



Merchant transactions through debit cards

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Executive Summary

1. To promote small ticket debit card merchant transactions up to Rs 2000, the government during the calendar years 2018 and 2019 made merchant discount rate (MDR) zero for the merchants, and provided banks a monetary support, towards MDR, @ 0.4%. In contrast, effective January 1, 2020, the government made MDR zero for every transaction using RuPay debit cards alone. Neither merchants nor the government paid the banks any MDR for such RuPay based merchant transactions. However, banks were allowed to impose MDR onto the merchants for every transaction using mastercard/VISA debit cards.

2. This report provides a follow-up of the conclusions drawn in an earlier IIT Bombay Technical Report (September 2020) “Merchant transactions through debit cards – costs and prices” <http://dspace.library.iitb.ac.in/jspui/handle/100/25218>. We assess the trends and progress of debit card usage since November 2019. Though the Covid-19 pandemic has distorted the trends in two spells (waves 1 and 2), our objective here is to get a general feel of the possible impact of MDR, on debit card usage. Based on data sources of RBI, DFS and NPCI, we mine some interesting card statistics.

3. For the period January-December 2020, with about Rs 6.34 lakh crore¹ worth of debit card merchant transactions, the government has done away with the merchant’s zero MDR regime on ticket sizes up to Rs 2000, for transactions that were done through mastercard/VISA debit cards. This indicates that in the calendar year 2020, merchants paid about Rs 1154 crore for mastercard/VISA’s sub Rs 2000 ticket transactions, as against nil in calendar years 2018 and 2019.

* The views expressed are those of authors and not necessarily of the institutions to which they belong.

¹ 1 crore = 100 lakh = 10 million

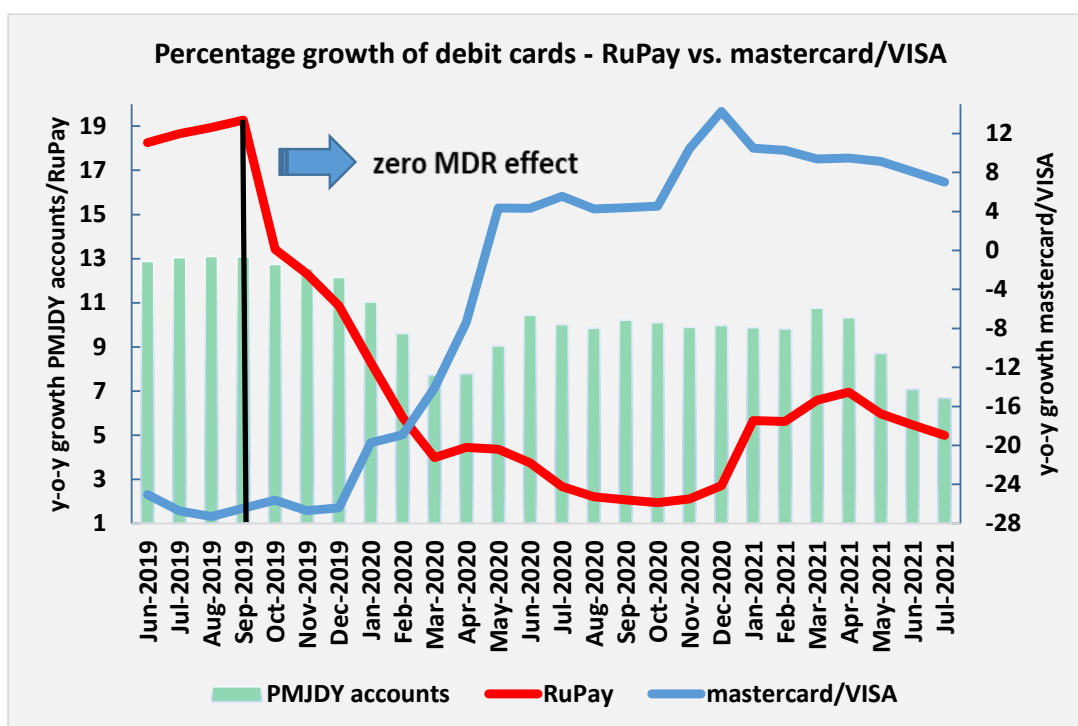


4. During the one-year period early-September 2018 through end-August 2019, there had been a net issuance of about 465 lakh RuPay debit cards and about 428 lakh accounts were added under the PMJDY. In contrast, for the subsequent two corresponding tenures, we see a subdued issuance of RuPay debit cards despite fair number of PMJDY accounts being added.

1-Year Periods	PMJDY accounts added (Lakh)	RuPay debit card issued (Lakh)
Sep'18 - Aug'19	428	465
Sep'19 - Aug'20	363	65
Sep'20 - Aug'21	277	151

It is alarming to see an expanding gap between the new PMJDY accounts added and the RuPay debit cards issued. Unless there are other extraneous causes, a possible cause for such a trend could be that banks have deliberately moved away from RuPay to promote a card scheme that generates more revenue for them.

5. To assess the status of RuPay debit cards, we compare the y-o-y growths of new PMJDY accounts opened, RuPay debit cards issued (under the PMJDY), and the overall debit cards outstanding. Though y-o-y growth of new PMJDY accounts opened was relatively consistent, we see a general decline in y-o-y growth of RuPay debit cards issued. While on one hand, y-o-y growth of RuPay debit cards issued under the PMJDY was shrinking, on the other hand, there was a sharp uptick in y-o-y growth of overall debit cards outstanding. This reflects an implicit increase in y-o-y growth of mastercard/VISA debit cards. During the recent months, the y-o-y growth of mastercard/VISA debit cards is much above 5% unlike that of the RuPay debit cards.



Data Source: RBI and DFS



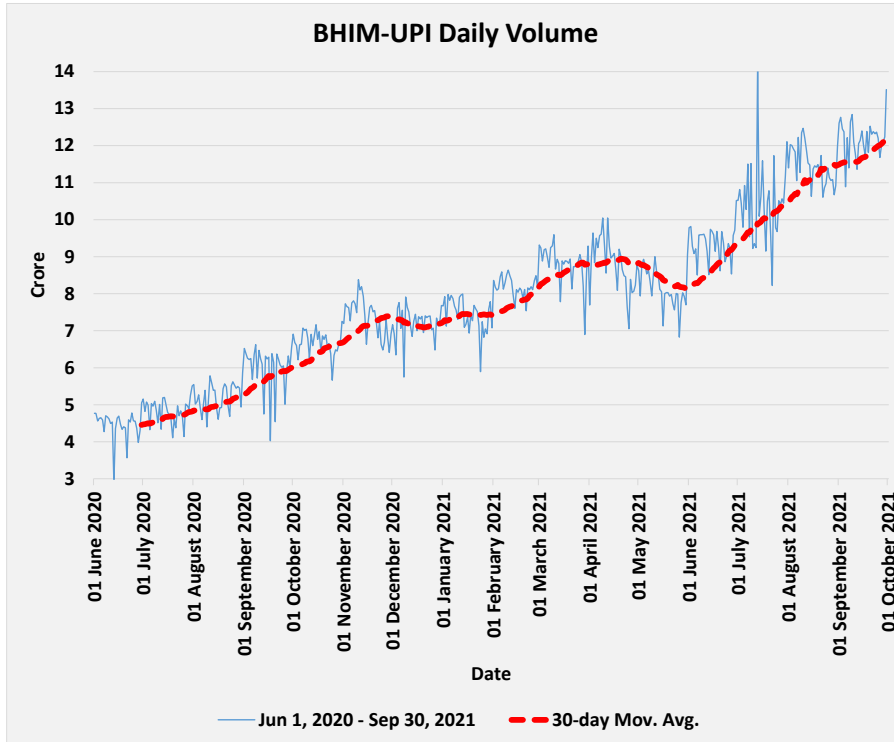
6. The debit card MDR alone has a limited impact in determining a merchant's choice or preference for acceptance of a particular card (over cash) as it is just one of the few other costs associated with card acceptance. Where cash is an alternative and where the merchant attaches significance to 'cost to merchant', even if debit card MDR is zero, the merchant should think twice to agree to accept cards. This is so since he has to pay for (i) the high credit card MDR @ 2-4% and (ii) the high monthly rentals in the range of Rs 200-600 for point-of-sale (POS) terminals, etc. Thus, the preference for debit card acceptance by the merchant is not quite guided by debit card MDR alone since there exist other deterrents, for many small and medium merchants.

