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COVID 19 and a cashless India - Digital Transactions

Introduction

In an address through his radio programme, known as "Mann Ki Baat", The Prime Minister of India, Narendra Modi Ji talked about digital payments. "Awareness towards online payments and using technology for economic transactions' is increasing.", he said. The rest of the world is moving toward modern forms of payments. It was the prime minister's belief that the future of money is a digital one. Narendra Modi expressed his desire for India too to grow and adopt digital forms of payment to be able to compete in the global trade market as a strong economy. As India is digitising it is important to find out how it will affect the function of money. Digitising transactions is a change in the 'medium of exchange' - a function of money. Digitising India as the prime minister desires is going to be a long term process. For money to transact the medium of exchange must be acceptable by the producer and the consumer. Digital modes via UPI may not be an acceptable mode of exchange in all markets in India. This will affect the fungibility of money. This is especially the case in the rural regions of India lacking infrastructure to switch to digital modes of payment via UPI. Change in the function of money will affect exchange of goods which in turn affects the stability of the Indian economy as a whole especially the primary sector of the Indian economy which largely involves a rural population. This will lead to lower equity and widening of the gap between the rich and the poor. Since, urban regions largely involving the tertiary and quaternary sector of the economy tend to have better financial tech infrastructure. Whereas going cashless will positively affect the economy, slowing down corruption and underground and informal economies and helping theIndian economy achieve a market equilibrium leading to economic growth. This was the concern in 2016 which led to the prime minister demonetizing India overnight. Which is why exploring 'To what extent and why has COVID-19 made India substitute cash with digital modes of payment and the spillover effects through UPI?' is of great importance.

Digital payments saw sudden changes especially in the demonetization phase in 2016^2 This was due to the lack of currency in circulation as India decided to revamp a large chunk of its physical currency for security reasons. There was a rise in the use of digital payment as these methods substituted liquid cash available with the government.

1 Livemint. "PM Highlights Importance of Fintech, Warns against Covid." Mint, 26 Sept. 2021, https://www.livemint.com/news/pm-modi-lauds-upi-for-economic-cleanliness-and-transparency-cautions-against-pandemic-in-mann-ki-baat-11632642094843.html.

2 Modelling and Forecasting Currency Demand in India - Demonetization. Reserve Bank of India - Database,

https://www.rbi.org.in/Scripts/bs_viewcontent.aspx?Id=3879.

Previously, during the Period of the demonetization in 2016 UPI3 (unified payment interface) was introduced. This formed the basis of digital transactions in India. Enabling a unified interface for online transactions via applications like Google 'Pay','paypal', etc. As all modes of digital payments in India require the use of UPI this essay will focus on 'The extent to which India has substituted fiat currency with digital modes of payment through UPI and its implications on the Indian market and the growth and the development of the economy.

Hypothesis

During the lockdown period due to the COVID-19 pandemic in 2020 a shift from physical currency to other digital payment modes will occur to a large extent. This change will be the incentive for the citizens of India to move toward a cashless economy. With the rapidly adapting population of this developing nation. This transition will lead to overall economic growth and development. This hypothesis is also in line with what the Prime Minister of India appears to believe in my opinion.

Methodology & Research

The research used an adequate mixture of qualitative and quantitative data from multiple secondary sources. Including surveys, Expert interviews. Whereas for quantitative data annual reports from the RBI (Reserve bank of India) and the NPCI (National Payment Corporation of India)were analysed where the volume of transactions via UPI & their value, volume and value currency in circulation, etc was measured. And research studies about this topic have also been referred to for context in order to better understand the extent of the externalities of digitising India's payments market.

Interviews

The interviews conducted were of 3 professionals as listed belo[4]

1. Rahul Chari - CTO phone pe
2. Navin Surya - Chairmen Fintech convergence council at IAMAI
3. Vijay Mani - partner in deloitte India

Interviews with Rahul Chari, Navin Surya & Vijay Mani were conducted together by 'ET Now' (live) with one interviewer (an associate of ET Now) on the 22nd of October 2020. Their perspectives, predictions and analysis of the situation in India regarding COVID-19 and digital payments underwent a thematic analysis to identify common themes. This was a semi-structured group interview. The Interview was about 20 minutes. The interview was conducted and live streamed on ET Now's channel.

ET Now is an English-language business and finance news channel in India, owned and operated by the times network which is a reliable and leading television and journalism division of the Bennett Coleman & Company Limited^5 of India. The participants involved in the interview were all holders of high organisation committee titles in the financial technology sector.

RBI Annual Reports

4 ET Now. "COVID-19 Impact on Digital Transactions | India Revival Mission." YouTube, YouTube, 22 Oct. 2020, https://www.youtube.com/watch?v=SCkCDbmbMy0.

