July 2019

Payment Systems Quarterly Trend

Payment Systems Department

Bangladesh Bank

Contents

Comments and suggestions may be sent to:
md.shahinuzzaman@bb.org.bd; evana.akter@bb.org.bd; gm.psd@bb.org.bd

Executive Summary

Safe, secured and efficient functioning of payment systems is one of the core concerns of Bangladesh Bank (BB). With the mandate of Bangladesh Bank Order 1972 7A(e), Payment Systems Department endeavors for promoting new payment, clearing and settlement systems to ease financial transaction, reduce the paper money transaction to lead the country towards less-cash economy. BB has given emphasis to establish state of art payment systems as a part of its inclusive digitalization initiative over past few years which helped to bring the rural and urban unbanked population under financial arena at affordable cost and convenience. All these initiatives opened a new horizon in the payment landscape of the country.

This document analyzes the transaction patterns, i.e. transaction trends of various electronic and cheque based payment systems related to both the retail and large value payments in Bangladesh on quarterly basis. Hence, time series data has been accumulated here for each of the dominant retail and large value payment systems individually and they are compared with previous trends along with analyzing their relative performance across the payment systems.

Relative performances of payment platforms: In terms of value of transactions BACPS and RTGS hold major share of the payment systems which indicate dominance of paper payment instrument in the economy. On the other hand in terms of number of transaction MFS, BEFTN and NPSB is well ahead of BACPS and RTGS which indicates that people are getting habituated with the electronic mode of payment.

Bangladesh Real Time Gross Settlement (BD-RTGS) System : Although both the number and value of RTGS transaction show rapid fluctuation over the quarter, an overall upward trend is noticed in Q4 2018-19 compared to previous quarter. During Q4 2018-19, transaction increased by 15.86 percent in terms of the number and 9.14 percent in terms of total value of these transaction compared to previous quarter.

Bangladesh Automated Cheque Processing Systems (BACPS): Over the quarter both the number of cheques processed and its associated values show non-linear trends. In comparison with previous quarter the number of total cheques processed decreased by 3.37 percent and the associated BDT value increased by 4.57 percent in Q4 2018-19.

Bangladesh Electronic Funds Transfer Network (BEFTN) Within the quarter BEFTN transaction fluctuates as well as it is seen in other payment platforms also. But in comparison with the previous quarter a positive trend in both number of transaction and their values were observed. In Q4 2018-19 the growth of the number of transaction was 22.09 percent whereas in values its growth rate was 2.86 percent compared to last quarter.

National Payment Switch Bangladesh (NPSB) Like all other payment platforms same trend of transaction and value was observed in NPSB. Both its transactions raised in the month of May compared to April and fell on June for all its three channel (ie; ATM, POS, IBFT). But in comparison with previous quarter NBSB transactions and their associated values show strong upward trends. Among the three channel of NPSB Internet Banking Fund Transfer (IBFT) achieve higher growth rate in contrast to Automated Teller Machines (ATM) and Point of Sales (POS) transactions. Overall transactions of NPSB increased by 20.22 percent and in terms of values the increase is 23.49 percent in Q4 2018-19 than the previous quarter.

Mobile Financial Services (MFS) : In the respective months of Q4 2018-19 both the MFS transactions and its values shows rise in May but fall in June. However, number of transaction increased by 3.85 percent while value increased by 8.04 percent compared to previous quarter. This indicates bigger average value per MFS transaction in Q4 2018-19 than previous quarter.

E-Money and Electronic transactions: E-money as percent of broad money (M2) are rising over time. On the other hand Overall growth of electronic transactions through RTGS, BACPS, BEFTN, NPSB and E-Money channels are also rising which indicates rapid acceptance of digitalized mode of payments by the mass people and trends of the economy towards cash-lite society day by day.

1 Relative importance of payment services of Bangladesh

Bangladesh Bank (BB) operates three major payment platforms namely Bangladesh Real Time Gross Settlement (BD-RTGS) System, Bangladesh Automated Clearing House (BACH) and National Payment Switch Bangladesh (NPSB). Within BACH, Bangladesh Automated Cheque Processing Systems (BACPS) deals with inter-bank paper instrument based clearing where as Bangladesh Electronic Funds Transfer Network (BEFTN) deals with electronic payment instruction based clearing. In addition, BB allowed bank led model of Mobile Financial Services (MFS) and authorized MFS Providers to expedite the financial inclusion by extending financial services to unbanked population segment in both rural and urban areas. With a view to facilitate cashless financial transactions therefore, broaden the arena of digital financial inclusion, BB has started providing licenses to Payment System Providers (PSPs) and Payment System Operators (PSOs). Though PSPs are coming with various types of E-money payment services, the volume of transaction are yet to become significant.

Table 1.1 **Dynamics of market share of Payment services: number of transactions (in %)**

Time	RTGS	BACPS	BEFTN	NPSB	MFS
2016-17 Q1	0.016	1.35	0.98	0.73	96.93
2016-17 Q2	0.020	1.38	0.87	0.70	97.04
2016-17 Q3	0.030	1.38	0.93	0.66	97.00
2016-17 Q4	0.034	1.18	0.97	0.75	97.06
2017-18 Q1	0.044	1.12	0.97	0.86	97.01
2017-18 Q2	0.053	1.14	0.98	0.96	96.86
2017-18 Q3	0.034	1.14	1.06	0.96	96.80
2017-18 Q4	0.030	1.02	1.11	1.01	96.82
2018-19 Q1	0.035	0.92	1.03	1.02	96.99
2018-19 Q2	0.048	0.90	1.02	1.00	97.02
2018-19 Q3	0.056	0.93	1.23	1.03	96.77
2018-19 Q4	0.063	0.86	1.44	1.18	96.46
April	0.063	0.91	1.27	1.12	96.64
May	0.065	0.89	1.58	1.24	96.22
June	0.059	0.77	1.44	1.18	96.55

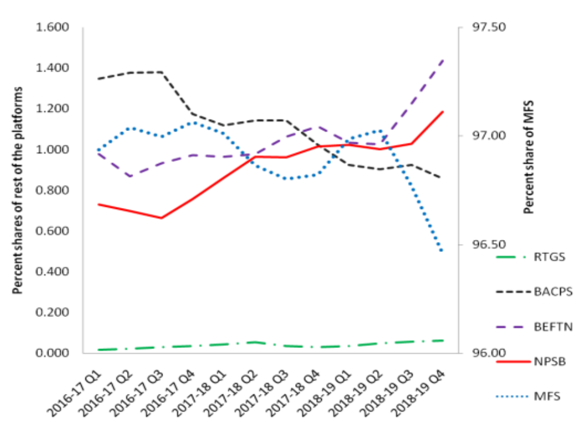


Figure 1.1 Dynamics of Market share of Payment services: In terms of number of transactions (in %)

Table 1.2 **Dynamics of Market share of Payment services: value of transactions (in %)**

