal chemical; machinery and equipment n.e.c; textile; printing and reproduction of recorded media; computer,

electronic and optical products; other non-metallic mineral products; food products; wood and products of wood and cork; and paper and paper products experienced higher growth (31.7, 18.6, 13.7, 13.3, 12.8, 9.2, 6.9, 6.1 and 6.0 percent respectively) in FY20. While tobacco products; other transport equipment; rubber and plastic products; and fabricated metal products except machinery registered lower growth during same period. In contrast, manufacture of motor vehicles, trailers and semi trailers; coke and refined petroleum products; electrical equipment; and wearing apparels declined sharply by 53.5, 36.6, 23.1 and 16.8

percent respectively during FY20 compared to the previous year.

Service Sector

2.9 Despite some moderation, the service sector, comprising more than half of GVA, registered a modest growth of 5.3 percent in FY20. Within the sector, larger growth impulse in FY20 primarily came from health and social work (10.0 percent) and other financial intermediation (9.5 percent). Among the sub-sectors of services, wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods; hotel and restaurants; transport, storage and communication; financial intermediation; real estate, renting and business activities; public administration and defense; education; and community, social and personal services registered the growth of 5.0, 6.5, 6.2, 4.5, 4.9, 6.0, 6.2 and 3.6 percent in FY20 which was 8.1, 7.6, 7.2, 7.4, 5.2, 6.4, 7.7 and 3.7 percent in FY19 respectively (Table 2.1).

Sectoral Share of GDP

2.10 The sectoral decomposition of the share of GDP shows that the service sector continued to achieve the largest share of GDP followed by industry and agriculture sector.

2.11 The services sectors' share in GDP stood at 51.3 percent in FY20 as compared to 51.4 percent in the preceding year. Among the subsectors of service, the shares of Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods; financial intermediations; real estate, renting and business activities; and public administration and defence remained same at 13.9, 3.4, 6.1 and 3.7 percent in FY20

Table 2.2 Sectoral Share of GDP

(Base year: FY06)

			FY18	FY19	FY20ᴾ
1.	**Agriculture**		**14.23**	**13.65**	**13.35**
	a)	Agriculture and forestry	10.67	10.15	9.83
		i) Crop and horticulture	7.51	7.06	6.76
		ii) Animal farming	1.53	1.47	1.43
		iii) Forest and related services	1.62	1.62	1.64
	b)	Fishing	3.56	3.49	3.52
2.	**Industry**		**33.66**	**35.00**	**35.36**
	a)	Mining and quarrying	1.78	1.74	1.72
	b)	Manufacturing	22.85	24.08	24.18
		i) Large and medium scale	19.07	20.21	20.22
		ii) Small scale	3.78	3.87	3.96
	c)	Electricity, gas and water supply	1.54	1.55	1.57
	d)	Construction	7.50	7.63	7.89
3.	**Services**		**52.11**	**51.35**	**51.30**
	a)	Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	13.95	13.92	13.87
	b)	Hotel and restaurants	0.75	0.74	0.75
	c)	Transport, storage and communication	11.13	11.01	11.09
	d)	Financial intermediations	3.45	3.42	3.39
		i) Monetary intermediation (banks)	2.97	2.95	2.91
		ii) Insurance	0.30	0.29	0.29
		iii) Other financial intermediation	0.18	0.18	0.19
	e)	Real estate, renting and business activities	6.31	6.13	6.09
	f)	Public administration and defence	3.71	3.65	3.67
	g)	Education	2.46	2.44	2.46
	h)	Health and social work	1.83	1.89	1.97
	i)	Community, social and personal services	8.52	8.15	8.01
Total GVA at constant basic price			**100.00**	**100.00**	**100.00**

ᴾ Provisional
Source: BBS.

respectively. On the other hand, the share of hotel and restaurants; transport, storage and communication; education; and health and social works slightly increased to 0.8, 11.1, 2.5 and 2.0 percent in FY20 from 0.7, 11.0, 2.4 and 1.9 percent in FY19 (Table 2.2).

2.12 The contribution of the industry sector to GDP increased to 35.4 percent in FY20 from 35.0 percent in FY19. Among the subsectors of industry, the shares of manufacturing; and construction increased slightly to 24.2, and 7.9

percent in FY20 from 24.1, and 7.6 percent in FY19 respectively. However, the share of mining and quarrying; and electricity, gas and water supply subsectors remained same at 1.7 and 1.6 percent respectively during the same period (Table 2.2).

2.13   Contribution of agriculture sector to GDP has been declining and shifting towards service and industry sector as per development paradigm during the last several years. The share of agriculture slightly went down to 13.4 percent in FY20 from 13.7 percent in FY19. Among the subsectors of the agriculture sector, share of agriculture and forestry subsector to GDP declined to 9.8 percent in FY20 from 10.2 percent in FY19, while the share of fishing subsector remained same at 3.5 percent in FY20 (Table 2.2).