7. For the payments industry, the supply of RuPay debit cards by the producers (banks) would be impacted due to differentiated administered pricing on MDR. The administered MDR pricing for RuPay is zero while for mastercard/VISA it is 0.4-0.9%. In presence of such an imbalanced administered pricing, and with merchants' preference for card acceptance also being guided by considerations other than debit card MDR, the supply of debit cards by banks gets appositely restricted to products (mastercard/VISA), which generate higher MDR (interchange) or revenue for them, and as a result, the same is promoted by the banks. Because of the twin administered pricing, competition is not resulting in an identical spread of the debit card products, leading to a welfare loss to the society in form of (i) merchants' and consumers' depleting choice to harness the benefits of zero MDR on RuPay (due to lack of adequate supply of RuPay debit cards), and (ii) banks no longer having the capacity to produce RuPay as a means for merchant payments (due to commercial considerations).

Debit cards unparalleled to BHIM-UPI

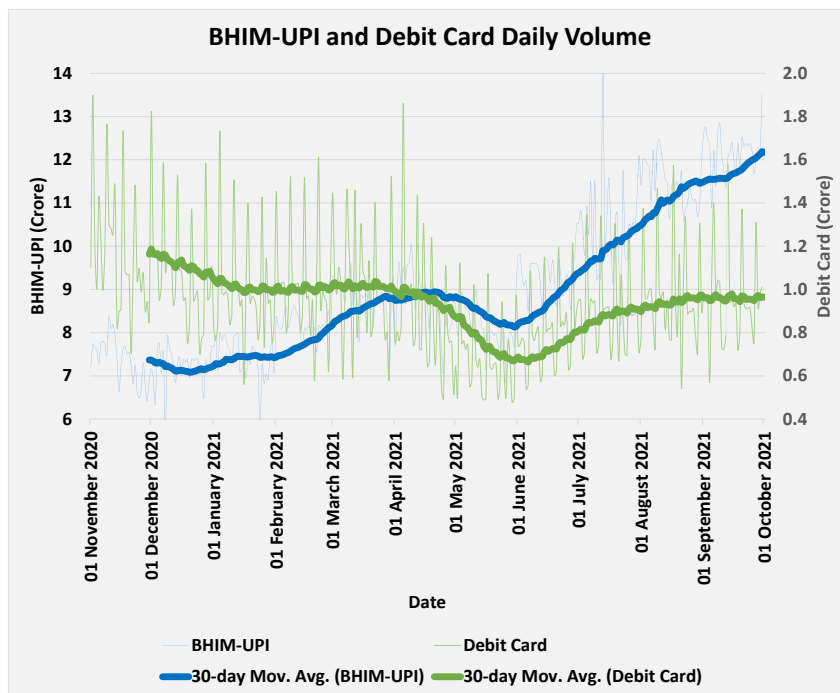
8. Mastercard/VISA debit cards generating revenue through MDR may be unfair for RuPay, but this is just the beginning. It is likely that the present approach is only a temporary measure to test how the card payments market responds. Though for the present report, we restrict ourselves to debit cards alone, we see that the asset-lite mobile phone based BHIM-UPI is cannibalising the payments arena.

9. Acceptance of cards is usually via a combined credit/debit/pre-paid card acceptance product. The MDR for credit cards is not regulated (reigns as high at 2% to 4%) and thus is an expensive proposition for merchants. Merchants may choose to enable themselves for card acceptance, however, it may not be advisable for all small and medium merchants to go for the relatively expensive card-based acceptance when, as an alternative to cash, there exists BHIM-UPI as a payment mode. BHIM-UPI does not cost the merchants anything under extant laws. Moving the country away from cash would hinge on having an equivalent, simple, convenient, and secure digital alternative, like the BHIM-UPI (in this era of mobile phones). In September 2021, there were 365.58 crore BHIM-UPI transactions amounting to a total of Rs 6.55 lakh crore.



Standing on the shoulders of a giant – The rising BHIM-UPI

10. RBI has provided the daily data from payment networks for BHIM-UPI and debit cards. Comparing the trends since November 2020, we see that BHIM-UPI volumes have consistently increased, while the debit card transaction volumes are showing signs of decline. Currently, BHIM-UPI is hitting close to 13 crore daily transactions, as against less than one crore daily off-us debit card transactions.



Data Source: RBI



11. With RBI's prohibition for auto-debit payments in recurring transactions and the upcoming restrictions for storage of debit card details by merchants, it is bound to create enough friction for people to move towards alternative payment means like the BHIM-UPI. It is expected that such risk-mitigating measures taken by RBI would act as a catalyst to see people migrating from debit cards to BHIM-UPI.

Guidance for policy

12. To address the distortions present in the card payment ecosystem, we provide some insights through data. The extant law needs a relook so as to allow low and controlled MDR to be paid uniformly across all card payment schemes. One can take a cue from the MDR caps reasonably set by NPCI for RuPay debit cards prior to 2020. To maintain parity, alongside a revision of MDR caps, the extant mandates that currently promote excessive free cash withdrawals should be revised. Apart from arriving at the number of free ATM cash withdrawals, RBI should arrive at an object-based threshold for the amount of free cash withdrawal per month beyond which banks should desirably disincentivize cash withdrawals by charging reasonably.



Acknowledgements

The authors are thankful to few officers of banks, payment facilitators, card payment networks, RBI, MeitY, and the finance ministry for some interesting and informative informal interaction. Bhavna Sharma is thankful to Prof Abhijit Dasgupta, Director - Data Science Department, S P Jain School of Global Management, for his support in undertaking the present study. The report takes all possible care to project the correct picture using the data gathered. Deviations, if any, are inadvertent.



I. Introduction

1. Debit cards are issued by banks for facilitating bank account holders towards interoperable ATM cash withdrawals and carrying out merchant transactions. Such debit cards are issued under card schemes – primarily *mastercard*, *VISA* and *RuPay*. Historically, card payments for merchant transactions had a well-defined revenue generating structure for banks, where the revenue came from Merchant Discount Rate² (MDR).

The history of MDR regulation in India

2. In September 2012, the Reserve Bank of India (RBI) mandated a debit card MDR cap at 0.75%, for transactions valued up to Rs 2000, and 1%, for transactions valued above Rs 2000. This continued till November 8, 2016.

3. Immediately after the November 8, 2016 demonetization of the specified bank notes, the government instructed the banks to temporarily waive MDR imposed on merchants.

4. As an interim measure RBI, effective January 1, 2017, rationalized the MDR on debit cards. RBI set an MDR cap at (i) 0.25%, for transactions valued up to Rs 1000, (ii) 0.5%, for transactions valued in excess of Rs 1000 but not exceeding Rs 2000, and (iii) 1%, for transactions valued in excess of Rs 2000. RBI's new caps on debit card MDR were a substantial reduction to the RBI's pre-demonetization cap of 0.75% for transactions valued up to Rs 2000.

5. Subsequently, effective January 1, 2018, RBI tweaked MDR rules claiming that such tweaks would encourage some small businesses to accept debit card payments. For businesses with annual turnover below Rs 20 lakh, RBI capped the debit card MDR at 0.4% of transaction value or Rs 200, whichever is lower. For others, i.e., businesses with an annual turnover of Rs 20 lakh or more, the debit card MDR was capped at 0.9% of the transaction value or Rs 1000, whichever is lower. For QR-code based debit card acceptance, the MDR caps were set 10 basis points lower than the physical point-of-sale (POS) and online debit card acceptance infrastructure.

6. In parallel, effective January 1, 2018, the government made MDR zero for the merchants and decided to bear the MDR cost for two years on all debit card transactions valued up to Rs 2000. However, for the banks, the government fixed the POS- and

² Merchant Discount Rate or Merchant Discount Fee is a service charge that banks take from merchants accepting card/digital payments, which is usually a certain percentage of the transaction amount. The MDR paid by merchants is shared between acquirer banks, payment facilitators, issuer banks and the card payment networks. Here the term 'acquirer' can be used in two different contexts. It is always a bank that acquires a payment transaction, however a merchant can be acquired either by a bank or by a payment facilitator.



online-based MDR at 0.4% for debit card transactions up to Rs 2000. In effect, due to the government's intervention, RBI's decision to allow banks to charge up to 0.9% as MDR for businesses with an annual turnover of Rs 20 lakh or more (even for transaction amounts less than Rs 2000), got overruled and the banks got only 0.4% as MDR for such sub Rs 2000 ticket transactions.

7. Corresponding to this government-provided-MDR of 0.4%, the interchange³ fixed by card payment networks had been 0.15%. Thus, RBI's MDR-mandates could never get implemented since the government felt otherwise on small ticket transactions up to Rs 2000 and reduced the MDR to zero for all merchant categories.