Time	RTGS	BACPS	BEFTN	NPSB	MFS
2016-17 Q1	35.85	53.75	2.86	0.23	7.31
2016-17 Q2	32.05	56.68	3.04	0.23	8.00
2016-17 Q3	44.01	45.98	2.92	0.19	6.90
2016-17 Q4	41.06	48.24	3.08	0.24	7.39
2017-18 Q1	46.19	44.01	2.87	0.24	6.70
2017-18 Q2	46.48	43.36	2.96	0.26	6.95
2017-18 Q3	23.08	62.06	4.53	0.36	9.96
2017-18 Q4	5.34	76.02	5.76	0.50	12.39
2018-19 Q1	14.92	68.10	5.10	0.50	11.38
2018-19 Q2	29.14	56.51	4.33	0.41	9.60
2018-19 Q3	28.39	56.21	4.97	0.44	9.98
2018-19 Q4	29.18	55.34	4.81	0.51	10.15
April	27.47	56.51	4.86	0.51	10.64
May	30.92	52.73	5.31	0.54	10.51
June	28.77	57.29	4.19	0.47	9.27

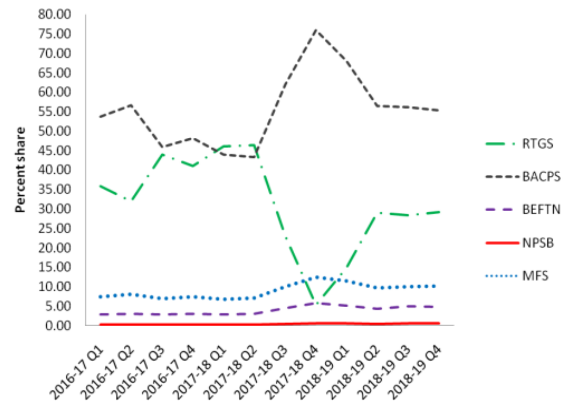


Figure 1.2 Dynamics of Market share of Payment services: In terms of value of transactions (in %)

Tables 1.1 and 1.2 and the associated plots in Figures 1.1 and 1.2 show the relative market share of various payment platforms over time as percentage of total number of transactions and as percentage of total value of transactions. In terms of number of transactions, the share of MFS far outweighs other payment services, which is 96.46% in Q4 2018-19. In terms of value, BACPS has the largest share which amounts to 55.34 percent in Q4 2018-19 which is 0.87 percentage point lower than the previous quarter. Except BACPS and RTGS, dynamics of shares of the rest of the payment services (NPSB & MFS) most cases small ticket transaction showing rising trends in the last three quarter. Dynamics in Figure 1.1 shows that BACPS and MFS share is experiencing slight decline, whereas NPSB and BEFTN have increasing trends in shares overtime.

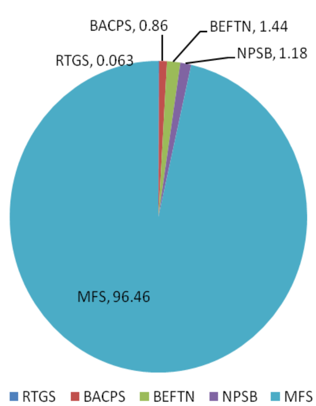


Figure 1.3 Share (%) in terms of transactions number in Q4 2018-19

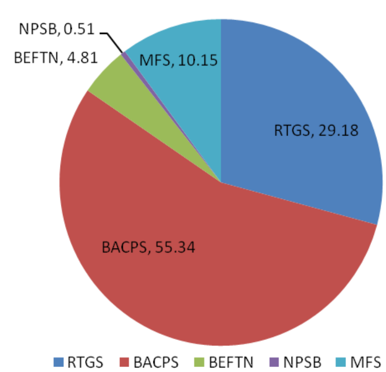


Figure 1.4 Share (%) in terms of transactions values in Q4 2018-19

The pie charts show shares of different payment services in Q4 2018-19. It shows two opposite nature of payment platforms in terms of number of transaction and value. Figure 1.3 shows the dominance of MFS in facilitating largest number of transactions while Figure 1.4 shows the dominance of BACPS and RTGS in clearing and settling largest portion of the transaction value. Though MFS clears almost 97% of transaction, its value share is very low due to its smaller ticket size nature of transaction.

It is to be mentioned here that different payment platforms are facilitating different types of payment needs of customers. RTGS is basically catering the need of large value payment of individuals as well as institutions. On the other hand, BACH is again catering both large and small payments through cheque and electronic instruction. The NPSB and MFS mainly deal with small ticket size retail payments. According to the pattern of transaction the relative market share of all these platforms varies in terms of number of transaction and values which is evident in the above tables and figures.

2 Bangladesh Real Time Gross Settlement (BD-RTGS) System

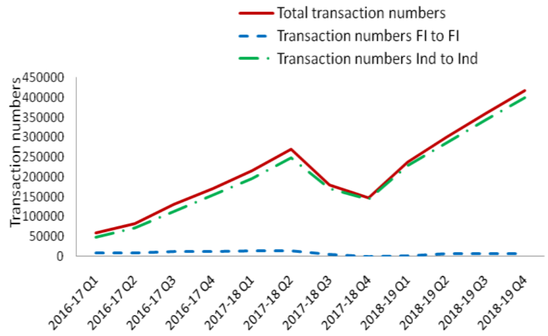
BD-RTGS; the systemically important large value payment system of Bangladesh, started its journey in October 29, 2015. It currently deals with credit instructions (only in BDT) and settles inter-bank claims in almost real time. Though RTGS is destined to settle high value inter-bank payments, considering the size of the economy and the aim to habituate people towards more digitalized payments, any transaction valuing BDT 1 lac and above (with an exception to any amount govt. transaction) is eligible to be settle in RTGS system. RTGS transaction trends over the year is stated in the Table-2 and also in Figure 2.1 and 2.2 .

Table 2 Bangladesh Real Time Gross Settlement (BD-RTGS) Transactions

Time	Numbers of Transaction (FI to FI)	Numbers of Transaction (Ind to Ind)	Total Number of Transaction	Growth	Value of Transaction (FI to FI) in Crore BDT	Value of Transaction (Ind to Ind) in Crore BDT	Total Value of Transaction (In Crore BDT)	Growth
2016-17 Q1	9271	47556	58786	13.22	266368	15011	281753	
2016-17 Q2	9728	71479	82737	40.74	244710	23031	263708	-6.40
2016-17 Q3	12612	113002	130145	57.30	432755	28990	462716	75.47
2016-17 Q4	12240	153627	170856	31.28	407422	43060	451247	-2.48
2017-18 Q1	13848	195221	215507	26.13	475429	55591	531909	17.88
2017-18 Q2	14293	246681	268782	24.72	490908	68818	560518	5.38
2017-18 Q3	4961	169265	179164	-33.34	163632	44678	208947	-62.72
2017-18 Q4	150	142507	146959	-17.98	877	40205	41914	-79.94
2018-19 Q1	1874	228378	237229	61.43	63230	60896	124981	198.18
2018-19 Q2	6587	285247	300000	26.46	210371	80276	291633	133.34
2018-19 Q3	7363	343031	360039	20.01	195484	112698	286779	-1.66
2018-19 Q4	7508	398695	417155	15.86	206315	105626	312981	9.14
April	2393	131623	137571	10.17	55411	34486	90285	0.85
May	2947	150267	157358	14.38	84758	39190	124293	37.67
June	2168	116805	122226	-22.33	66147	31950	98403	-20.83

Note: FI refers to Financial Institutions and Ind refers to Individual.