5 "Et Now." Wikipedia, Wikimedia Foundation, 6 Dec. 2021, https://en.wikipedia.org/wiki/ET_Now

The data taken from the RBI was taken from the CPMI (Committee on Payments & Market Infrastructures)6 . As all digital transactions in India are conducted via UPI the RBI keeps record of all transactions, their volume and value for statistical research purposes. All printing presses and mints are controlled by the RBI and all data about currency produced is recorded7 . Production of counterfeit currency is illegal for example the Indian coinage act 2011 8 . This allows for proof of controlled and reliable quantitative data which was used in this essay. The data about the volume and value of transactions (via currency & UPI) was limited chronologically from 2019 to 2021 as the data is only relevant to this essay after 2019 and the latest annual reports are from 2021.

For the analysis of the quantitative data extracted from RBI's annual reports 'Desmos'9 will be used to statistically analyse and graph the data. Volume of CIC (Currency in Circulation) and volume of transactions via UPI were used to compare and thereby analyse the data with the help of economical graphs and concepts to model and forecast the extent of India's transaction market's digitisation and the externalities of this happening.

Survey

A survey was also used for quantitative analysis. The survey was conducted by a risk assessment and business advisory - private organisation - KPMG with ET edge.10 This survey was conducted on participants from the "payment space" as claimed by KPMG. The survey used a 3 and 4 point likert scale. It contained 4 multiple choice questions in total about the possible cashless future of India. The survey was conducted as a "Poll" on a forum hosted by both KPMG in India and ET Edge.

The survey allowed for another quantitative perspective at the future of a cashless India moving away from expert opinions or recorded data from government organisation's annual reports and looking directly at the opinions of the consumers.

^6 "Payment and Settlement Systems and Information Technology," Reserve Bank of India - Annual Report, 27 May 2021 https://rbi.org.in/scripts/AnnualReportPublications.aspx?Id=1322.

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^7 "The Reserve Bank in the Nation's Service Noting Authority," Reserve Bank of India - Function Wise Monetary, https://www.rbi.org.in/scripts/FS_Overview.aspx?fn=2753#:~:text=Four%20printing%20presses%20print%20and,and%20Salboni%20in%20West%20Bengal.&text=Four%20mints%20are%20in%20operation,Pradesh%2C%20Kolkata%2C%20and%20Hyderabad.

^8 Coinage Act, 2011, India Code, https://www.indiacode.nic.in/handle/123456789/2112?view_type=search&sam_handle=123456789%2F1362#:~:text=An%20Act%20to%20consolidate%20the,connected%20therewith%20or%20incidental%20thereto.

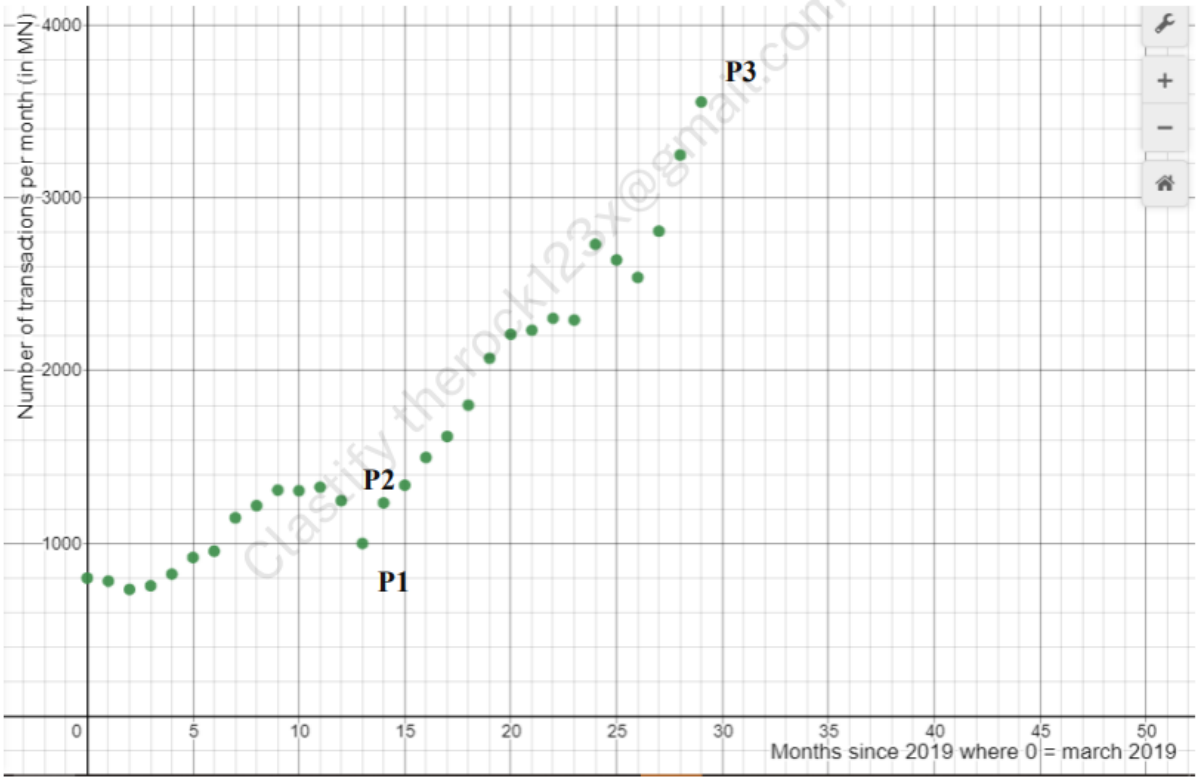
9 "Let's Learn Together." Desmos, https://www.desmos.com/.