8. In fact, the National Payments Corporation of India (NPCI) was the only card network to adopt an MDR that was lower than the MDR-cap set by RBI. The MDR pricing structure arrived at (effective October 2019) for RuPay debit card had been 0.4% (0.3% when the transaction is QR-code based) for transactions up to Rs 2000 and 0.6% (0.5% when the transaction is QR-code based) for transactions exceeding Rs 2000, with a ceiling on MDR of Rs 150 for any transaction. For transactions exceeding Rs 2000, RuPay's 0.6% MDR applied only to businesses with an annual turnover of Rs 20 lakh or more (vis-à-vis RBI's MDR cap of 0.9%).

The present *avatar* of MDR

9. Effective January 1, 2020, the government decided not to bear MDR any further on all debit card transactions valued up to Rs 2000.⁴ In effect, due to this decision, RBI's mandate got re-invoked and banks got the leverage to charge MDR @ 0.9% or less from businesses with an annual turnover of Rs 20 lakh or more for transactions of any value. Furthermore, for businesses with an annual turnover of less than Rs 20 lakh, banks got the freedom to impose an MDR of 0.4% or less.

10. Nevertheless, the government simultaneously brought in a new law where RuPay debit card had been identified as a prescribed payment mode for which banks and system providers could no longer charge any fee to the merchants. Consequently, any charge, including the MDR, was no longer applicable on payments made through RuPay debit cards.

11. While taking such a step, the government envisage that among low-cost digital modes of payment, RuPay debit cards (and not mastercard/VISA debit cards) will promote less cash economy through their extensive use for P2M (person-to-merchant

³ Interchange or issuer interchange is the share of the MDR that the issuer bank keeps as their commission. Thus, MDR comprises of the interchange and the acquirer's commission. The commission out of an acquired payment transaction is shared with the payment facilitator, if they are involved in routing the transaction.

⁴ Earlier banks were getting MDR reimbursements of 0.4%, for transactions upto Rs 2000, from Ministry of Electronics and Information Technology (MeitY).



payment) transactions. The underlying philosophy is that neither merchants nor consumers should get any feel of extra cost while adopting such a digital mode of payment. An impression given is that RBI and banks will be able to absorb the associated costs from the savings that will accrue to them on account of handling less cash, as people move to this digital mode of payment.

The trends and progress of debit card usage

12. This report provides a follow-up of the conclusions drawn in an earlier IIT Bombay Technical Report (September 2020) “Merchant transactions through debit cards – costs and prices” <http://dspace.library.iitb.ac.in/jspui/handle/100/25218>. We assess the trends and progress of debit card usage since November 2019. Though the Covid-19 pandemic has distorted the trends in two spells (waves 1 and 2), our objective here is to get a general feel of the possible impact of MDR, on debit card usage. Based on data sources of RBI, Department of Financial Services (DFS), and NPCI, we mine some interesting card statistics.



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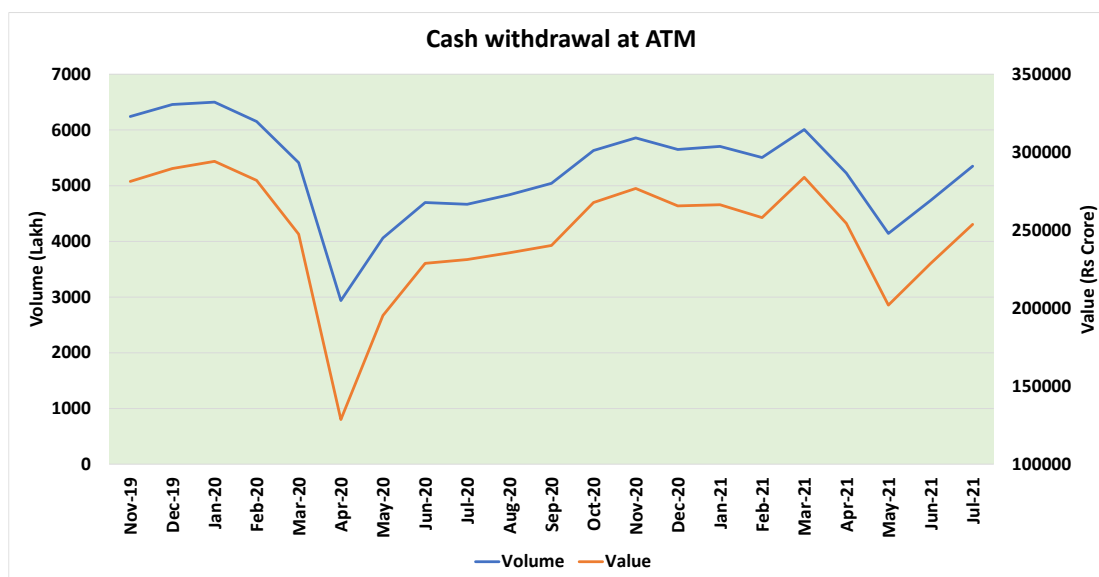
II. From cash to cards

13. Debit cards are extensively used by bank account holders towards cash withdrawals at ATMs. Currently RBI and banks are absorbing significant costs while providing cash as a prominent mode of payment. The promotion of excessive cash needs to be arrested in such a way that it not only reduces cash handling costs for the banks but also saves enough to support digital payments.

Cash from ATM

14. Cash is predominantly promoted in India with 8 to 10 free ATM withdrawals per month. This potentially amounts to bank's disbursement of at least Rs one lakh of free cash per month to an individual holding a bank account. Starting November 2019, RBI, in its monthly ATM data dissemination, has started reporting cash withdrawal at ATM using debit cards, instead of debit card usage at ATM.

15. Figure 1 shows how the cash withdrawal at ATM using debit cards behaved during the period November 2019 – July 2021. The periods March-May 2020 and April-June 2021 show the effects of Covid-19 waves.



Source: RBI

Figure 1: Cash withdrawal at ATM using debit cards

16. But for RBI's mandate allowing a significant amount of free ATM cash withdrawals for many bank customers, technically speaking, banks would not have incurred such avoidable and non-remunerating expenses. There is nothing that RBI appears to have done as a deterrent, which strongly prompts a reduction of large amounts of free ATM cash withdrawals in a month. Digital payment modes are now amply available (especially, in tier I and II cities) where large and frequent cash is still in use. RBI



advocating banks to charge a reasonable fee, in a tiered fashion, for total cash withdrawals in excess of a reasonable amount per month, could create enough deterrents. Such a move would allow generating desirable revenue for the banks to meet their cash handling costs and to provide support towards digital payments infrastructure costs.

Merchant transactions using debit cards

17. Starting November 2019, RBI, in their monthly RBI bulletin, is disseminating bifurcated card transaction data comprising POS and ‘others’. For debit cards, ‘others’ primarily include E-com transactions, card to card transfers, and digital bill payments through ATMs. The same bulletin also publishes the Cash Withdrawal data. Furthermore, a combined POS cum E-com cum Cash Withdrawal data is provided in the monthly “Bank-wise ATM/POS/Card Statistics” that RBI releases. Based on these data sources, we derive the extent of E-com transactions. Table 1 and Table 2 provide the debit card transaction volume and value, respectively, for POS, E-Com, and Cash Withdrawals.

Table 1: Debit card transactions (Volume) and the extent of E-com transactions

Volume (Lakh)	POS	E-Com	Cash Withdrawal	POS + E-Com + Cash Withdrawal
Nov-2019	2483.18	1690	63	4236
Dec-2019	2634.18	1806	71	4512
Jan-2020	2587.38	1905	92	4584
Feb-2020	2455.92	1781	59	4297
Mar-2020	1925.25	1676	31	3632
Apr-2020	676.32	1371	36	2083
May-2020	1121.15	1528	36	2686
Jun-2020	1475.38	1518	28	3021
Jul-2020	1461.94	1691	31	3184
Aug-2020	1647.47	1733	28	3409
Sep-2020	1758.83	1741	29	3529
Oct-2020	1983.98	1940	29	3953
Nov-2020	2112.56	1645	32	3790
Dec-2020	2165.50	1622	35	3822
Jan-2021	2132.37	1560	31	3723
Feb-2021	2008.87	1430	20	3458
Mar-2021	2229.12	1526	19	3774
Apr-2021	1794.37	1412	19	3225
May-2021	1127.84	1422	18	2568
Jun-2021	1505.09	1434	7	2946
Jul-2021	1901.64	1496	6	3404

*POS + eCom + CashWithdrawal = Total number of financial transactions done by the debit card at POS terminals