Source: RTGS section, Payment Systems Department (PSD), Bangladesh Bank (BB).



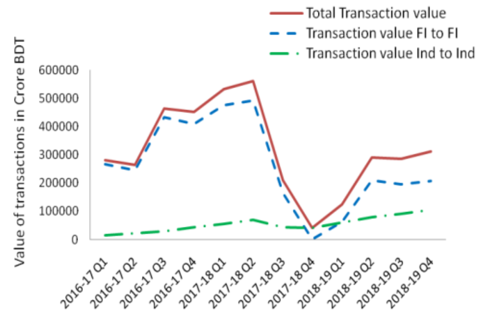


Figure 2.1 Trends of number of transaction in RTGSs

Figure 2.2 Trends of values of transaction in RTGS

The robust growth of BD-RTGS since its inception came to a deceleration stage in the third quarter of FY 2017-18 as shown in Figures 2.1 and 2.2 due to technical disruption of RTGS system. From the above table we see that RTGS transactions declined by 33.34 percent along with a 62.72 percent decline in its associated values in Q3 2017-18. The negative growth in terms of both value and the number of transactions continued till the fourth quarter of 2017-18. However, by getting the technical issues resolved, the negative growth trend starts to turn into positive trend with a 15.86 percent and 9.14 percent growth in number of transactions and values respectively in the Q4 2018-19. Though RTGS transactions deals with both individual to individual and FI to FI transactions, value proportion of FI to FI transaction indicates larger interbank money market (wholesale) participation in RTGS which is explicit in Figure 2.2.

In April 2019, number of RTGS transactions experienced a 10 percent growth while the total value increased by near about 1 percent. Transactions started to fall afterwards and by June 2019, the number of transactions falls by 22 percent and the associated total value fall by 21 percent approximately. Fewer working days in June 2019 contributed to fewer RTGS transactions in this month. Besides, Individual transaction is increasing for the last four quarters which is a good sign for digitizing payment ecosystem (Figure 2.1).

3 Bangladesh Automated Clearing House (BACH)

BACH is treated as the first milestone endeavor of Bangladesh Bank for the digitalized payment landscape of Bangladesh. It is the automated inter-bank clearing facility for the retail payment segment that clears both paper based and instruction based payment instruments through two of its wings namely Bangladesh Automated Cheque Processing System (BACPS) and Bangladesh Electronic Funds Transfer Network (BEFTN) respectively.

3.1 Bangladesh Automated Cheque Processing Systems (BACPS)

BACPS deals with inter-bank clearing of paper based payment instruments. By using Cheque Imaging and Truncation System (CITS) the whole country was brought under one single clearing umbrella with the live operation BACPS. It enables the clearing of paper based items in prompt and efficient manner throughout the country. Two sessions are available daily in BACPS namely High Value (HV) session and Regular Value (RV) session. HV session accommodates cheques with minimum value of BDT 5 lac and above and settles in T+0 timeline for both the bank and customer. Whereas, RV session accommodates any amount of cheques and settles in T+0 for banks and T+1 for customers.

Table 3 Transaction trends of Bangladesh Automated Cheque Processing Systems (BACPS)

Time	Number of High Value (HV) Transaction	Number of Regular Value (RV) Transaction	Total number of Transaction	Growth (in %)	Value of HV Transaction (in Crore BDT)	Value of RV Transaction (in Crore BDT)	Total value of Transaction (In Crore BDT)	Growth (in %)
2012-13 Q1	323298	4503080	4826378	-4.19	152580	120593	273173	-2.80
2012-13 Q2	337542	4872762	5210304	7.95	156271	105438	261709	-4.20
2012-13 Q3	324053	5334096	5658149	8.60	150184	127270	277454	6.02
2012-13 Q4	351406	4918887	5270293	-6.85	175140	131656	306796	10.58
2013-14 Q1	348413	5313830	5662243	7.44	180482	133241	313723	2.26
2013-14 Q2	341529	5128079	5469608	-3.40	181894	124377	306271	-2.38
2013-14 Q3	384475	5938652	6323127	15.60	198953	133571	332524	8.57
2013-14 Q4	417346	6153728	6571074	3.92	229448	146412	375860	13.03
2014-15 Q1	417944	5755141	6173085	-6.06	224784	137653	362437	-3.57
2014-15 Q2	390801	5657467	6048268	-2.02	228046	132101	360147	-0.63
2014-15 Q3	436897	5835772	6272669	3.71	226236	139186	365422	1.46
2014-15 Q4	464682	5378214	5842896	-6.85	249600	150012	399613	9.36
2015-16 Q1	450108	4864444	5314552	-9.04	243370	136774	380145	-4.87
2015-16 Q2	456756	4940960	5397716	1.56	260244	144761	405006	6.54
2015-16 Q3	486619	5121996	5608615	3.91	263929	153173	417102	2.99
2015-16 Q4	540025	5486196	6026221	7.45	316075	177867	493942	18.42
2016-17 Q1	449095	4559023	5008118	-16.89	269868	152488	422356	-14.49
2016-17 Q2	511293	5048273	5559566	11.01	298078	168302	466380	10.42
2016-17 Q3	557299	5491355	6048654	8.80	303702	179715	483418	3.65
2016-17 Q4	571599	5300481	5872080	-2.92	340288	189818	530106	9.66
2017-18 Q1	531449	4956262	5487711	-6.55	323059	183710	506769	-4.40
2017-18 Q2	562133	5202624	5764757	5.05	329872	193002	522874	3.18
2017-18 Q3	608721	5455118	6063839	5.19	357287	204583	561870	7.46
2017-18 Q4	620527	5262696	5883223	-2.98	386290	210534	596825	6.22
2018-19 Q1	595157	5061681	5656838	-3.85	370536	199968	570504	-4.41
2018-19 Q2	590226	5069731	5659957	0.06	359162	206335	565497	-0.88
2018-19 3	614177	5300397	5914574	4.50	352414	215310	567724	0.39
2018-19 Q4	620178	5095173	5715351	-3.37	386529	207118	593647	4.57
April	213775	1767815	1981590	0.47	118855	66886	185741	-1.49
May	235850	1915518	2151368	8.57	137637	74344	211981	14.13
June	170553	1411840	1582393	-26.45	130037	65888	195925	-7.57

Source: BACH section, PSD, BB.