^10 "Impact of COVID-19 on Digital Payments in India," https://assets.kpmg/content/dam/kpmg/in/pdf/2020/08/impacting-digital-payments-in-india.pdf.

Data & Analysis

Adoption of UPI & Substitution Of Cash as a Mode of Exchange

Cash has largely reigned as the superior method of transacting for the Indian people. In 2010 100% of all transactions in India by volume were made via cash. Though due to many reasons which will be discussed below that changed and by 2020 only about 89% of such transactions were cash. (Exhibit 21^1) This section of this exploration will look into the extent to which cash was substituted via UPI based transactions in India.^12



This graph shows the relation between number of transactions through UPI (volume) in millions and months since march 2019 till august 2021

11 The 2020 Mckinsey Global Payments Report. https://www.mckinsey.com/~/media/mckinsey/industries/financial%20services/our%20insights/accelerating%20winds%20of%20change%20in%20global%20pa yments/2020-mckinsey-global-payments-report-vf.pdf.

12 Graphed by me

It can be seen when COVID-19 reached its peak in India in April 2020 in the 13th month which is depicted by a sudden out of place dip in volume of transactions (P1) It was around April 2020 when Indian lockdown rules reached their highest intensity. 13 There can be seen a 49% decline in the use of UPI (Appendix - 4). One would infer intensification of lockdown guidelines would lead to a rise in use of non-cash methods of payments as using cash increases risk of transmitting COVID-19. Making cash less attractive to consumers. So, why did UPI transactions not immediately skyrocket? There wasn't a rise in use of UPI because of 2 major

reasons. One - the initial instability in the economy due to the lockdown. This economic instability due to people suddenly facing unemployment led to immediate decline in disposable income. Leading to payment deferrals on things like bills. Two the initial 'consumer acceptability barriers' of an untraditional mode of exchange for daily expenses like food where cash was commonly used led to a decline in UPI transactions.

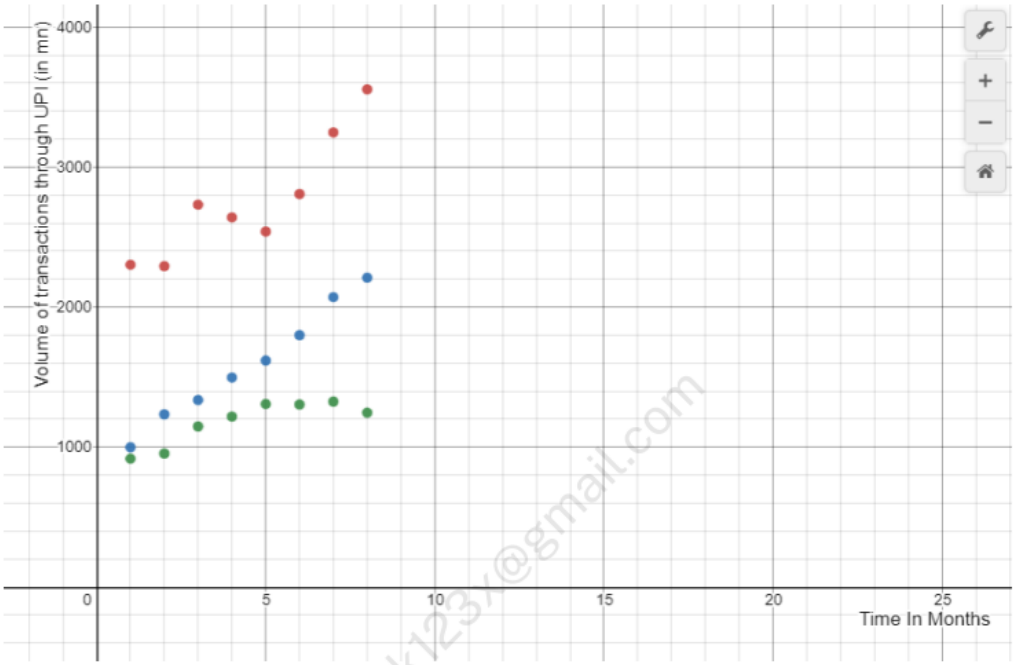
After this initial decline though, in figure 1.1 a clear rise in UPI volume can be seen from (P2-P3). This rise marks the extent of the substitution of cash and the acceptance of digital modes. In order to measure the extent to which UPI transactions substituted cash in India CiC (Currency in Circulation) will be used. Due to the anonymity involved in the transactions of cash the best way to estimate cash payments is CIC. When the price of a good falls the consumer substitutes it with now the less expensive good.14 This is why now that due to COVID the marginal social and private cost of using cash has increased consumers are bound by the economic law of marginal utility to substitute it with another method. i.e. UPI.

