

Policy Note: PN 2101

**Changing Currency Holding Patterns during the COVID-19 Pandemic in
Bangladesh**

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**Chief Economist's Unit
Bangladesh Bank**

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Abstract

The main objective of this policy note is to analyze the factors associated with the cash holding or the currency demand of households during the COVID-19 pandemic. The level of economic activities (measured by GDP), inflation, the interest rate on deposits, digital payments innovation, and seasonal factors influence cash holding pattern but the household perception of panic and uncertainty originated from the COVID-19 heightened more cash holding despite increasing digital payments. The currency deposit ratio (CDR) rose to 17 percent in the middle of 2020 and came down to a pre-covid-19 pandemic level in December 2020 due to the disappearance of household uncertainty with gradual economic recovery and rollout of vaccination throughout the country.

I. Introduction

Currency in circulation (CIC) issued by Bangladesh Bank (BB) increased sharply by 22.13 percent in FY20 compared to 9.97 percent growth in FY19. Currency outside of Banks (COB) holding by the household or broadly, currency demand also rose by 24.52 percent in FY20 from 9.49 percent growth in FY19. This higher growth in COB and CIC stemmed mainly from unexpected behavior by the household sector and sluggish economic activities in the face of the COVID-19 pandemic. Generally, currency holding or cash demand depends on many factors viz. level of overall economic activities, the trend of inflation, movements of interest rate on the asset, payment system innovation, precautionary motive, and seasonal factors. During the COVID-19 pandemic, the cash holding pattern changed abnormally owing to panic or uncertainty that surpassed all other important drivers of currency demand.

The ongoing COVID-19 pandemic that started at the end of 2019 has left many upsetting instances around the globe and it affected almost all sectors of the economy of Bangladesh (real sector, financial sector, health sector, etc). Among different sectors of the economy of Bangladesh, the banking sector witnessed sluggishness in terms of regular banking activities and interruption of deposit and lending actions were disturbed. Both the print media and the

¹ The authors are Dr. Md. Ezazul Islam, General Manager and Md. Rashel Hasan, Joint Director, Chief Economist's Unit. The views expressed are authors own and do not reflect those that of Bangladesh Bank. The authors would like to thank Dr. Habibur Rahman, Executive Director for upgrading the quality of the Note.

electronic media argued that people were holding more cash than its usual trend since the beginning of nationwide lockdown triggered by the COVID-19 pandemic. Against this backdrop, the main objective of the note is to analyze the factors which influence currency holding behavior of the household during the covid-19 pandemic.

II. Factors of Currency holding or Cash Demand behavior and COVID-19

Nominal GDP growth, inflation, the interest rate on deposits plays an important role for currency holding or cash demand for transaction purpose. During FY10-FY19, nominal GDP grew on average by 13.69 percent, CoB 16.06 percent, CIC 16.10 percent, inflation 7.0 percent, and deposit interest rate 6.61 percent. The movements of these variables over time were quite consistent, however changed abnormally in FY20. Despite falling nominal GDP in FY20, currency holding increased substantially although inflation inched up and deposit interest rate declined slightly (Table-1). This is quite an unusual and very short-run phenomenon induced by household uncertainty and perception in face of the COVID-19 pandemic.

Table-1: Yearly growth of GDP, COB, Inflation and interest Rate (%)

	CIC	COB	NGDP	Inflation	Interest Rate on Deposits
FY10	27.93	28.04	13.11	7.31	6.01
FY11	19.94	18.71	14.83	8.80	7.27
FY12	7.22	6.61	15.22	10.62	8.18
FY13	16.14	15.64	13.62	6.78	8.54
FY14	13.42	13.85	12.07	7.35	7.97
FY15	14.82	14.34	12.81	6.40	6.80
FY16	34.79	38.81	14.32	5.92	5.54
FY17	14.33	12.66	14.02	5.44	4.84
FY18	2.43	2.46	13.90	5.78	5.50
FY19	9.97	9.49	12.98	5.48	5.43
FY20	22.13	24.52	9.99	5.65	5.06