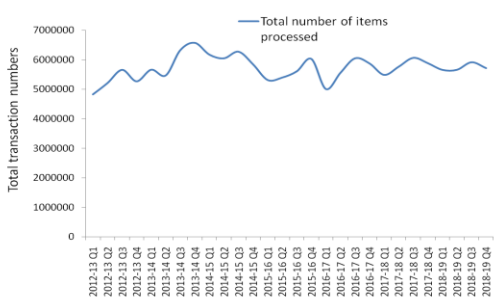


Figure 3.1 Trends of number of transactions in BACPS

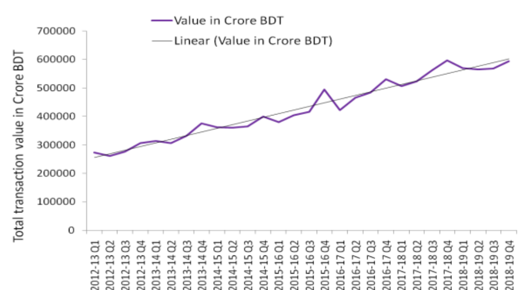


Figure 3.2 Trends of values of transaction in BACPS

The upward trends of the number of cheque processed and their associated values seen in Figure 3.1 and 3.2 denotes the pre dominance of cheque in BD payment ecosystem. In Q4 2018-19, the BACPS transactions decreased by 3.37 percent in terms of number of transaction due to long Eid vacation. However, the rise is significant 4.57 percent, in terms of total value of transactions. The larger growth in value compared to growth in total number indicates that per transaction value in BACPS has inclined in Q4 2018-19.

3.1.1 BACPS: High Value (HV) and Regular Value (RV) transactions

Figure 3.3 Number of HV and RV transactions

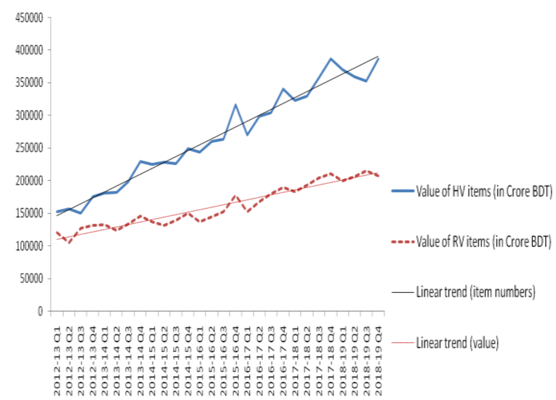


Figure 3.4 Total value of HV and RV transactions (in Crore BDT)

In Table-3 we see that during Q4 2018-19, the positive growth of transactions in April and May 2019 is followed by negative growth in June 2019 in terms of both number and total value of transactions. The number of working days in the consecutive three months of Q4 2018-19 were 20, 21 and 17 days respectively. Fewer working days in June 2019 explain to some extent the smaller volume of BACPS transactions in the month. Although Q4 2018-19 has one less working day compared to previous quarter, transactions have decreased as a whole.

In Figure 3.3 a consistent growth of High Value (HV) transactions is seen compared to that of Regular Value (RV) transactions. The upward trend of HV transactions persists even after the introduction of BD-RTGS in November 2015 for large value transactions. In Figure 3.4 total values (in Crore BDT) of HV and RV transactions are considered. The aggregate value of HV cheques has steeper upward trend compared to aggregate values of RV transactions.

The popularity of Mobile Financial Services is one factor behind the flatter trend of RV transactions in terms of both the number and value. In contrary, the HV transactions continue to have steeper trend implying higher growth even after the parallel existence of the RTGS platform. In Q4 2018-19, the value of HV transaction is slightly below the trend level and the value of RV transaction is almost on the trend level. Overall, BACPS is still a popular mode of transaction in Bangladesh as indicated by its scale.

3.2 Bangladesh Electronic Funds Transfer (BEFTN)

BEFTN is the first ever inter-bank clearing facility for instruction based payments started its journey from February 28’ 2011 with country-wide coverage. Through BEFTN a bank, on behalf of its customer, can initiate transaction (bulk or individual) for transferring fund to one or more than one beneficiary accounts lying with other banks within a short span of time. From, BEFTN started its journey. BEFTN accommodates both credit and debit type of transaction. Currently it has only one session to clear and settle the transaction at T+1 timeline.

Table 3.2 Bangladesh Elecronic Fund Transfer (BEFTN)

Time	Total Number of Transaction	Growth (%)	Total value of Transaction (In Crore BDT)	Growth (%)	BEFTN Tran. (% of BACH)	BEFTN value (% of BACH)
2012-13 Q1	1500818	-9.73	7522	7.72	23.72	2.68
2012-13 Q2	1252508	-16.54	7964	5.89	19.38	2.95
2012-13 Q3	1214651	-3.02	8856	11.19	17.67	3.09
2012-13 Q4	2560289	110.78	9558	7.93	32.70	3.02
2013-14 Q1	2332125	-8.91	10268	7.42	29.17	3.17
2013-14 Q2	1479126	-36.58	10933	6.48	21.29	3.45
2013-14 Q3	1755551	18.69	13079	19.63	21.73	3.78
2013-14 Q4	3017776	71.90	15138	15.75	31.47	3.87
2014-15 Q1	3139184	4.02	16079	6.22	33.71	4.25
2014-15 Q2	2302223	-26.66	15506	-3.57	27.57	4.13
2014-15 Q3	2715614	17.96	20132	29.83	30.21	5.22
2014-15 Q4	3647961	34.33	23680	17.63	38.44	5.59
2015-16 Q1	3919912	7.45	21674	-8.47	42.45	5.39
2015-16 Q2	3478366	-11.26	21900	1.05	39.19	5.13
2015-16 Q3	3251738	-6.52	23444	7.05	36.70	5.32
2015-16 Q4	4696820	44.44	28418	21.22	43.80	5.44
2016-17 Q1	3636262	-22.58	22486	-20.87	42.07	5.05
2016-17 Q2	3507498	-3.54	25054	11.42	38.68	5.10
2016-17 Q3	4096726	16.80	30730	22.65	40.38	5.98
2016-17 Q4	4865560	18.77	33834	10.10	45.31	6.00
2017-18 Q1	4733822	-2.71	33098	-2.18	46.31	6.13
2017-18 Q2	4942160	4.40	35698	7.85	46.16	6.39
2017-18 Q3	5653737	14.40	41024	14.92	48.25	6.80
2017-18 Q4	6396745	13.14	45203	10.19	52.09	7.04
2018-19 Q1	6329121	-1.06	42747	-5.43	52.80	6.97
2018-19 Q2	6424170	1.50	43311	1.32	53.16	7.11
2018-19 Q3	7829251	21.87	50209	15.93	56.97	8.13
2018-19 Q4	9558854	22.09	51642	2.86	62.58	8.00
April	2778877	16.23	15984	12.92	58.37	7.92
May	3800855	36.78	21338	33.50	63.86	9.15
June	2979122	-21.62	14320	-32.89	65.31	6.81

Source: BACH section, PSD, BB.