The currency in circulation statistics obtained by the reports of the RBI presented below show to what extent digital transactions via UPI substituted Cash in India during COVID -19 (described as from august 2019 to august 2021 according to chronological relevance considering COVID 19 was declared a global health emergency on 20th March 2020 by WHO.) The graph below shows the relationship 14 Tragakes, E.. Economics for the IB Diploma. 13 Ministry of Home Affairs - India. Revised Lock down Guidelines & Disaster Management.

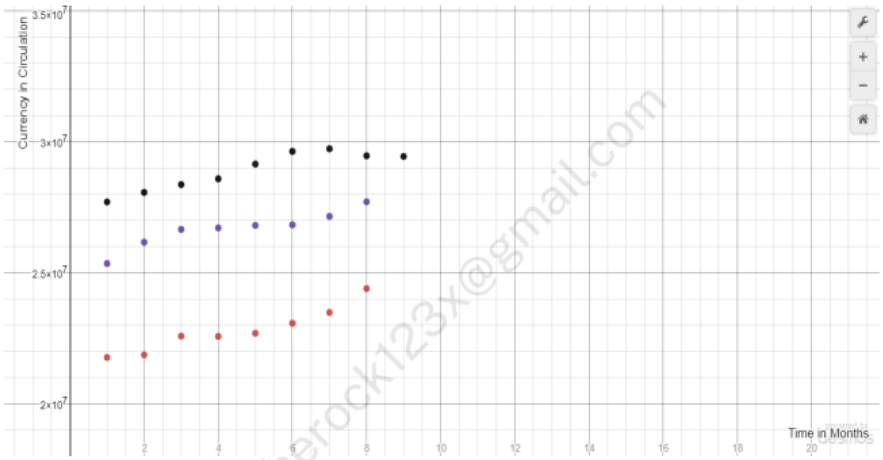
13 Ministry of Home Affairs - India. Revised Lock down Guidelines & Disaster Management. https://www.mha.gov.in/sites/default/files/MHA%20order%20dt%2015.04.2020%2C%20with%20Revised%20Consolidated%20Guidelines_compressed%20%2 83%29.%20pdf.

14 Tragakes, E.. Economics for the IB Diploma.

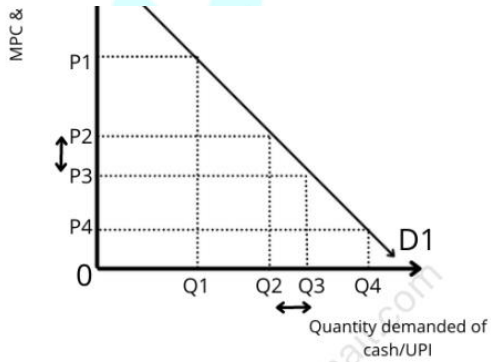
between time in months, and the volume of transactions via UPI. Where (green) is before COVID (blue) is during COVID and (red) is after COVID



In the graph below (scaled to the above graph's x-axis) (red) is before COVID (purple) is after covid and (black is after covid). The rise in the CiC in India seems to have remained relatively stable throughout the COVID period. This was due to the precautionary holding of cash as due to COVID there was high cash flow volatility. This hoarding behaviour of cash by businesses and individuals is for a store of wealth motive. Holding of cash could've also been incentivized by a sudden decrease in interest rates15 due to liquidity concerns arisen due to COVID thus decreasing the opportunity cost of holding cash.

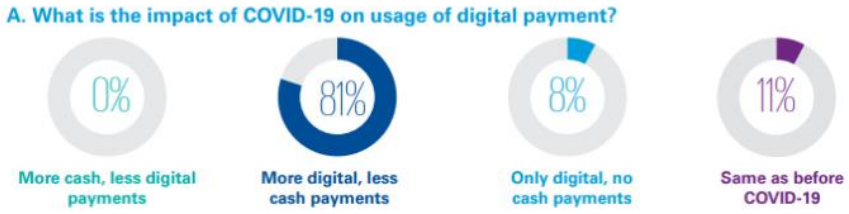


Though for daily fast track expenses like food and bills the consumption of UPI as a mode of exchange had to rise thus, substituting cash. But since CiC did not decline in response to a rise in the volume of UPI it will be difficult to quantify the extent to which UPI substituted cash. But we know substitution did occur.



In the graph above, P4 marks the MPC/MSC of using cash before COVID whereas, (P2) shows the cost of using cash after COVID due to lockdown guidelines. Whereas (P3) shows the cost of using Digital modes of transacting (UPI) As (P2>P3) people begin substituting cash for digital modes of transacting. This can be seen by the relative rise in Quantity demanded from (Q2-Q3). This marks the extent of substitution.

Due to the pandemic, traditional banks started to rely on digital channels to facilitate customers, and individuals relied on UPI for daily ‘fast track’ transactions leading to a sharp increase in usage of UPI. This rise in digital payments can be depicted in a non-statistical manner too -a survey conducted16 showed similar results.



81% of respondents agree there is an increase in digital payments over cash.