Source: Bangladesh Bank and BBS

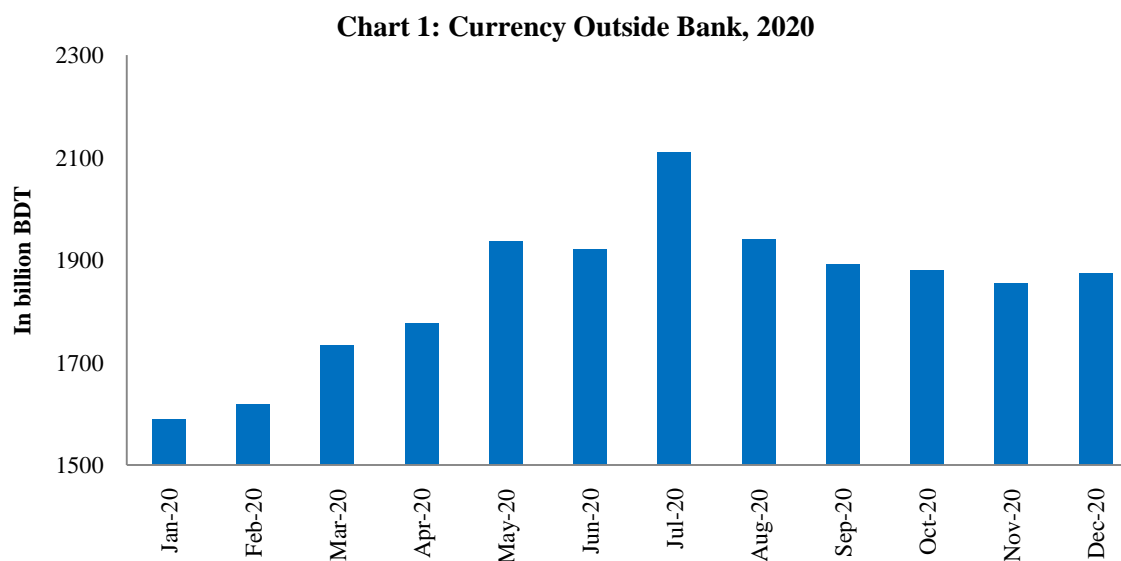
The short-run dynamics of household behaviors regarding cash holding are given in Table-2. Currency holdings and currency circulation growth started to rise in March 2020 when a nationwide lockdown was imposed to check the spread of virus infection. During the nationwide lockdown businesses, shopping centers, hotel and restaurant and many others institutions were shutdown and many employees temporarily lost their jobs. Consequently, industrial production dipped to (-) 24.75 percent (y/y) in May 2020. Deposit growth started to decline slowly since

January 2020 and continued its downward trend up to July 2020. Afterward, deposit growth started to rise with recovering economic activities and declining household's perception of uncertainty.

Table-2: Monthly Growth (y/y) in Monetary Stocks, Inflation, Deposit and Industrial production (In percent)

	M1	M2	RM	COB	CIC	TDTL	Inflation	Deposit	QIIP	Interest on Deposit (%)
Dec-19	8.02	12.04	6.93	8.23	8.57	12.58	5.75	12.38	13.73	5.70
Jan-20	8.46	12.39	9.29	9.84	10.17	12.75	5.57	12.90	10.37	5.69
Feb-20	9.89	12.57	10.69	10.86	10.25	12.82	5.46	12.76	8.91	5.53
Mar-20	15.59	12.16	21.25	19.84	20.32	11.07	5.48	11.29	3.09	5.51
Apr-20	17.25	13.25	12.93	22.70	21.99	11.91	5.96	11.90	-23.47	5.37
May-20	15.85	12.15	10.00	17.71	17.43	11.28	5.35	11.36	-24.75	5.24
Jun-20	20.11	12.64	15.56	24.52	22.13	10.92	6.02	10.61	4.42	5.06
Jul-20	24.51	14.26	19.86	33.68	30.30	11.40	5.53	10.89	9.24	5.02
Aug-20	19.07	13.57	12.19	17.45	17.59	12.98	5.68	12.44	5.29	4.95
Sep-20	20.21	13.92	13.61	19.82	18.18	13.07	5.97	13.06	9.16	4.79
Oct-20	20.03	14.10	15.19	21.46	20.78	13.07	6.44	12.86	6.59	4.73
Nov-20	20.80	13.99	20.68	19.44	19.53	13.28	5.52	13.02	10.02	4.64
Dec-20	21.91	14.23	21.18	19.72	18.11	13.48	5.29	13.15		4.54