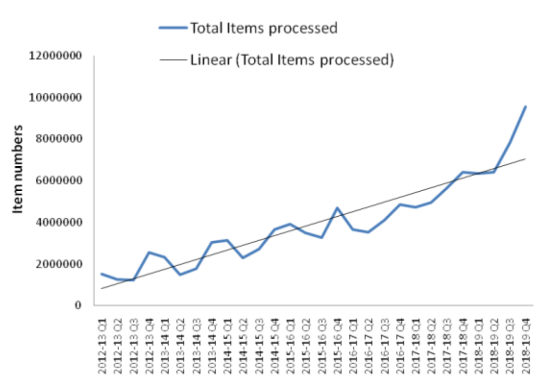


Figure 3.5 Trends of number of transaction in BEFTN

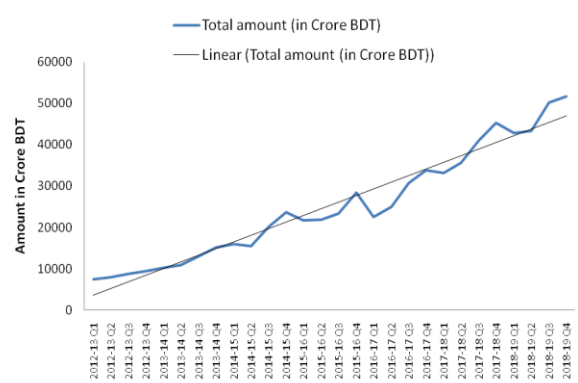


Figure 3.6 Trends of values of transactions in BEFTN

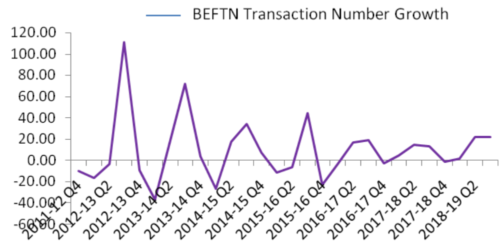


Figure 3.7 Growth Trend of number of transaction in BEFTN

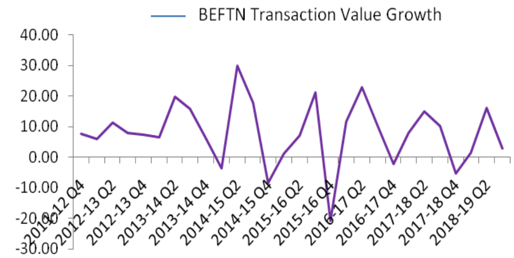


Figure 3.8 Growth Trend of value of transaction in BEFTN

BEFTN, the other wing of BACH, shows upward trends in terms of both item numbers and total value of the items processed in Figures 3.5 and 3.6 In Q4 2018-19, BEFTN transactions remain above the trend level and the number of items processed increased by 22.09 percent and their associated BDT values increased by 2.86 percent. In total, BDT 51642 Crore was settled in 9558854 transactions during the quarter. On average, per unit transaction value has declined slightly compared to previous quarter.

Within Q4 of FY2018-19, transactions increased in April & May following a decline in June 2019. Number of BEFTN items grew by 16.23 and 36.78 percent in April & May and declined by 21.62 percent in June compared to previous month. June 2019 had 17 working days in total (due to more public holidays) and it recorded negative growth for item numbers and associated BDT values.

The share of BEFTN in BACH platform, although small, rising consistently. The share of BEFTN in terms of value within BACH was 8.00 percent in Q4 2018-19, which is 0.13 percentage points lower than the previous quarter. As indicated in Figure 3.5 the popularity of electronic payment methods is increasing in Bangladesh.

4 Comparison between BD-RTGS and BACPS High Value cheques

Table 4 Comparison between BD-RTGS and BACPS High Value transactions in Q4 2018-19

Range	Number of transactions RTGS	Number of HV transactions in BACPS	Total value of RTGS Transaction (Crore BDT)	Total value of HV Transaction (Crore BDT)
BDT 100 -500 thousands	252477	-	6077	-
BDT 500 thousands & above	164363	620178	306760	386529
Total	416840	620178	312837	386529

Note: Difference in RTGS figures from Table 2 may arise here due to return transactions.

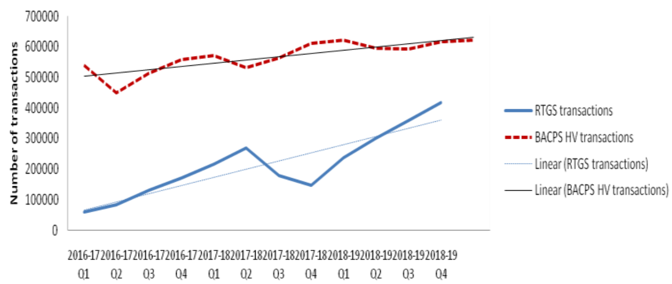


Figure 4.1 and 4.2 Comparison of transaction numbers and values between HV cheques in BACPS and BD-RTGS

BD-RTGS is for transactions amounting to BDT 100 thousands and above whereas High Value (HV) transactions of BACPS are for BDT 500 thousands and above. In terms of the number of transactions, both RTGS and HV have upward trends. The trend for the RTGS is steeper than the trend for HV items as indicated by the linear trend lines fitted for RTGS and HV transactions in Figure 4.1. This implies that overtime the number of items processed in RTGS system is growing faster than the HV items processed in BACPS. However, the scale of transaction under HV still outweighs those of the RTGS. This indicates that the BD-RTGS platform, which is dedicated for faster and efficient high value transactions, is underutilized. During Q4 2018-19, BACPS transactions were below the trend whereas the RTGS transactions were above the trend.

The comparison between BD-RTGS and HV items in terms of value in Crore BDT is represented in Figure 4.2. Total value of HV transactions has an upward trend, whereas, the plot of RTGS values is fluctuating and without a clear trend. Due to BD-RTGS system disruption in January 2018, there is a sharp decline in the value of transactions after Q2 2017-18. Since Q1 2018-19, RTGS value is recovering fast and is moving closer to the HV value in recent quarters. The total value of HV items in Q4 2018-19 is below the trend level similar to the number of HV items processed in Figure 4.1.

A closer look at the transaction profiles between the two platforms during Q4 2018-19 in Table 4 shows that the number of HV transactions is almost 1.5 times higher than total RTGS transactions and the value of HV transaction is almost 1.23 times higher than the value of RTGS transactions. Overall, the scale of BD-RTGS is still lagging behind the scale of HV transactions. There is room for financial sector participants to be aware and take advantage of the BD-RTGS platform for large value BDT transactions.