[16] Appendix-2

Changing how India Transacts - Externalities of Digital Payments

Even though use of cash has steadily been rising for precautionary holding. We know there will be a baseline shift in the use of UPI now.

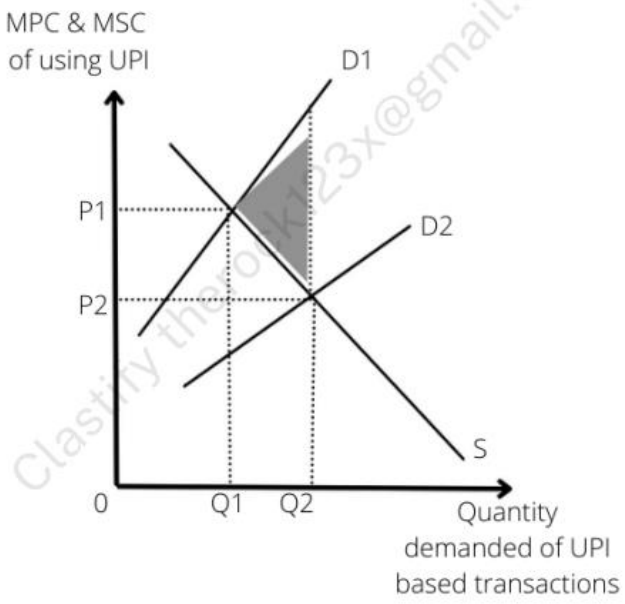
17 The Majority of participants admitted moving back to cash is unlikely as digital payments are more convenient and secure. This survey answer may be a successful result of the Indian government trying to promote digital transactions in India because of the high marginal social cost (MSB) of using cash as a mode of payment during the times of COVID. This is because of the social distancing laws and the safety measures. As digital payments take over as a mode of payment in India, there will be side effects also known as spillover effects of using digital transactions as a mode of payment over cash. This is because cash and digital transactions are not perfect substitutes, substituting cash with UPI will have costs. One of the largest concerns associated with digital payments, as shown by the surveys, is digital fraud (appendix-1). Rahul Chari said in one of his interviews . "With rapid advancement of technology and advent of new developments and innovations in the payments ecosystem, the Reserve Bank enhanced its focus on safety and security of payment systems." RBI plans to intervene with this market failure to bring the economy back to the socially optimal level. But the likely issue with digital frauds of this kind is that it is not a stock concept. It is a flow concept. The types of frauds and hacks are evolving and with them so do the counter measures need to evolve. Which is why government intervention cannot simply end the issue

17 APPENDIX-2

of frauds. The cyber security issue is expected to be persistent with the digitisation of India's payments.

RBI set a "payment and settlement systems vision"18 in 2019-2020 which aimed at digital penetration by enhancing the demand side infrastructure in India. (acceptance infrastructure)

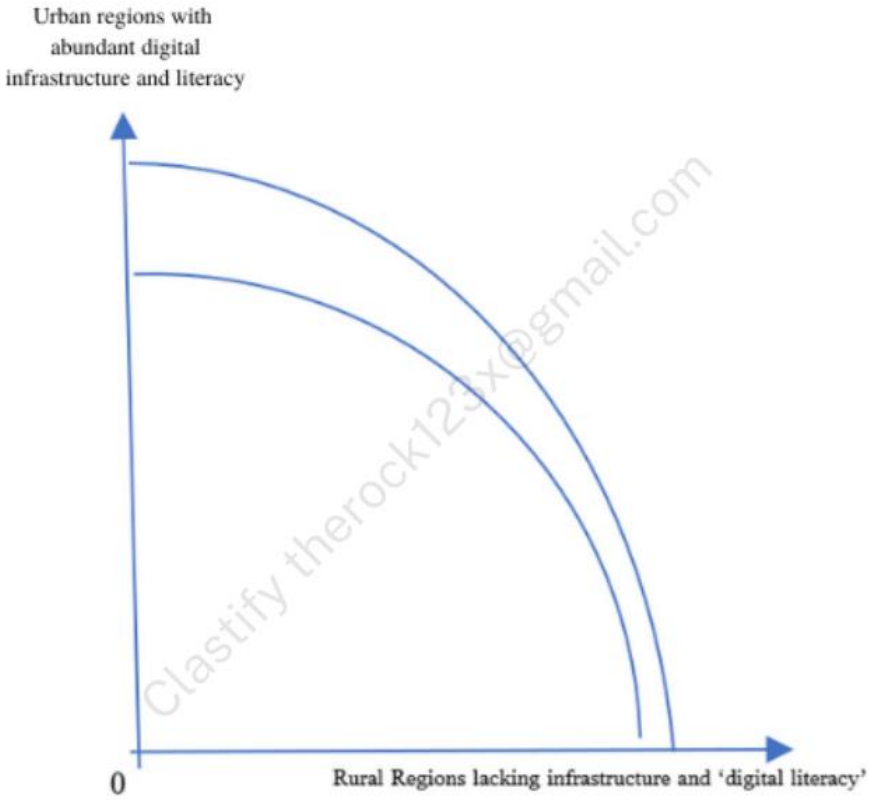
RBI changed its focus to security in order to protect digital transactions from fraudsters. The "fear factor" due to the frauds is a non price determinant which lowers the demand for digital transactions. These frauds are a negative externality of UPI as a mode of exchange. In the negative externality diagram drawn by me below, the decrease in demand from (D1-D2) marks the extent of the negative externalities of using UPI over cash. Whereas the grey triangle depicts the deadweight loss due to this negative externality