*E-Com may include some failed transactions

Source: RBI/NPCI and authors’ computation



Table 2: Debit card transactions (Value) and the extent of E-com transactions

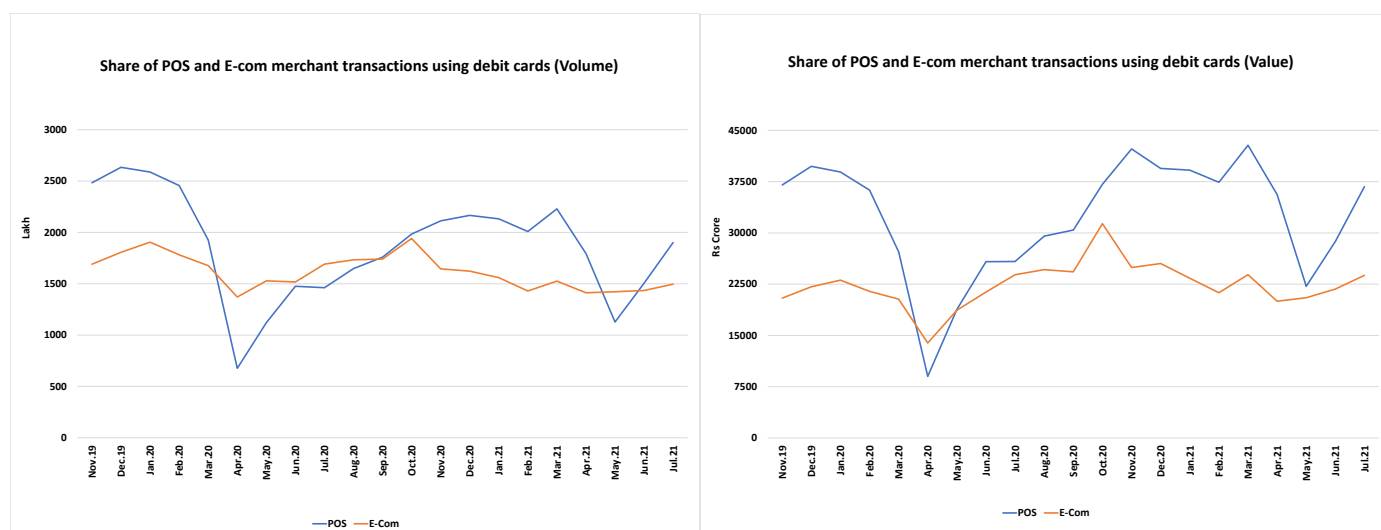
Value (Rs Crore)	POS	E-Com	Cash Withdrawal	POS + E-Com + Cash Withdrawal
Nov-2019	37007	20453	129	57590
Dec-2019	39740	22124	134	61998
Jan-2020	38907	23083	163	62154
Feb-2020	36258	21450	132	57841
Mar-2020	27238	20303	105	47646
Apr-2020	9005	13887	105	22998
May-2020	18814	18692	116	37622
Jun-2020	25788	21354	114	47256
Jul-2020	25821	23886	132	49840
Aug-2020	29525	24624	129	54277
Sep-2020	30422	24307	118	54847
Oct-2020	37110	31352	129	68591
Nov-2020	42289	24931	137	67357
Dec-2020	39437	25513	142	65093
Jan-2021	39189	23369	135	62693
Feb-2021	37414	21255	114	58783
Mar-2021	42816	23889	114	66819
Apr-2021	35621	20006	111	55739
May-2021	22195	20523	102	42820
Jun-2021	28743	21789	44	50576
Jul-2021	36764	23792	43	60599

*POS + eCom + CashWithdrawal = Total number of financial transactions done by the debit card at POS terminals

*E-Com may include some failed transactions

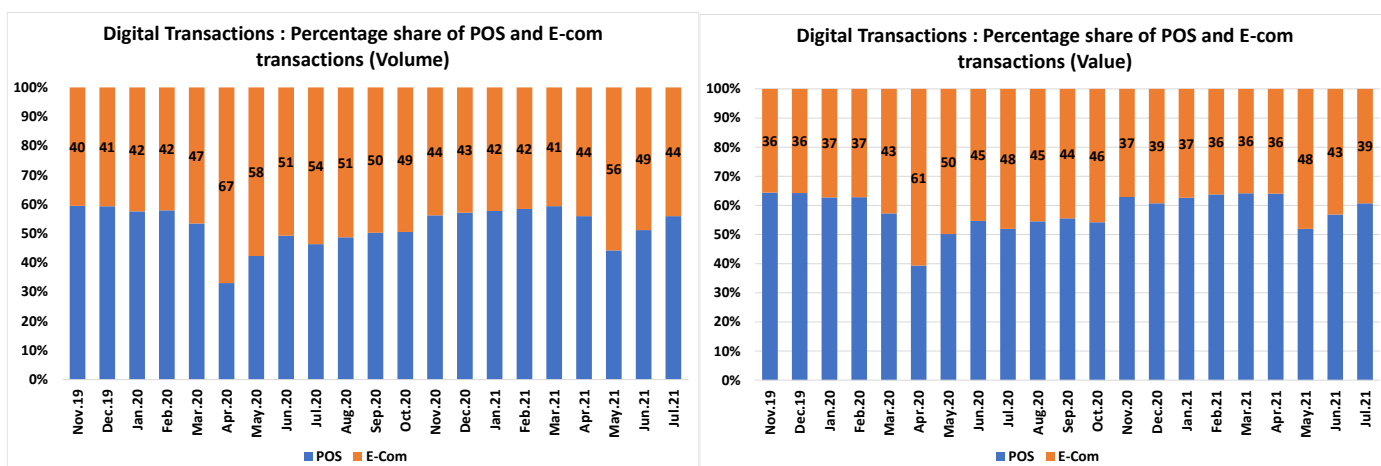
Source: RBI/NPCI and authors' computation

18. The extent of POS usage vis-à-vis E-Com indicates that POS still contributes more than E-Com. Figures 2 and 3 show the extent of POS vis-à-vis E-Com transactions.



Source: RBI

Figure 2: Share of POS and E-com merchant transactions using debit cards



Source: RBI

Figure 3: Percentage share of POS and E-Com transactions

19. From November 2020, RBI has started publishing a Card Network operated debit card data in its Daily Published Payment systems data. This data provides the Off-us transactions at POS and E-Com. Using the data in Tables 1 and 2, and the Card Network operated debit card data, we provide the Off-us and On-us transactions at POS and E-Com (see Tables 3 and 4).

Table 3: On-us and Off-us POS and E-com transactions (Volume)

Volume (Lakh)	On-Us (POS + E-Com)	Off-Us (POS + E-Com)	Total (POS + E-Com)
Nov-2020	268	3490	3757
Dec-2020	425	3363	3788
Jan-2021	647	3045	3692
Feb-2021	593	2845	3439
Mar-2021	611	3144	3755
Apr-2021	574	2632	3206
May-2021	446	2104	2550
Jun-2021	535	2404	2939
Jul-2021	597	2800	3398

Source: RBI/NPCI and authors' computation

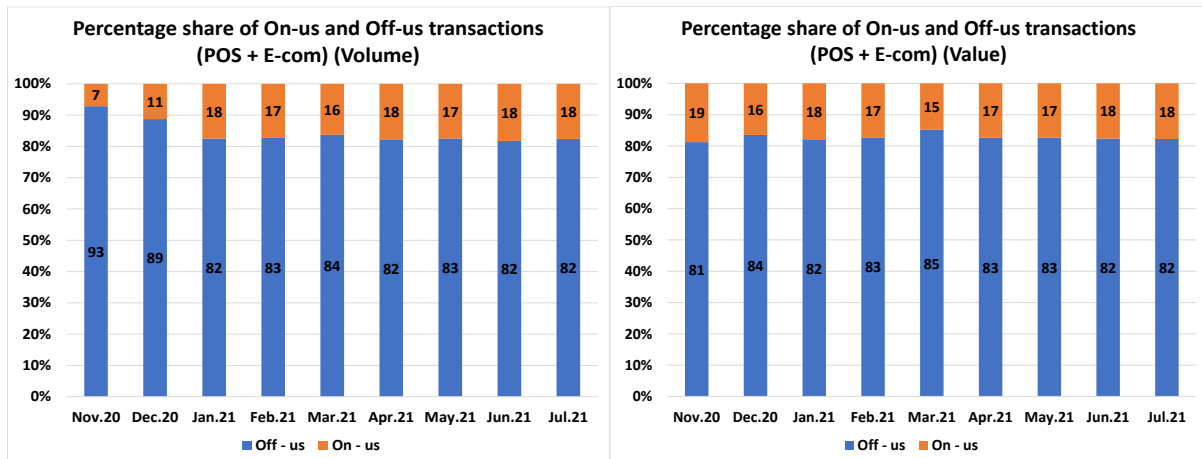
Table 4: On-us and Off-us POS and E-com transactions (Value)