5 National Payment Switch Bangladesh (NPSB)

NPSB enables inter-operable card and internet banking instruction based transaction among different banks. At the initial stage BB targeted inter operability of inter-bank Automated Teller Machine (ATM) transaction and brought it under NPSB switch in 2012. After successful enrollment of ATM transaction the Point of Sale (POS) and Internet Banking Funds Transfer (IBFT) transaction come under the switch gradually from the year 2015 to 2019.

Table 5 Transactions through NPSB

	ATM				POS				IBFT				NPSB overall		
Time	Total Number of Transaction	Growth	Total value (Crore BDT)	Growth (%)	Total Number of Transaction	Growth	Total value (Crore BDT)	Growth (%)	Total Number of Trans.	Growth (%)	Total value (Crore BDT)	Growth (%)	Total number of Transaction	Total value (Crore BDT)	Overall Growth of NPSB (%)
2015-16 Q1	2233714	40.34	1261.083	31.06	12304	-	3.16	-					2246018	1264.25	
2015-16 Q2	2528039	13.18	1437.394	13.98	64534	424.50	23.14	631.32					2592573	1460.53	15.53
2015-16 Q3	2122502	-16.04	1330.092	-7.47	135005	109.20	47.88	106.94					2257507	1377.98	-5.65
2015-16 Q4	2519919	18.72	1707.788	28.40	182110	34.89	66.17	38.19					2702029	1773.96	28.74
2016-17 Q1	2503723	-0.64	1717.326	0.56	204464	12.27	68.81	3.99					2708187	1786.14	0.69
2016-17 Q2	2593941	3.60	1786.588	4.03	220537	7.86	73.85	7.32					2814478	1860.44	4.16
2016-17 Q3	2683067	3.44	1904.613	6.61	222896	1.07	76.40	3.45					2905963	1981.01	6.48
2016-17 Q4	3269111	21.84	2399.532	25.99	502778	125.57	184.60	141.63					3771889	2584.13	30.45
2017-18 Q1	3573360	9.31	2491.276	3.82	644380	28.16	244.03	32.19					4217740	2735.30	5.85
2017-18 Q2	3917302	9.63	2738.067	9.91	944657	46.60	357.15	46.36	2816	-	4.24	-	4864775	3099.46	13.31
2017-18 Q3	4135176	5.56	2925.919	6.86	957183	1.33	354.65	-0.70	7424	163.64	13.71	223.41	5099783	3294.27	6.29
2017-18 Q4	4739013	14.60	3452.672	18.00	1066203	11.39	421.99	18.99	15299	106.07	26.72	94.92	5820515	3901.38	18.43
2018-19 Q1	5201634	9.76	3743.260	8.42	1024315	-3.93	399.56	-5.31	30215	97.50	55.52	107.81	6256164	4198.35	7.61
2018-19 Q2	5185474	-0.31	3643.138	-2.67	1029031	0.46	380.96	-4.66	50781	68.07	99.35	78.94	6265286	4123.45	-1.78
2018-19 Q3	5360967	3.38	3841.053	5.43	1098634	6.76	390.00	2.37	95162	87.40	205.43	106.78	6554763	4436.49	7.59
2018-19 Q4	6290549	17.34	4621.647	20.32	1450275	32.01	553.17	41.84	139924	47.04	304.13	48.04	7880748	5478.95	23.50
April	1965963	5.86	1416.60	6.28	452003	12.05	169.54	18.20	41398	13.99	90.87	13.79	2459364	1677.01	7.76
May	2364764	20.29	1837.71	29.73	559807	23.85	225.46	32.98	55949	35.15	119.36	31.34	2980520	2182.53	30.14
June	1959822	-17.12	1367.33	-25.60	438465	-21.68	158.18	-29.84	42577	-23.90	93.89	(21.33)	2440864	1619.41	-25.80

Source: NPSB section, PSD, BB

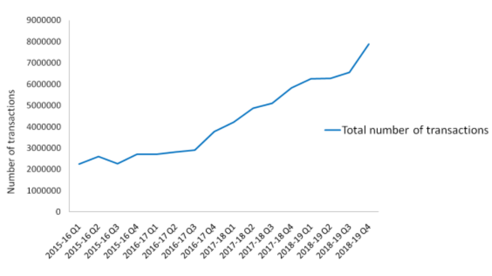


Figure 5.1 Trend of number of transaction through NPSB

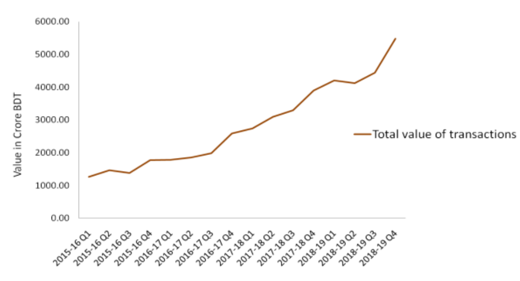


Figure 5.2 Trend of values of transaction through NPSB

Transactions through the three channels of NPSB show strong upward trends depicting the nation's growing preferences towards electronic payment modes. In the fourth quarter of FY 2018-19, 7.8 million transactions with value BDT 5478.95 Crore were settled through NPSB. Overall growth in the number of transactions is 20.22 percent higher and the associated value is 23.49 percent higher than the previous quarter of the same FY. Since Q3 2017-18, the growth rates of ATM and Point of Sale (POS) transactions values are closely following each other. Internet Banking Fund Transfer (IBFT), which is the latest addition to NPSB, experiences robust growth since its inception. Both the value and transaction numbers in internet banking have high growth rates, almost 47.04 percent for transaction number and 48.04 percent for transaction value in Q4 2018-19.

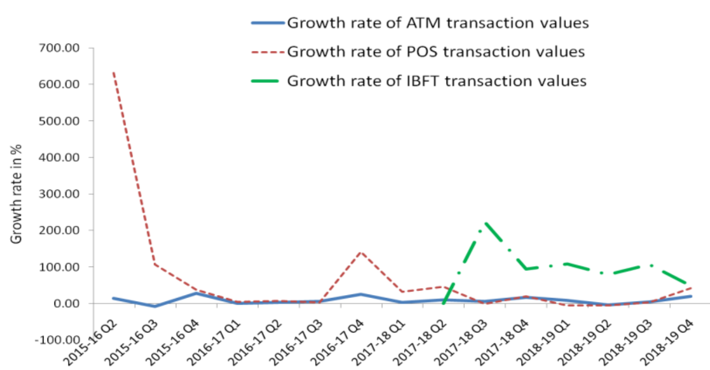
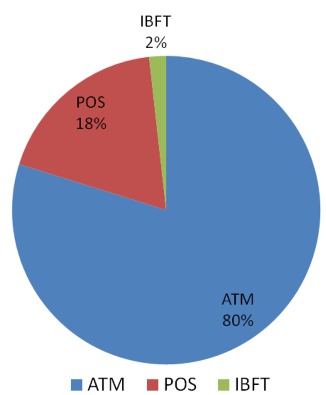