Another negative externality of transiting to digital transactions is the formation of monopoly. Starting a payments firm is likely to have very high upfront costs making birthing one difficult. This is why the Indian government uses UPI to control all digital transactions in India and thus maintain a social monopoly. Though, a social monopoly does avoid large social costs of a monopoly.

18 Reserve Bank of India - Reports, https://www.rbi.org.in/Scripts/PublicationVisionDocuments.aspx?Id=921.

Due to digital payments being a new form of transacting, requiring construction of infrastructure and due to what one may call a 'digital literacy gap'19 There is a gap between the urban and rural regions and their use of digital transactions during COVID. This is a spillover cost of digital transactions. Their need for infrastructure makes them inaccessible to some. During COVID-19 when transacting via cash may be risky, the lack of accessibility of digital transactions by those in rural areas compared to their urban counterparts leads to economic disparity and inequity



The graph above shows how this disparity between urban and rural regions leads to widening of the inequity gap. As digital transactions begin to be adopted by the Indian populous the Indian economy undergoes economic growth. The urban section of India also undergoes economic development as they are able to access digital transactions during

19 "The Complexity of Payments in Rural India." cnbctv18.Com, 15 Sep. 2021, https://www.cnbctv18.com/views/the-complexity-of-payments-in-rural-india-10742161.htm.

COVID-19 thus increasing their quality of life. Though, since those in rural areas due to problems of education and infrastructure are able to access these services do not undergo economic development. Leading to an economic disparity and thus the upward shift of the above mentioned PPF graph towards Urban regions.

How the Indian Government is Promoting Digital Transactions - Government Intervention.

From the trends above we can see that digital payments are on a rise in India especially after COVID -19. This is because of the extensive steps the government has taken to promote digital transactions through UPI in India as a substitute for cash. The RBI constructed an organisation known as the DPI to show the parameters and indicators of digital payments. According to the RBI these are the factors that come Into play for Digital payments to be taken forward

Table 1: Broad Parameters under RBI-DPI[24]

Parameters	Weight (Per cent)	Indicators
1	2	3
1. Payment Enablers	25	Internet users, mobile users, Aadhaar numbers, bank accounts, digital payment facilitators, and payment system members.
2. Payment Infrastructure - Demand-side Factors	10	Payment and other instruments issued, customer registrations for mobile and internet banking, and FASTags.
3. Payment Infrastructure - Supply-side Factors	15	Physical and digital payment acceptance points, and payment intermediaries.
4. Payment Performance	45	Volume and value of various payment systems, unique users in such systems, cheque transactions, cash withdrawals using cards, and cash estimates.
5. Consumer Centricity	5	Consumer awareness and education initiatives, declines, complaints, frauds, and system downtime.

The table above clearly outlines the factors involved in digitising India. And it is these factors that the government is trying to control in order to boost digital transactions via UPI

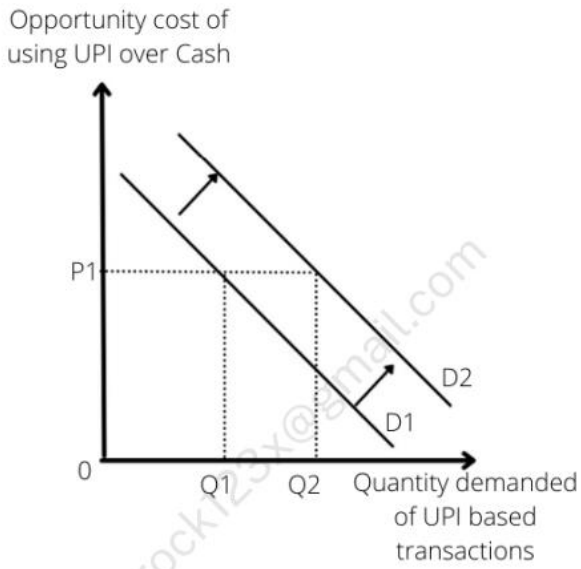
in India. In the table above it is mentioned how frauds are a major concern among the consumers. This non-price determinant is preventing the penetration of digital transactions in the payment industry

It can be seen that the revision of the 2000 INR limit was generally welcomed. It did indeed incentivize the consumers. Though the concern of security (frauds) which is a non-price determinant is having a high marginal private cost (MPC) as 50% of the respondents welcomed the revision but with concern. This high level of MPC could cause a market failure and needs to be considered.