Value (Rs Crore)	On-Us (POS + E-Com)	Off-Us (POS + E-Com)	Total (POS + E-Com)
Nov-2020	12605	54615	67220
Dec-2020	10690	54261	64950
Jan-2021	11296	51261	62557
Feb-2021	10137	48533	58669
Mar-2021	9847	56858	66705
Apr-2021	9657	45970	55627
May-2021	7394	35324	42718
Jun-2021	8924	41608	50532
Jul-2021	10753	49803	60555

Source: RBI/NPCI and authors' computation



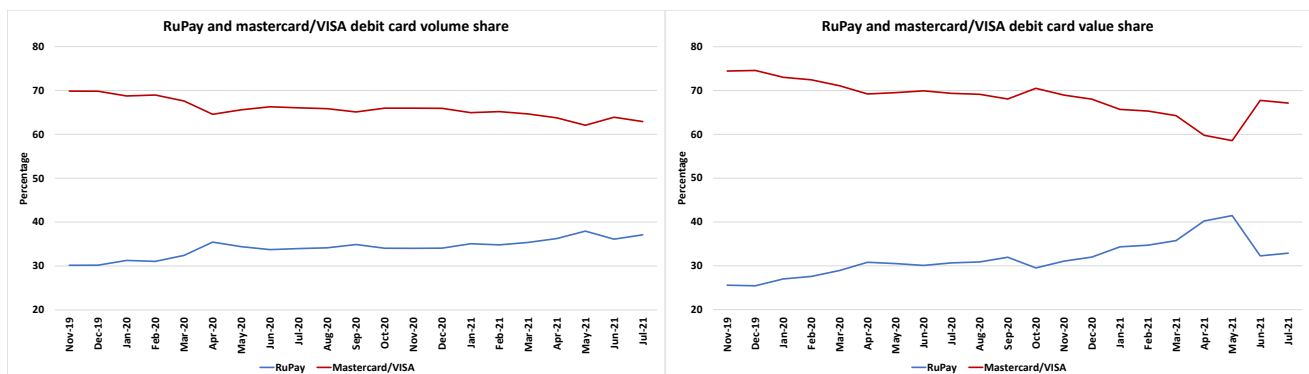
20. Figure 4 shows the Percentage share of On-us and Off-us transactions. The industry distribution of acquires being far less than the issuers is reflected in the Off-us transactions being over 80%.



Source: RBI and authors' computation

Figure 4: Percentage share of On-us and Off-us transactions

21. For the period November 2019 – July 2021, Figure 5 shows the extent of debit card transactions using RuPay and mastercard/VISA. Except for the recent months, both in volume and value terms, the share of RuPay transactions vis-à-vis mastercard/VISA had been consistently growing. With RuPay cards been primarily issued to accounts opened under the Pradhan Mantri Jan-Dhan Yojana (PMJDY), this relative growth in RuPay transactions could be attributed to the decline in discretionary expenditure of the urban population due to Covid-19 lockdowns. There was a fall in transactions by the non-PMJDY account holders (urban affluent/middle class) holding mastercard/VISA debit cards rather than RuPay debit cards, linked to PMJDY accounts.

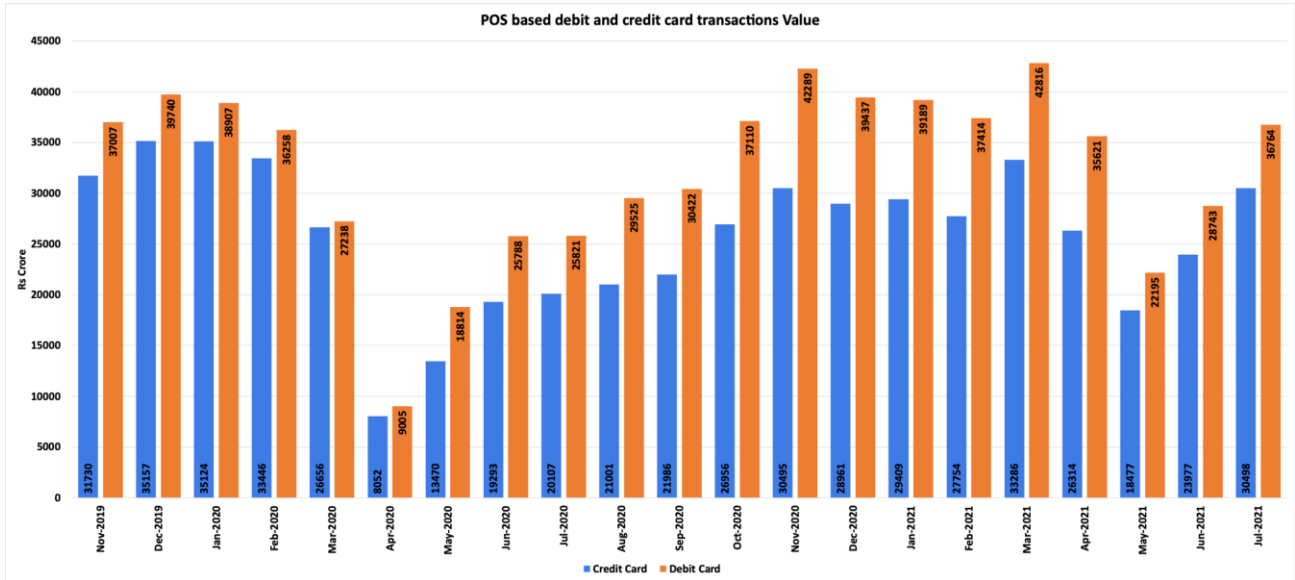


Source: RBI and NPCI

Figure 5: Percentage share of RuPay and mastercard/VISA transactions



22. Finally, for the POS transactions, we access the extent of credit card swipes alongside debit card swipes. In value terms, Figure 6 shows the credit card and debit card usage during the period November 2019 through July 2021. On average, the credit card usage had been 44% of the combined debit and credit card swipes.



Source: RBI

Figure 6: POS based credit and debit card transactions (Value)



III. The residual MDR

23. We address three pertinent questions.

- (i) Given that there is zero MDR on RuPay alone, would there be an increase in the card acceptance desire at merchant locations?
- (ii) If ‘cost to merchant’ is an important attribute for merchant’s choice for card acceptance and the bank’s desire to provide the card acceptance infrastructure, how would it impact the continuation of the card acceptance trend?
- (iii) What would be the consequence of the discriminatory approach adopted for RuPay cards?

24. The Watal Report⁵ highlights the breakup (in value terms) of debit card transactions up to Rs 2000 and more than Rs 2000 (see Table 5). Nearly 65% of the total values of debit card transactions fall in the sub Rs 2000 ticket category, and all these transactions would now attract MDR within the RBI set cap of 0.4-0.9%, for the total debit card usage amounts of mastercard/VISA (but not RuPay).

Table 5: Distribution of debit card transactions in value terms

Table 6.10.: Breakup of acquirer gross margins*						
Type of transaction	% of transactions value by value	MDR charged to merchants	Issuer interchange fees	Scheme fees	Acquirer gross margin	
Debit Regular ≤ INR 2,000	20%	0.75%	0.50%	0.07%	01.8%	
Debit Premium ≤ INR 2,000	15%	0.75%	0.65%	0.07%	0.03%	
Debit Regular > INR 2,000	10%	1.00%	0.75%	0.07%	0.18%	
Debit Premium > INR 2,000	10%	1.00%	0.90%	0.07%	0.03%	
Prepaid	5%	1.00%	1.85%	0.07%	0.92%	
Credit Regular	10%	1.30%	1.10%	0.07%	0.13%	
Credit Pre-mium	25%	1.90%	1.80%	0.70%	0.03%	
Credit Corpo-rate	5%	1.90%	2.00%	0.07%	0.17%	

*Source: See, submission dated 28-10-2016 by Payment Council of India

Source: Shri Ratan P. Watal Report “Committee on Digital Payments – Medium Term Recommendations to Strengthen Digital Payments Ecosystem”

25. The 65% figure for the share (in value terms) of the sub Rs 2000 ticket transactions is based on information gathered by the Payments Council of India (PCI) in 2016. Accordingly, we need to apply a caveat. Any computation of the overall MDR amount (for sub Rs 2000 ticket transactions) based on PCI’s information alone is subject to

⁵ Report of the Committee on Digital Payments headed by Shri. Ratan P Watal, December 2016. Ministry of Finance, Government of India.



rectification. Based on appropriate market intelligence a more precise figure can be used. However, in absence of any published information on the same, the author has refrained from using the market intelligence.

26. However, the Ministry of Electronics and Information Technology (MeitY), who reimbursed MDR @ 0.4% to banks for such sub Rs 2000 ticket transactions, can better guide on the correct percentage figure for the share (in value terms) of the sub Rs 2000 ticket transactions. **MeitY, in a written statement, has indicated that the total expenditure incurred by the Government towards MDR reimbursements for Debit Card/ BHIM-UPI/ Aadhaar-Pay transactions in the period 01.01.2018 through 31.12.2019, is Rs 1,619.16 crore.** MeitY could not provide the MDR reimbursement break-up for each of Debit Card, BHIM-UPI, and Aadhaar-Pay transactions, separately.