GDP based on Expenditure

2.14   Looking at the expenditure-based GDP at current market price in FY20, there was a statistical discrepancy of BDT 124.7 billion between gross domestic expenditure (GDE) and gross domestic product (GDP). In FY19 the amount of statistical discrepancy was BDT 110.4 billion (Table 2.3).

2.15   Gross Domestic Expenditure (GDE) reflects the aggregate demand originating from domestic economic activities, measured as the sum of domestic consumption and investment, along with resource balance (exports-imports). Domestic demand was estimated at BDT 29766.6 billion at current market prices in FY20 which was 9.9 percent higher than that of FY19. Net export was estimated at BDT (-) 1678.1 billion in FY20.

2.16   Total consumption expenditure and trade deficit accounted for 74.4 percent and

Table 2.3   GDP by Expenditure Groups (At current market price)

(billion BDT)

Particulars	FY18	FY19	FY20[P]
Domestic demand(1+2)	24395.22	27089.36	29766.60
Consumption(1)	17365.87	19062.66	20886.72
Private	15935.31	17468.25	19141.64
Government	1430.54	1594.41	1745.09
Investment(2)	7029.36	8026.70	8879.88
Private	5235.18	5985.83	6608.37
Public	1794.17	2040.87	2271.51
Resource balance(3-4)	-1945.08	-1554.17	-1678.08
Exports(3)	3330.93	3895.91	3742.02
Imports(4)	5276.01	5450.08	5420.10
Gross domestic expenditure	22450.14	25535.19	28088.52
Gross domestic product	22504.79	25424.83	27963.78
Statistical discrepancy	54.65	-110.36	-124.74

[P] Provisional
Source: BBS.

Table 2.4   Savings and Investment (As percent of GDP)

Particulars	FY17	FY18	FY19	FY20[P]
Investment	**30.51**	**31.23**	**31.57**	**31.75**
Private	23.10	23.26	23.54	23.63
Public	7.41	7.97	8.03	8.12
Domestic Savings	**25.33**	**22.83**	**25.02**	**25.31**
National Savings	**29.64**	**27.42**	**29.50**	**30.11**

[P] Provisional
Source: BBS.

6.0 percent of GDE respectively in FY20. In nominal terms, investment increased by 10.6 percent while consumption increased by 9.6 percent during the same period.

Savings and Investment

2.17   Gross Domestic Savings (GDSs) at current market price, stood at 25.3 percent of GDP in FY20, higher than 25.0 percent of GDP in the previous fiscal year. Gross National Savings (GNSs) increased to 30.1 percent of GDP in FY20 from 29.5 percent in FY19.

Box 2.2   Outbreak of COVID-19 and Output Gap in Bangladesh

Output gap, the difference between actual output and potential output, is commonly used to measure the business cycle position of an economy. Potential output is generally defined as the maximum level of output that can be produced without creating inflationary pressure in the economy. Output gap contains important information about near-term inflationary pressure. Positive output gap (when actual output is higher than the potential) implies that economy is overheating because of excess aggregate demand, creating inflationary pressures. Conversely, negative output gap, which is an indication of excess capacity in the economy, tends to put downward pressure on inflation and employments.

After growing by around 6 percent for a decade, Bangladesh's real GDP growth exhibited a fresh surge since 2014 and picked up steadily to 8.15 percent in 2019 from 6 percent in 2013, while inflation remained broadly stable. This strong growth performance led economists and policy makers to understand whether this growth surge was a result of a permanent shift of output path to a higher growth trajectory on the back of capacity augmentation or merely due to cyclical factors. Valid information on output gap and associated potential output can answer this question. Besides, real GDP growth moderated to 5.24 percent in 2020, as economic activities were remarkably shattered by a prolonged lockdown measures since late March 2020 in the face of COVID-19 outbreak. Devising appropriate policies aiming at faster growth recovery crucially requires understanding the current size of output gap in the economy. However, neither potential output nor output gap is directly observable. Hence, they need to be estimated. Given this backdrop, the objective of this note is to estimate output gap in Bangladesh for 1982-2020[1].

Two popular approaches to estimating potential output are: (i) filtering—extracting the trend and the cycle from actual output applying pure statistical techniques and (ii) production function—projecting output from its underlying drivers. This note relies on production function technique to estimate potential output in the light of neoclassical growth theory assuming the relationship between output and factors of production in Bangladesh can be described by a Cobb-Douglas production function with constant returns to scale of following form:

$$Y_t = A_t \, K_t^\alpha \, L_t^{1-\alpha} \, \ldots \ldots (1)$$

where Y, K, L, and A stand for real GDP or aggregate output, real capital stock, labor input, and total factor productivity (TFP), respectively. The coefficient α represents the share of capital in total output.

As there is no official data on capital stock in Bangladesh and labor market data are available in an irregular fashion and with a considerable lag, this note estimates potential output using the relationship between investment and GDP growth derived from the production function under cost minimization and the relationship between investment and capital on steady state.