Source: Authors calculation based on data available on Economic Trend, BB and BBS

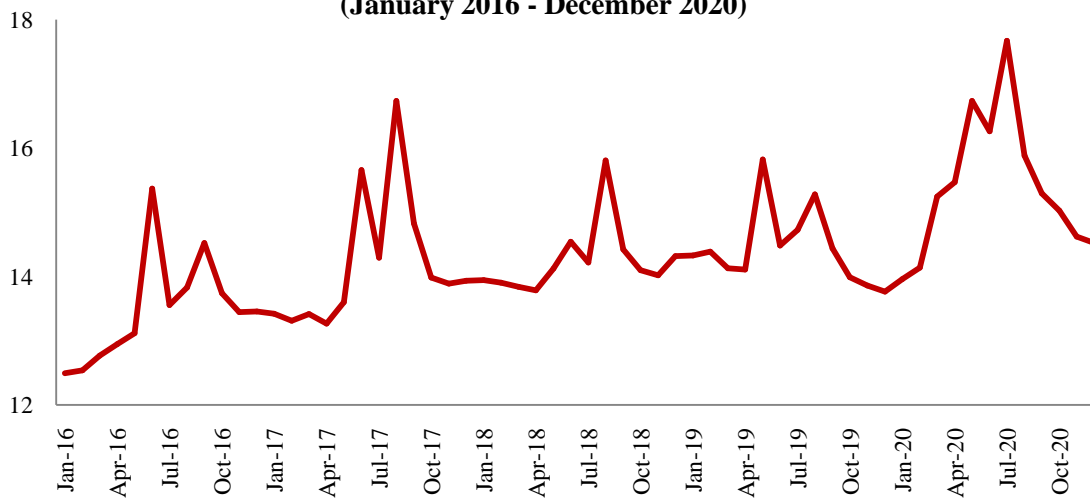


If we examine the currency outside banks data for the whole calendar year of 2020, we may notice that at the end of February 2020, COB was BDT 1618 billion and suddenly kept

edging up to reach as high as BDT 2110 billion at the end of July 2020 (COB grew 30.4 percent). Nevertheless, COB was going down since August 2020 and reached to BDT 1874 billion at the end of December 2020 (chart 1).

Was this cash holding phenomenon in 2020 significantly different from other calendar years? In order to answer that question we examined data on currency holding by the household for the last five years. The payment habits of the household can be determined by currency-deposit ratio (Dornbusch et al 2011). The CDR reflects how much currency is held by households relative to the total demand and time liabilities². The chart 2 represents currency-deposit ratio (in percent) over the period of 2016-2020. The time series data on currency deposit ratio shows that there are seasonalities in currency holding during the biggest Muslim festivals, Eid-ul-Fitr and Eid-ul-Azha. During these two festivals, CDR shoots up as people’s need to meet up festival expenditures (exception for the year 2020). In 2020, Eid-ul Fitr was celebrated on 25th of May 2020 when the country was under stick lockdown measures with very few shopping centres opened in a limited fashion.