27. Thus, starting January 1, 2020, merchants are paying MDR for sub Rs 2000 ticket transactions done via mastercard/VISA. With the government no longer bearing the MDR, the banks' re-imposition of debit card MDR @ 0.4-0.9% has affected the small and medium merchants when mastercard/VISA debit cards get swiped. Now, with this being the only source of MDR revenue in the debit card business for banks, it creates a strong potential for RuPay debit cards being marginalized in due course. We discuss more on this later in this section.

The increased MDR burden for small and medium merchants

28. In Table 6, we present the debit card data for January-December 2020 and compute the merchant payoffs towards MDR for sub Rs 2000 ticket transactions. Prior to this, the government had made such MDR zero for merchants for calendar years 2018 and 2019. Unlike pre-January 2020, for the full year 2020, when about 70% of the sub Rs 2000 ticket debit card transactions (in value terms) attracted MDR @ 0.4% from merchants (including small and medium merchants), it amounted to a total payoff of Rs 1154 crore. These figures would more than double when MDR is applied @ 0.9%.

29. Similarly, in Table 7, we present the debit card data for January-July 2021 and compute the merchant payoffs towards MDR for sub Rs 2000 ticket transactions. For the first seven months of 2021, when about 64% of the sub Rs 2000 ticket debit card transactions (in value terms) attracted MDR @ 0.4% from merchants (including small and medium merchants), it amounted to a total payoff of Rs 664 crore. When projected (linear projection) for the full year 2021, the MDR payoff amounts to Rs 1138 crore. These figures would more than double when MDR is applied @ 0.9%. As we see businesses picking up in the second half of 2021, the estimated annual MDR payoff amounts, based on the first seven months of 2021, are likely to be underestimates.



Table 6: Debit card transactions and actual annual MDR payoffs

Value (Rs Crore)	Debit cards (1)	RuPay cards (2)	mastercard/ VISA cards (3)	Sub Rs 2000 transactions @65% of (3) (4)	MDR Revenue @0.4% of (4) (5)	MDR Revenue @0.9% of (4) (6)
Jan-2020	61990	16728	45262	29420	117.68	264.78
Feb-2020	57709	15902	41807	27174	108.70	244.57
Mar-2020	47541	13745	33797	21968	87.87	197.71
Apr-2020	22893	7051	15842	10297	41.19	92.67
May-2020	37506	11438	26068	16944	67.78	152.50
Jun-2020	47142	14180	32962	21425	85.70	192.83
Jul-2020	49708	15234	34474	22408	89.63	201.67
Aug-2020	54149	16721	37428	24328	97.31	218.95
Sep-2020	54729	17481	37248	24212	96.85	217.90
Oct-2020	68462	20201	48262	31370	125.48	282.33
Nov-2020	67220	20868	46352	30129	120.51	271.16
Dec-2020	64950	20770	44180	28717	114.87	258.45
Jan-Dec 2020	633999	190318	443680	288392	1154	2596

Source: RBI/NPCI and authors' computation

Table 7: Debit card transactions and computation of MDR payoffs

Value (Rs Crore)	Debit cards (1)	RuPay cards (2)	mastercard/ VISA cards (3)	Sub Rs 2000 transactions @65% of (3) (4)	MDR Revenue @0.4% of (4) (5)	MDR Revenue @0.9% of (4) (6)
Jan-2021	62557	21465	41092	26710	106.84	240.39
Feb-2021	58669	20358	38311	24902	99.61	224.12
Mar-2021	66705	23843	42862	27860	111.44	250.74
Apr-2021	55627	22374	33253	21614	86.46	194.53
May-2021	42718	17707	25011	16257	65.03	146.32
Jun-2021	50532	16303	34229	22249	89.00	200.24
Jul-2021	60555	19904	40652	26424	105.69	237.81
Jan-Jul 2021	397365	141954	255411	166017	664	1494
Jan-Dec 2021			Projection →		1138	2561

Source: RBI/NPCI and authors' computation

30. But for the Covid-19 lockdowns in the country, the level of debit card transactions would have been much higher and would have led to much larger MDR payoffs by the debit card accepting merchants. Though effective January 1, 2020, there is a zero MDR for RuPay debit cards, the extant policies of the government and RBI have inadvertently increased the MDR expenses over that in calendar years 2018 and 2019, especially for the small and medium merchants. There are two contrary aspects to such an increase.

(A) The increase in the net “cost to merchant” is good for the development and increased acceptance of debit cards, and



(B) The increase in net MDR expenses for small and medium merchants, is bad for promoting increased usage of debit cards.

31. If (A) holds (and merchants pay a controlled MDR), there was no need for the induced discrimination between RuPay and mastercard/VISA. The same 'cost to merchant' could have been achieved by arriving at a lower controlled MDR, uniform across all card schemes.

32. However, if (B) holds, by putting zero MDR restrictions only for RuPay and discriminatorily allowing mastercard/VISA to impose MDR onto merchants (especially small and medium merchants), we have not quite achieved the desired results, unlike the government's strategy of zero MDR for merchants for the two calendar years 2018 and 2019, when the government bore the associated costs.

33. We have to choose between (A) and (B).



IV. Discriminatory approach for RuPay debit cards

34. So, how would the system work now without any revenue stream for RuPay debit card (a prescribed mode of payment)? Also, how would the system work in presence of the induced discrimination between RuPay and mastercard/VISA?

35. Though the zero MDR for RuPay debit cards will lead to some savings for merchants, an important question remains as to whether it would serve the purpose of promoting card payments in the presence of merchants still being overburdened on the fee for accepting other debit cards. Note that for mastercard/VISA, effective January 1, 2020, the merchants no longer enjoy zero MDR on transactions up to Rs 2000.

36. As it stands now, mastercard/VISA have been provided open grounds to see the promotion of their cards and demotion of RuPay cards. The lack of a level playing field would only give more earnings for mastercard/VISA at the cost of equitable promotion of RuPay. How should the government and RBI solve this complex problem?

37. If there is a revenue differential for banks between RuPay and mastercard/VISA, banks would always, in their commercial interest, tend to promote that card scheme which generates more revenue for them. DFS disseminates data to reflect progress-report of PMJDY. The time-series data is released every Wednesday updating information on the number of accounts opened under PMJDY, and RuPay debit cards issued. We have used this data to show monthly status. We take data points of every Wednesday of a month falling between 1st through 9th of each month. Such monthly data points are used to reflect the status at the end of the previous month and are shown in Table 8.

38. During the one-year period early-September 2018 through end-August 2019, there had been a net issuance of about 465 lakh RuPay debit cards and about 428 lakh accounts were added under the PMJDY. In contrast, for the subsequent two corresponding tenures, we see a subdued issuance of RuPay debit cards despite a fair number of PMJDY accounts being added.

1-Year Periods	PMJDY accounts added (Lakh)	RuPay debit card issued (Lakh)
Sep'18 - Aug'19	428	465
Sep'19 - Aug'20	363	65
Sep'20 - Aug'21	277	151

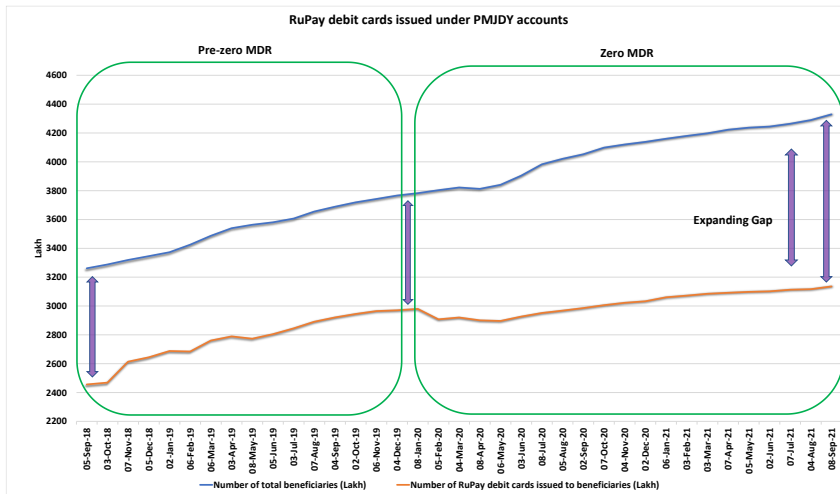
The expanding gap between the new PMJDY accounts added and the RuPay debit cards issued gets clearly reflected in Figure 7. Unless there are other extraneous causes (e.g. Covid-19, etc.), a possible cause for such a trend could be that banks have deliberately moved away from RuPay to promote a card scheme that generates more revenue for them.