The government also used many other measures to incentivize the consumer toward digital payments. These small discounts provide the consumer enough incentive to go through the inconvenience of having to use a non-traditional mode of payment. Due to the monopoly that cash once held the consumers find it difficult to switch to other modes of payment (as shown above in 2010 all transactions in India were via cash). And so due to this brand loyalty there are high substitution costs for the consumer. An Individual sees these substitution costs as using a non traditional means of payment. RBI is also rolling out a fund (Subsidy) to support the induction of digital transactions in India from the supply side. This is known as the Payments Infrastructure Development Fund.of Rs 500 crore 20 This is created to encourage acquirers to deploy point of sale (PoS) infrastructure, which will be digital and physical. This will have a positive impact on digital payments. Regulations have also been put in place. The RBI has revised previous policies to increase merchant side penetration (supply side). The RBI came out with a clarification easing KYC regulations for digital transactions further pushing incentive for accepting UPI as a mode of exchange.

20 Panda, Subrata. "RBI's Rs 500-Crore Fund to Promote Digital Payments in Small Towns." Business Standard, Business-Standard, 5 June 2020, https://www.business-standard.com/article/finance/rbi-sets-up-rs-500-crore-fund-to-boost-digital-payments-infrastructure-120060600018_1.html

In a final push toward digital payments the government introduced their own UIs (user interface) for example BHIM. BHIM is sanctioned and is created by the Indian government. It lowers the fraud related 'fear factor' as mentioned above as BHIM is sanctioned by the Indian government.



The combined effect of all of these many regulations can be seen in the graph drawn by me above. The implementations of all of these regulations do not change the price or in this case the opportunity cost of using UPI that is cash. But it affects a non-price determinant. I.e. the MPC & MSC of using UPI based transactions. And this leads to a rise in demand from (D1-D2).

The Indian government also took more intense steps such as mandating digital payments for businesses with turnover over INR50 Cr21 . This is a classic example of regulations. But such controlling regulations (mandating digital transactions) will lead to deadweight loss such as the formation of black markets as digital transactions take away the anonymity of cash. Though regulations like these will lead to higher MSB as taking away the

21 "Businesses over Rs 50 Crore Must Have Electronic Payment Mode from November 1: CBDT." Hindustan Times, 18 Oct. 2019, https://www.hindustantimes.com/business-news/businesses-over-rs-50-crore-must-have-electronic-payment-mode-from-november-1-cbdt/story-J 1LTDvN6TAldsTGjHVbGyK.html.

anonymity of transactions helps avoid corruption. Which is yet again a positive effect of switching to digital modes of payment instead of cash.

Conclusion

COVID-19 clearly had an effect on the way India transacted. Cash in India was the most widely accepted method of transaction. As new regulations to prevent further spread of the pandemic were set, digital transactions became an eligible alternative to cash. After the initial consumer acceptability barrier fell due after having to rely on cash alternatives due to the regulations. Similarly, the survey above showed consumer's considerable desire to stick to digital payments instead of reverting to cash. Cash won't be disappearing from the Indian economy anytime soon though. The Indian population has a high propensity to use cash as a mode of payment, as levels of cash withdrawals suggest a post-COVID rebound. The penetration of digital transactions into the Indian economy is majorly hurdled by the fact that cash used to monopolise the payment industry, making barriers of entry extremely high. Digital payments also presented some negative externalities. Mainly - Cybersecurity, economic disparity & equity, fraud, marginal private costs of making a change in acceptability of a new medium of change.

The initially presented hypothesis assumed a transition from fiat currency to other digital modes of payment will occur to a large extent due to covid and that this transition will lead to economic growth and stability. The initial hypothesis, though, failed to mention the spillover costs of making this transition. At first sight only the benefits of a cashless society were visible as was argued by Prime Minister Narendra Modi in his speeches on his radio program. Though, after looking at the scenario closely, the presence of spillover costs is clear. In accordance with what the prime minister said there did indeed seem to be benefits of a cashless economy but many spillover costs which were initially overlooked also became clear. So, a more accurate hypothesis would be - 'Due to the COVID-19 triggered lockdowns a shift from fiat currency to other digital modes occurred to a considerable extent. This change led to both economic growth in India and also large spillover costs.' Further research though is important before making any decisions as the conclusions of this essay too may not be perfectly accurate. As there may have been inconsistencies in the data used to produce these conclusions. The interviews, used for example, were conducted live on a news channel which could lead to demand characteristics. The interview also used samples involving people only from the financial tech market. This could have led to biassed results of the interview. The interview was also conducted in a group of three other interviewees which likely caused social pressure leading to conformity. But the interview was of reliable experts

on a reliable journalism source. Similarly, in the surveys used, of which the results have been included in APPENDIX 2. No other data is provided about the way the survey was conducted by KPMG. The survey could have faced many external factors that may have biassed the results but due to lack of knowledge of the administration of the survey this cannot be evaluated. The survey though, was conducted by one of the best risk assessment organisations in India allowing for reliability. While this essay looked into possible spillover costs of a cashless India before promoting and expecting a full transition it is important further 'R&D' is conducted to prevent further harm to vulnerable groups.