On steady state, it can be shown that

$\Delta Y_t = \theta_1 * \Delta K_t$ where θ_1 is a constant   ……(2) and

$\Delta K_t = \left(\frac{g}{g+\delta}\right) I_t$ where g is steady state investment growth rate and δ is rate of depreciation   ……(3)

Substituting (3) in (2): $\Delta Y_t = \lambda \, I_t$ here $\lambda = \theta_1 * \left(\frac{g}{g+\delta}\right)$ …….(4)

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1   Throughout the note, year means fiscal year, which starts in July and ends in June.

Equation (4) shows that, in long run (steady state), an increase in investment expenditure leads to a rise in GDP growth. In this exercise, potential output path of the economy is calculated from this long run relationship between GDP growth and investment. To the end, equation (4) is estimated using an ARDL dynamic equation of following form[2] :

$$\Delta(\Delta y_t) = \alpha_1 + \alpha_2 \Delta y_{t-1} + \alpha_3 i_{t-1} \qquad\qquad ......(5)^{[3]}$$

	Coefficient
α_1	-33.00 (0.00)
α_2	-1.123 (0.00)
α_3	0.014 (0.00)
$\bar{R}^2$=0.62	F(- α_3/α_2)=86.68

Note: p-values are in the parenthesis

As the estimated F-statistic is large enough (86.68) to reject the null hypothesis of no cointegration at any conventional level of significance, we can conclude that there is long run relationship between output growth and investment. The estimated value of y_t ($\hat{y}_t$) obtained from equation (5) reflects potential output. Then output gap is calculated as the percentage deviation of observed output from estimated potential output and is presented in chart 1.

The estimation results suggest that Bangladesh economy had been operating with an increasing positive output gap since 2016, which reached 1.0% in 2019. However, output gap became negative (1.8%) in 2020 with the outbreak of COVID-19, implying that there is a considerable amount of excess capacity in the economy.

Chart : Output Gap: 1982-2020

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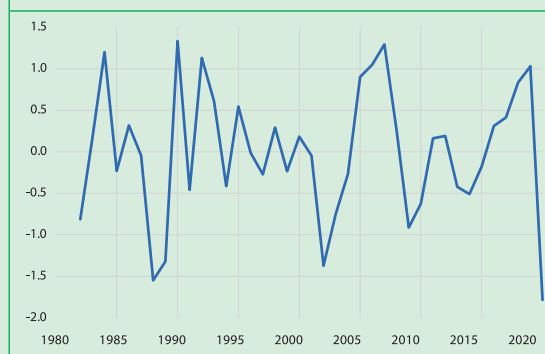
2   Unit root tests ensure that no variable is I(2). For brevity, unit root test results have not been reported here, but can be obtained from author upon request.
3   y_t and i_t (lowercase) are the logarithmic form of Y_t and I_t

2.18   Investment as a percent of GDP stood at 31.8 in FY20 from 31.6 in FY19. Private and public investment to GDP ratio slightly increased to 23.6 and 8.1 percent in FY20 from 23.5 and 8.0 percent respectively in FY19 (Table 2.4).

2.19   Gross Domestic Savings (GDSs) and Gross National Savings (GNS) at current market prices increased by 11.2 and 12.3 percent respectively in FY20 compared to FY19. Domestic savings-investment gap as

percent of GDP reduced to 6.4 percent in FY20 from 6.6 percent in FY19 (Chart 2.4).

Growth Outlook

2.20   The Government has set the target of real GDP growth at 8.2 percent for FY21. Although the target appears to be ambitious, still it is achievable considering that the COVID-19 related pandemic situation will improve and the economy will rebound strongly following a V-shaped recovery path aided by the successful and timely implementation of the stimulus packages undertaken by the Government and Bangladesh Bank amounting to BDT 1201.5 billion which is 4.3 percent of GDP.

2.21   With the easing of containment and social distancing in domestic economy during the last month of FY20, economic activities were getting back their momentum, though, slowly. However, at the beginning of FY21, outbreaks of monsoon floods in the northern,

Chart 2.4   Trends in Savings and Investment
(In percent of GDP)
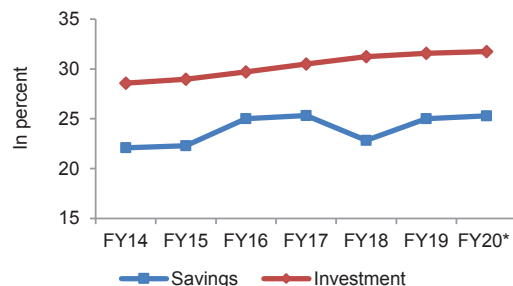
* Provisional
Source: BBS.

north-eastern and south-eastern region of the country was devastating and destroyed many houses and roads including embankments. Livelihood or economic activities, functioning of local markets, crops, livestock and fisheries have been severely affected, creating downside risks to the growth outlook.