Table 8: Progress-report of the PMJDY

Month-end	Date	Number of total beneficiaries (Lakh)	Deposits in Accounts (Rs Crore)	Number of RuPay debit cards issued to beneficiaries (Lakh)
Aug-18	05-Sep-18	3261.32	82490.98	2455.76
Sep-18	03-Oct-18	3288.15	85378.60	2468.74
Oct-18	07-Nov-18	3319.38	84689.14	2614.14
Nov-18	05-Dec-18	3345.73	84814.54	2644.28
Dec-18	02-Jan-19	3372.82	87033.42	2687.97
Jan-19	06-Feb-19	3425.59	90217.40	2684.60
Feb-19	06-Mar-19	3487.23	93567.18	2760.37
Mar-19	03-Apr-19	3539.37	97665.66	2789.45
Apr-19	08-May-19	3563.56	98437.41	2773.39
May-19	05-Jun-19	3580.65	98473.68	2804.63
Jun-19	03-Jul-19	3606.19	100495.95	2844.92
Jul-19	07-Aug-19	3654.99	101879.34	2891.29
Aug-19	04-Sep-19	3688.91	102645.70	2920.83
Sep-19	02-Oct-19	3718.79	104698.00	2944.79
Oct-19	06-Nov-19	3742.26	106846.62	2964.93
Nov-19	04-Dec-19	3765.89	107904.11	2969.97
Dec-19	08-Jan-20	3782.80	111714.82	2979.83
Jan-20	05-Feb-20	3803.55	114569.13	2907.57
Feb-20	04-Mar-20	3822.12	117015.50	2920.43
Mar-20	08-Apr-20	3812.33	127748.43	2900.63
Apr-20	06-May-20	3840.51	131825.49	2896.55
May-20	03-Jun-20	3904.20	131339.59	2926.80
Jun-20	08-Jul-20	3982.42	131576.08	2951.62
Jul-20	05-Aug-20	4021.08	129719.63	2968.33
Aug-20	02-Sep-20	4052.07	129929.28	2985.34
Sep-20	07-Oct-20	4098.43	130360.53	3005.84
Oct-20	04-Nov-20	4120.33	131639.95	3022.42
Nov-20	02-Dec-20	4138.33	130932.33	3032.60
Dec-20	06-Jan-21	4159.88	135739.52	3060.49
Jan-21	03-Feb-21	4179.27	138425.52	3072.07
Feb-21	03-Mar-21	4197.34	139668.24	3084.69
Mar-21	07-Apr-21	4222.29	146084.99	3091.64
Apr-21	05-May-21	4237.00	143814.60	3097.89
May-21	02-Jun-21	4244.18	144525.39	3101.61
Jun-21	07-Jul-21	4263.94	144277.46	3112.95
Jul-21	04-Aug-21	4289.49	143834.57	3116.60
Aug-21	08-Sep-21	4329.00	145050.76	3136.00

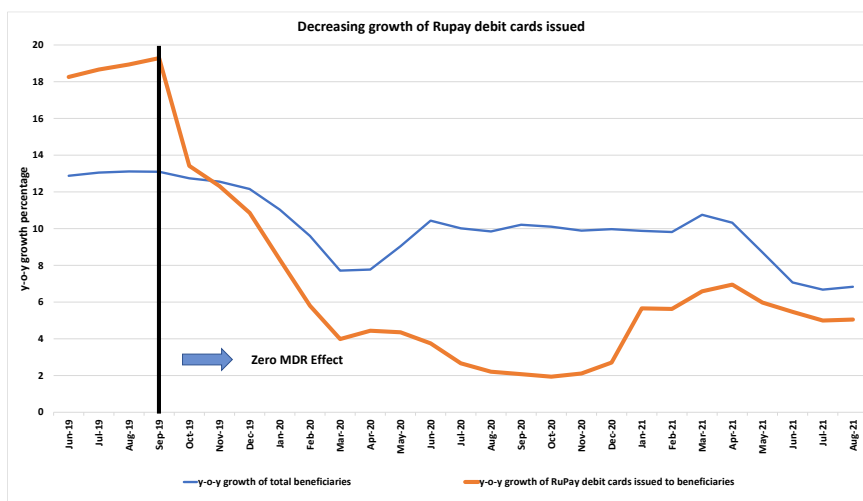
Source: Data submitted to DFS, Ministry of Finance, by Public Sector Banks, Regional Rural Banks and Major Private Sector Banks



Source: Table 8

Figure 7: RuPay debit card issued against the PMJDY accounts opened

39. We now look at the y-o-y growth of RuPay cards issued and new accounts opened under the PMJDY. Starting early-September 2019, when the y-o-y growth of RuPay debit cards issued under the PMJDY was 18.9%, there has been a significant reduction in the y-o-y growth of Rupay debit cards. The early-September 2020 y-o-y growth has drastically reduced to 2.2%. This recovered a bit with the early-September 2021 y-o-y growth being 5.0%. The consistent decrease in the y-o-y growth since September 2019 is clearly depicted in Figure 8. In contrast, if one looks at the y-o-y growth of new PMJDY accounts opened, the figures for early-September 2019, early-September 2020 and early-September 2021 are 13.1%, 9.8%, and 6.8%, respectively. Thus, though y-o-y growth of new PMJDY accounts opened had been relatively consistent, in comparison, the drastic downward y-o-y growth of RuPay debit cards issued is possibly a zero MDR effect.

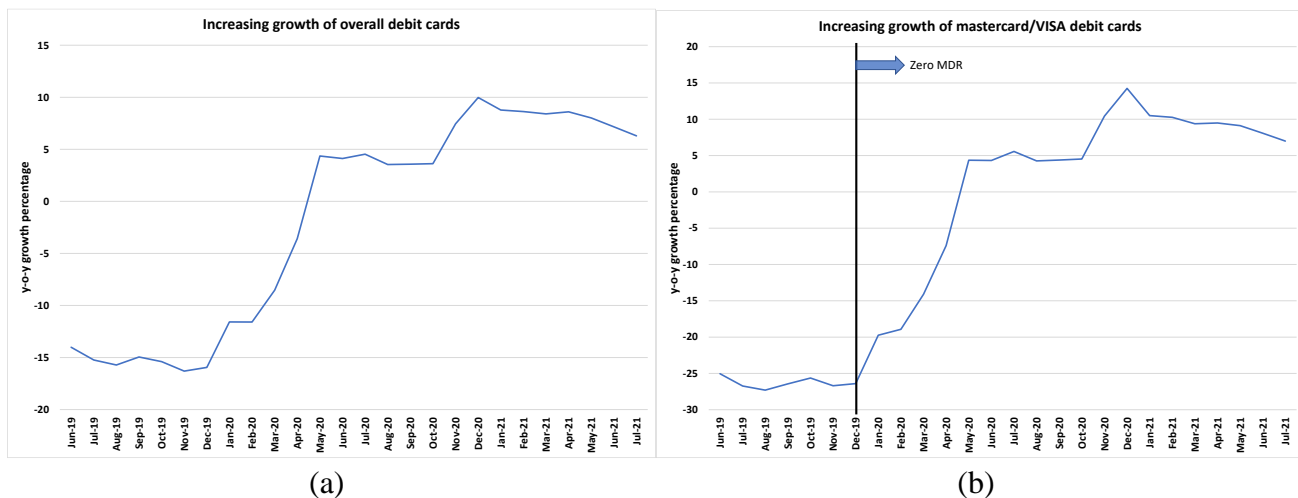


Source: Table 8 and authors' computation

Figure 8: y-o-y growth of RuPay debit cards issued against PMJDY accounts opened



40. To assess the correct status of RuPay debit cards, we compare the extent of RuPay debit cards issued (under the PMJDY) against the overall debit cards outstanding. We consider the period since June 2019. Unlike a general decline in y-o-y growth of RuPay debit cards issued under the PMJDY, Figure 9(a) shows that there is a sharp uptick in y-o-y growth of overall debit cards outstanding (includes mastercard, VISA, and RuPay). Though implicit, inherently this showcases that there is a consistently increasing y-o-y growth of mastercard/VISA (Figure 9(b)) as against a consistently decelerating y-o-y growth of RuPay debit cards.⁶ During the recent months, the y-o-y growth of mastercard/VISA debit cards is much above 5% unlike that of the RuPay debit cards.