Figure 5.3 Growth rates of ATM and POS transactions through NPSB

Shares of transactions through three different channels of NPSB



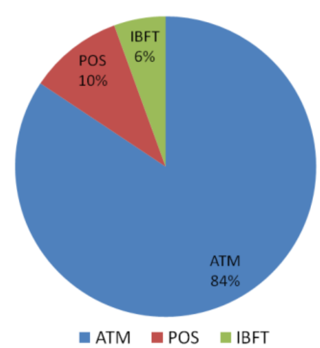


Figure 5.4 Shares of number of transaction through NPSB in FY18-19Q4

Figure 5.5 Shares of values of transaction through NPSB in FY18-19Q4

ATM is the most popular type of transactions in NPSB. As shown in the pie chart for Q4 2018-19, ATM transactions have 80 percent shares in terms of the number of transactions in Figure 5.4 and 84 percent in terms of their BDT values in Figure 5.5.This indicate that over the counter cash withdrawal is being replacing through ATM withdrawals in a good pace. It also denotes that the economy is still dependent on cash. POS transactions hold the second position in terms of both number of transaction and values.

6 Mobile Financial Services (MFS)

High penetration of mobile phone uses by large number of people widens the scope for MFS in Bangladesh. To extend the jurisdiction of financial services to the door steps of unbanked rural segment of the population, BB promoted bank-led model of MFS in 2012 by authorizing MFS providers to extend their services through their appointed agents. Day by day the MFS sector is experiencing robust growth both in number of transactions and values. Introducing more diversified financial product MFS platform promotes higher financial inclusion and leads us towards cash lite economy.

Table 6 Mobile Financial Services transactions

Time	Total Number of Transaction	Growth	Total Amount (In Crore BDT)	Growth
2014-15 Q1	151034086	28.57	28405.42	14.42
2014-15 Q2	185343544	22.72	28392.78	-0.04
2014-15 Q3	247965896	33.79	34560.56	21.72
2014-15 Q4	278713760	12.40	37412.24	8.25
2015-16 Q1	306230804	9.87	41718.89	11.51
2015-16 Q2	333140300	8.79	44081.62	5.66
2015-16 Q3	356375381	6.97	51555.67	16.96
2015-16 Q4	364233458	2.20	59842.28	16.07
2016-17 Q1	360841179	-0.93	57454.26	-3.99
2016-17 Q2	391791882	8.58	65839.58	14.59
2016-17 Q3	425646038	8.64	72579.68	10.24
2016-17 Q4	485060452	13.96	81201.89	11.88
2017-18 Q1	475671093	-1.94	77101.78	-5.05
2017-18 Q2	489263297	2.86	83778.65	8.66
2017-18 Q3	514365948	5.13	90180.46	7.64
2017-18 Q4	556497802	8.19	97234.44	7.82
2018-19 Q1	593776915	6.70	95364.52	-1.92
2018-19 Q2	608105822	2.41	96106.58	0.78
2018-19 Q3	618462422	1.70	100817.17	4.90
2018-19 Q4	642256571	3.85	108920.00	8.04
April	211345500	1.09	34976.00	0.86
May	231379578	9.48	42236.00	20.76
June	199531493	-13.76	31708.00	-24.93

Source: MFS section, PSD, BB.

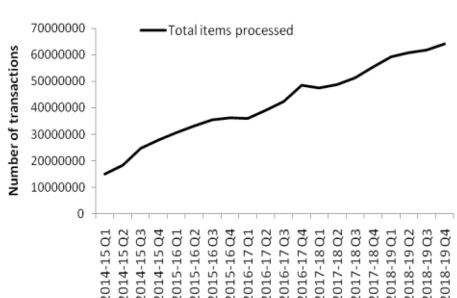


Figure 6.1 Trend of number of transaction through MFS

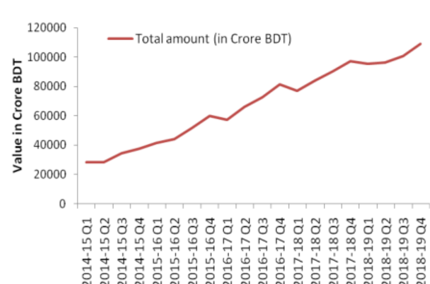


Figure 6.2 Trend of values of transaction through MFS

Transactions in the MFS market show upward trend as depicted in Figures 6.1 and 6.2. Number of transactions increased by 3.85 percent and total value of transactions increased by 8.04 percent in Q4 2018-19 compared to the previous quarter. Hence, average BDT value per MFS transaction has increased in the quarter.

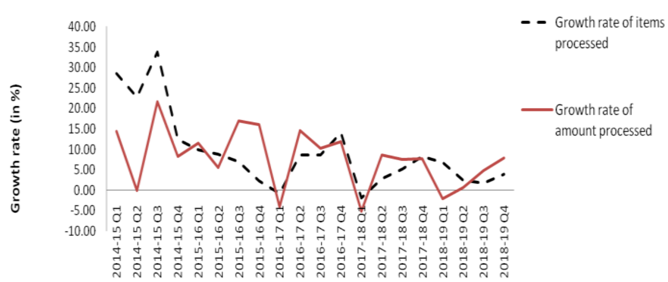


Figure 6.3 Growth in MFS transactions

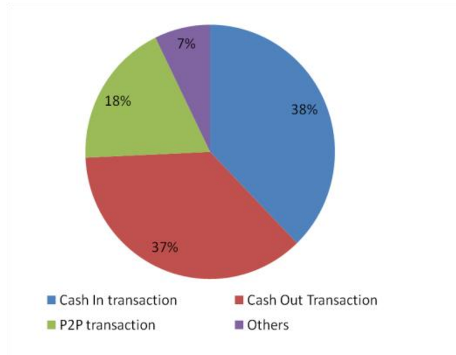


Figure 6.4 Product shares (value in %) in MFS market in Q4 2018-19

During Q4 2018-19, number of transactions experienced positive growth of 9.48 percent in May due to occasion of Eid -ul-Fitter but decreased 13.76 percent in June compared to previous month due to long vacation. The value of transactions (in Crore BDT) had similar growth patterns in the three months of the quarter. Unlike other electronic payment methods, growth rates of MFS transactions, depicted in Figure 6.3, is not random walk rather show upward trends. In terms of products, Cash in and Cash out consisted of 75 percent of total value of MFS transactions in Q4 2018-19.