**Chart 2: The Currency-Deposit Ratio (in percent)
(January 2016 - December 2020)**



² The currency-deposit ratio = currency outside bank / total demand and time liabilities

Table 3 : Descriptive Statistics of CDR

Year	Bangladesh			India		
	CDR (mean)	Min	Max	CDR (mean)	Min	Max
2016	13.5	12.5	15.4	14.5	7.0	16.3
2017	14.2	13.3	16.7	12.3	8.7	14.0
2018	14.3	13.8	15.8	14.9	14.1	15.5
2019	14.4	13.8	15.8	15.6	15.3	15.9
2016 to 2019	14.1	12.5	16.7	14.3	7.0	16.3
2020	15.4	14.0	17.7	16.8	15.7	17.4

Sources: Bangladesh Bank & Reserve Bank of India

Moreover, CDR for the year 2020 is much higher compared to other years. The currency outside bank as a percent of total demand and time liabilities was 15.4 percent in 2020, higher than 14.1 percent in 2019 (table 3). The currency holding accelerated rapidly to the overall deposit, resultant the CDR to edge up in 2020 compared to other calendar years (1.3 percentage points increased in 2020 from 2019).

This higher increase in currency holding was mainly driven by transaction and precautionary motives. Due to the COVID-19 pandemic and nationwide lockdown, people got puzzled and considering future uncertainty related to the COVID-19 situation, people preferred to hold cash in hand to make payment for daily necessary items and medical emergency. Moreover, banking service was limited, not all bank branches was opened which also made people to hold currencies in liquid form. Table 3 also highlighted currency-deposit ratio for India in the face of COVID-19. Time series data on currency-deposit ratio for India shows that currency holding was 15.4 percent in 2020, much higher than last five year average of 14.1 percent.

The COB plays an important role in the money supply process. The ratio of COB – Narrow money (M1) and COB-Broad money (M2) indicate that demand for cash holding of a household maintained a steady trend during FY10-FY19 except for FY20 (Table-4). A general notion is that households always hold minimum cash for the transaction and precautionary purpose and they deposited their excess cash to the bank to earn interest income which is reflected in the CDR ratio. The movements of CDR influence money creation through money multipliers.

Table-4: Trend in Currency-GDP Ratio and Currency-Money supply Ratio (%)

	CIC/GDP	COB/GDP	CIC/RM	COB/M1	COB/M2
FY10	6.33	5.79	68.07	52.46	12.71
FY11	6.61	5.98	67.45	53.15	12.44
FY12	6.15	5.54	66.35	53.24	11.30
FY13	6.29	5.63	67.00	54.65	11.19
FY14	6.36	5.72	65.82	54.30	10.98
FY15	6.48	5.80	66.10	54.68	11.17
FY16	7.64	7.04	68.48	57.47	13.32
FY17	7.66	6.96	67.33	57.29	13.54
FY18	6.88	6.26	66.29	55.28	12.70
FY19	6.70	6.07	69.21	56.45	12.65
FY20	7.44	6.87	73.15	58.52	13.98

Sources: BB and BBS

On the other hand, digital payments increased rapidly during the last five years. The main mode of the digital platform is card transaction (debit and credit) and mobile banking under the digital payments system. Monthly data indicate that on average about BDT 621.93 billion transactions were made monthly during the year 2020 through digital payments platform dominated by MFS. Data shows that more than 70 percent transaction is done by MFS. Despite the increasing use of digital payments, a large section of rural households and poor household in urban area preferred cash to digital payment mode.

III. Conclusion

The note analyzed the factors and consequences of the cash holding pattern in the face of the COVID-19 pandemic. The main findings of this analysis are that currency demand or cash holding increased abnormally during the middle of 2020 which is reflected in the growth of CIC, COB and CDR. Although the cash holding pattern is influenced by economic fundamentals and seasonal factors, household's perception of panic and uncertainty during the COVID-19 had also played a major role. Cash holding measured by CDR fall to a pre-covid-19 pandemic level in December 2020 because household perception changed and uncertainty started to disappear as the economy began to resume and mass vaccination was rolled out throughout the country.