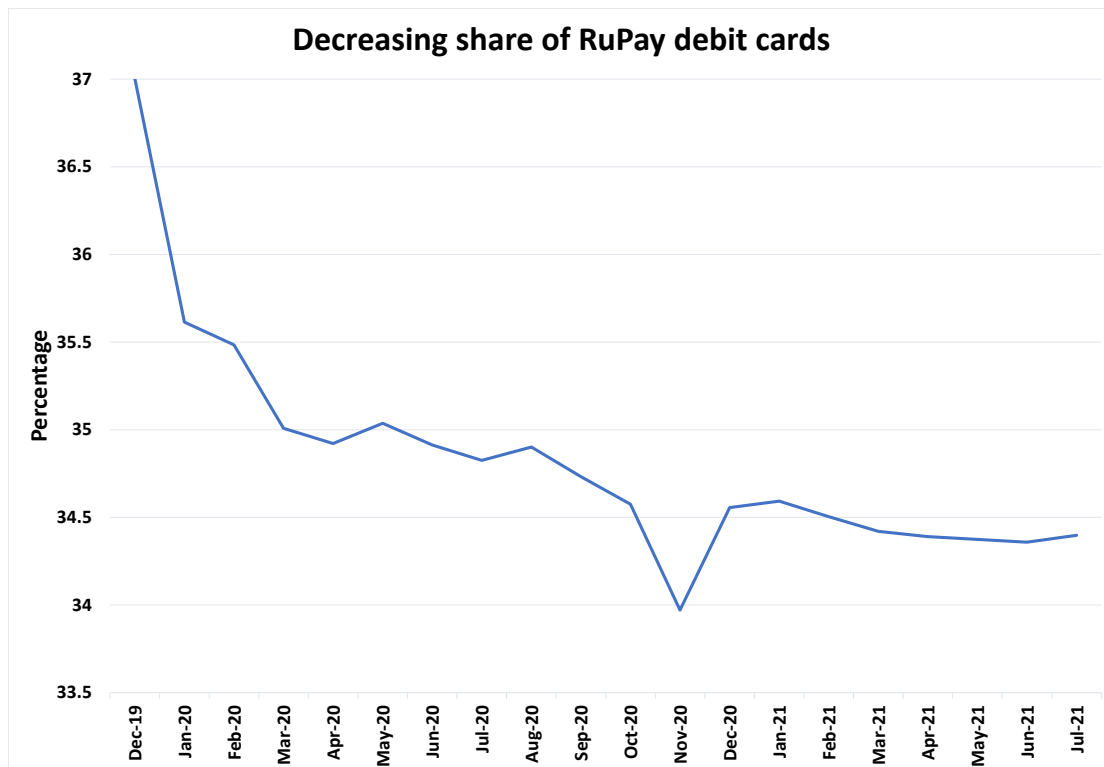


Source: RBI/DFS and authors' computation

Figure 9: y-o-y growth of (a) overall debit cards, and (b) mastercard/VISA debit cards

41. Finally, in Figure 10, we show that the percentage share of RuPay debit cards issued under the PMJDY among the total debit cards outstanding has been consistently declining since December 2019. These data and charts showcase the negative impact of zero MDR on RuPay debit cards issued (at least for those issued under the PMJDY) and the unintended thrust that it provided to mastercard/VISA.

⁶ Mastercard/VISA debit card data is obtained as the difference between debit cards outstanding and RuPay debit card issued under PMJDY. It is assumed that the y-o-y growth of non-PMJDY RuPay debit cards issued is constant, though it is likely that even for non-PMJDY RuPay debit cards there is a decreasing y-o-y growth. Thus, the increasing y-o-y growth for mastercard/VISA debit cards is likely to be an underestimate – the increase could possibly be much more.



Source: RBI/DFS and authors' computation

Figure 10: Share of RuPay debit cards issued (PMJDY) among the total debit cards outstanding

42. With merchants' preference for debit card acceptance not being quite guided by debit card MDR alone, for the payments industry, the supply of RuPay debit cards by the producers (banks) would be impacted due to differentiated administered pricing on MDR. The administered MDR pricing for RuPay is zero while for mastercard/VISA it is 0.4-0.9%. In presence of such an imbalanced administered pricing, and with merchants' preference for card acceptance also being guided by considerations other than debit card MDR, the supply of debit cards by banks gets appositely restricted to products (mastercard/VISA), which generate higher MDR (interchange) or revenue for them, and as a result, the same is being promoted by the banks. Because of the twin administered pricing, competition is not resulting in an identical spread of the debit card products, leading to a welfare loss to the society in form of (i) merchants' and consumers' depleting choice to harness the benefits of zero MDR on RuPay (due to lack of adequate supply of RuPay debit cards), and (ii) banks no longer having the capacity to produce RuPay as a means for merchant payments (due to commercial considerations).

Implicit cost born by the savings and current account depositors

43. Most of the operational expenses relate to a bank as a whole. As there is no item-wise scientific costing in a bank, it may not be feasible to calculate precise costing for a



particular type of bank's account, or product. However, the bank's broader costs associated with deposit products are covered by the net interest margin⁷.

44. It has been perceived for long that it is necessary for banks to provide certain basic payment transactions for free since banks have differentiated the rate of interest on the term deposits and the time component of the savings/current deposits. With large core balances under the current/savings account portfolio, the differentiated rate of interest has been the basis of identifying the nature and quantum of 'basic transactions' to be provided free by banks. Thus, what is perceived as 'free' service of savings/current accounts by banks is actually paid *ex ante* by depositors by agreeing to park their funds in these accounts at a lower return.

⁷ Net interest margin (NIM) is a measure of the difference between the interest income generated by banks and the amount of interest paid out to their lenders (e.g., depositors), relative to the amount of their (interest-earning) assets.



V. The way forward

Front-end concerns of debit card usage

45. It is acknowledged that for the banks, debit card payments do come at a cost and the transaction costs will reduce only if volumes pick up. However, a question arises as to why such debit card volumes should pick up (more so in rural India, despite RBI's attempt to infuse funds), given that there are other simpler, cheaper, efficient, and convenient means to receive payments.

46. The country has to invest through its banking system to build volumes in retail digital payments. Card payment volumes being still low cannot be the ground to charge more from small and medium merchants – that would be a retrograde step. As a way out, following the principle of cross-subsidisation, we have to obtain a well-calibrated balance such that large merchants (who are better off than small and medium merchants) can be used in the MDR play to reasonably cross-subsidise the MDR of small and medium merchants. Thus, there is a pressing need to re-define the benchmark set for large merchants (annual turnover of Rs 20 lakh or more), for whom the card-based payment mode attaches more value. **The present unreasonable and unthought-through benchmark set for small and medium merchants (annual turnover of less than Rs 20 lakh), makes the category near void of merchants, who should be accepting cards. The true small and medium merchants, who may prefer to accept cards, did not receive any MDR benefit as they have been categorised under large merchants. This needs to change.**

Disincentivize cash and promote digital modes as per users' choice

47. While converging to prudent regulations incorporating all good features in a simplistic manner, the only way forward is that the digital payment space enshrines parity in transaction cost vis-à-vis cash handling costs. The role of RBI to set appropriate and more realistic MDR caps is paramount. In order **to maintain parity, RBI on one hand would need to set a revised cap on debit card MDR, and on the other hand, revise its mandate on excessive free cash withdrawals.**

48. The BHIM-UPI is a game changer. In its innovative presence, there is a strong potential to see debit card usage at merchant locations losing its relevance. The fear of infection brought in by Covid-19 is a boon for BHIM-UPI (unlike cash and debit card usage having the potential to transmit the infection). Moreover, for merchants and consumers alike, so long as there is no artificially created incentive for debit card usage over BHIM-UPI, the asset-lite and cost-effective BHIM-UPI should be promoted over debit card acceptance.



49. To maintain parity, alongside a revision of MDR caps, the extant mandates that currently promote excessive free cash withdrawals should be revised. Apart from arriving at the number of free ATM cash withdrawals, RBI should arrive at an object-based threshold for the amount of free cash withdrawal per month beyond which banks should desirably disincentivize cash withdrawals by charging reasonably.

A policy guidance

50. Acceptance of cards is usually via a combined credit/debit/pre-paid card acceptance product. The MDR for credit cards is not regulated (reigns as high at 2% to 4%) and thus is an expensive proposition for merchants. Merchants choose to enable themselves for card acceptance, knowing well that it would amount to acceptance of credit cards along with debit cards. As such it may not be advisable for all small and medium merchants to go for the relatively expensive card-based acceptance when, as an alternative to cash, there exists an asset-lite mobile payment mode, the BHIM-UPI, that does not cost the merchants anything under extant laws. Moving the country away from cash would hinge on having an equivalent, simple, convenient, and secure digital alternative like the BHIM-UPI in this era of mobile phones. Striving for day-to-day payments through BHIM-UPI, rather than cash, would achieve our vision for a less-cash economy.



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