7 E-Money transactions

Electronic money issued by bank or non bank entities to MFS account, pre-paid cards and e-wallet against deposit of legal tender is known as E-Money. Use of E-Money has enabled the unbanked/limited access to bank account segment of people to execute funds transfer, merchant payments, bill payment etc with an ease without carrying hard currency with them. In recent years E-Money transactions has speeded up and leading the economy towards cash-lite society.

Table 7 Trends of Electronic transactions

	MFS Transaction	Prepaid Card	E-Wallet	Total Number of E-Money* transactions	Growth	Values of MFS Transaction	Values Prepaid Card	Values of E-Wallet	Total Value of E-money*	Growth	M2 Money	E-money as % of M2 (quarterly)
2014-15Q3				251524886					55148			7.3395
2014-15Q4				283953335	12.89				62055	12.52		7.88
2015-16Q1	306230804	163397		306394201	7.90	41719	152.51		41871		821473.1	5.10
2015-16Q2	333140300	152878		333293178	8.78	44082	98.51		44180	5.51	838114.2	5.27
2015-16Q3	356375381	167235		356542616	6.98	51556	105.08		51661	16.93	853185	6.06
2015-16Q4	364233458	176262		364409720	2.21	59842	114.91		59957	16.06	916378	6.54
2016-17Q1	360841179	178628		361019807	-0.93	57454	247.03		57701	-3.76	931523	6.19
2016-17Q2	391791882	203309		391995191	8.58	65840	140.09		65980	14.35	954054	6.92
2016-17Q3	425646038	217473		425863511	8.64	72580	143.36		72723	10.22	964822	7.54
2016-17Q4	485060452	244268		485304720	13.96	81202	153.79		81356	11.87	1016077	8.01
2017-18Q1	475671093	290190		475961283	-1.93	77102	413.07		77515	-4.72	1028700	7.54
2017-18Q2	489263297	273357		489536654	2.85	83779	160.91		83940	8.29	1056009	7.95
2017-18Q3	514365948	320765		514686713	5.14	90180	195.41		90376	7.67	1054113	8.57
2017-18Q4	556497802	345990		556843792	8.19	97234	214.04		97448	7.83	1109981	8.78
2018-19Q1	593776915	418224		594195139	6.71	95365	280.06		95645	-1.85	1118895	8.55
2018-19Q2	608105822	490903		608596725	2.42	96107	257.79		96364	0.75	1155361	8.34
2018-19Q3	618462422	555333	87043	619104798	1.73	100817	306.02	16.89	101140	4.96	1168579	8.65
2018-19Q4	642256571	739516	95116	643091203	3.87	108920	368.04	33.66	109322	8.09	1219612	8.96
April	211345500	210456	33868	211589824	1.20	34976	106.11	10.91	35093	1.20		
May	231379578	251567	35359	231666504	9.49	42236	145.46	12.74	42394	20.81		
June	199531493	277493	25889	199834875	-13.74	31708	116.47	10.01	31834	-24.91		

***E-Money includes MFS, Prepaid Card and PSP transactions only.**

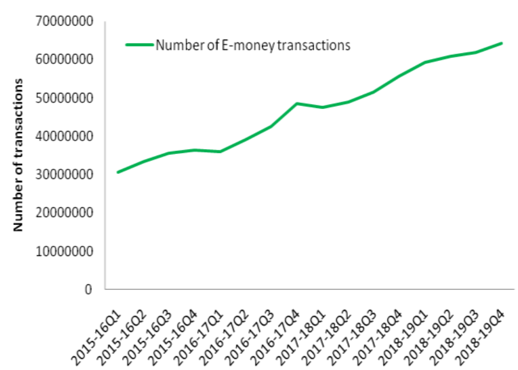


Figure 7.1 Trend of number of E-money transactions

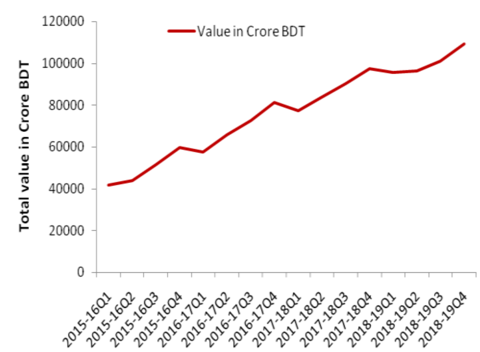


Figure 7.2 Trend of value of E-money transactions

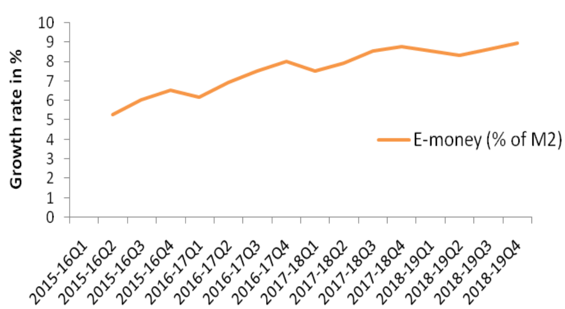


Figure 7.3 E-money as percentage of Broad money

E-Money transactions show upward trends in terms of both the number of transactions and the associated values (in Crore BDT) with two negative growths in Q1 of FY 2016-17 and Q1 of 2017-18. In Q4 2018-19, overall E-money transactions were more than 64 crore with a value of BDT 109322 Crore approximately. Among the three months of Q4 2018-19, only June had negative growths of E-money transactions in terms of value due to negative growths in all three payment services considered here in E-money.

Electronic money as percent of Broad money (M2) is rising upward steadily as shown in Figure 7.3. In Q4 2018-19, E-money as percent of M2 recorded a 8.96 percent growth quarterly.

8. Comparison of Electronic Transaction to GDP

Table 8 Comparison of Electronic transactions to GDP

Time	RTGS (Total Value in Crore BDT)	BEFTN (Total Value in Crore BDT)	NPSB (Total Value in Crore BDT)	E-Money (Total Amount in Crore BDT)	Value of total Electronic Transaction (Crore BDT)	GDP	Electronic Transaction as % of GDP
2015-16		96247	6399	213499	316,145.23	1,732,863.70	18.24
2016-17	1459424	112103	8212	277760	1,857,498.62	1,975,815.40	94.01
2017-18	1343288	155022	13030	297573	1,808,914.21	2,250,500.00	80.38
2018-19	1016373	187909	18237	315533	1,538,052.58	2,536,200.00	60.64

Source: Bangladesh Bank Quarterly

Nominal GDP in domestic currency unit.

E-Money includes MFS, Prepaid Card and PSP transactions only.

In Table 8, we see that Electronic transaction as percent of GDP has increased from 18.24 percent in FY 2015-16 to around 94.01 percent in FY 2016-17 due to introduce of RTGS system in country. As RTGS has been settled large value payment so its amount affects the percentage significantly. If we escape the value of RTGS, we see that Electronic transaction in the country has been gradually increased during these years. The growing share of electronic forms of money transactions resembles the country's gradual movement toward digital financial system.