Transitioning into a cashless economy will lead to economic growth for India, making it a more efficient economy in the long-term and setting an example for other developing nations. Though, to avoid large short-term social costs of making this transition the Indian government will need to intervene carefully.

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Appendix - 1(Interviews) 22 Thematic Analysis:

1. Rahul Chari- CTO phone pe (Conducted on 22 October 2020)
> number of users going digital have increased through the lockdown as there is a structural behavioural change in the modes of payment used, as the number of new users skyrockets.
> Transaction volumes increased and there is a baseline shift as people realise the convenience of digital payments.
> covid and the NEED for social distancing.
>digital payments are sustainable. In demonetization there was not enough cash available. (positive externality)
> the urban-rural gap is getting filled with digital payments. Plus advertising with digital payments is easier. Just sending a QR code is all you need to do.
> digital payments are not safe to fraudsters (negative externality) With rapid advancement of technology and advent of new developments and innovations in the payments ecosystem, the Reserve Bank enhanced its focus on safety and security of payment systems.

2. Navin Surya- Chairmen Fintech convergence council at IAMAI (Conducted on 22 October 2020)
> High frequency transactions such as grocery have increased. These are habit forming transactions unlike using digital payments for high value transactions which happen once in a while.
> Merchants and business people had to figure out alternate ways to do business and adapt to COVID laws. EVen the smallest vendors are accepting.

> digital payments was an issue of telecom and internet accessibility . >RBI law - to increase penetration on the side of the merchant. RBI has come out with a clarification and it says that if a merchant has already done a KYC then all the entities acquiring them for payment transaction don't need to do the extensive KYC. This makes digital payments even easier. (regulations)

22 ET Now. "COVID-19 Impact on Digital Transactions | India Revival Mission." YouTube, YouTube, 22 Oct. 2020, https://www.youtube.com/watch?v=SCkCDbmbMy0.

> RBI is also rolling out a fund to support more and more demography being added. (Subsidy)

3. Vijay mandi- partner in deloitte India (Conducted on 22 October 2020)
> why people won't move back this time, - bounded rationality theory.
> There has been an upward trajectory in digital payments.
> Demonetization is history repeating itself. Debit card use increased but they settled back at a comparably higher level. That was just a couple months this has been going on for a year now.

4. Raghuram Rajan - Former Governor of the Reserve Bank of India (Conducted on 25 March 2021)
> only one payment company that owns an overly large market power and becomes a monopoly can be detrimental to the economy.
> they can restrict competition. A giant e-commerce company can become uncontrollable which can be bad. This is why UPI is a good thing. It is centralised.

Appendix - 2 (Survey) 23

The following graphics were produced by KPMG & ET edge

D. Do you think increasing limit on contactless card payment from INR2,000 will help in increasing usage of contactless payments?

Participants have expressed a general welcome on upgrade in upper limit of contactless cards, around half the population opining that they would welcome an increase in the limit but have shown worry around security and fraud which also plagues the existing contactless payments. 39 per cent of the respondents have stated that they welcome the upward revision in limit, which alternatively shows a certain confidence and acceptability in such cards and risks involved, coupled with a willingness to widen their usage. Nonetheless, ~11 per cent of the participants wished to restrict the limit to its present INR2000, possibly due to fears around fraud and disputes. This denotes that consumers tend to value security above convenience, in so far as they welcome ease of access and use but are also equally vigilant about protection of funds and restriction of loss by potential fraud, because contactless cards are more prone to such fears than one time password (OTP) based transactions.

A. What is the impact of COVID-19 on usage of digital payment?

According to the results of poll survey on the impact of COVID-19 and its resultant lockdowns, a majority of 81 per cent respondents reported higher usage of digital payment methods than cash. The responses indicate a significant apprehension for cash payments, with a simultaneous transition to digital methods, primarily due to aspects of convenience, safety, security, and fear of transmission while allowing the consumers to maintain physical distancing. While, some participants (8 per cent) have responded that they'd be willing to use digital payments exclusively. However, cash is still slated to be utilized possibly for small denomination transactions as well as at small scale vendors where possibly acceptance infrastructure is not present. Around 11 per cent per centage of the participants were of the view that the digital payments usage would be same as pre-COVID-19 levels. The higher inclination towards digital payments during this pandemic suggest that with proper infrastructure in place we could bring more and more population into digital payment ecosystem.

23 Impact of COVID-19 on Digital Payments in India. https://assets.kpmg/content/dam/kpmg/in/pdf/2020/08/impacting-digital-payments-in-india.pdf.

C. How likely are you to move back to cash payments post COVID-19?

Majority of participants (65 per cent) were of the view that they would not move back to cash payments as they find digital payments safe and secure. However, nearly one-third of the participants have signalled that they might consider moving back to cash payments primarily citing low acceptability as a reason.

7 per cent participants cited security concerns as reason to considering reverting to cash which indicates a need to focus on fortifying existing infrastructure as well as awareness of available dispute and fraud redressal avenues to consumers. The participants views tend to denote that crossing the threshold of initial entry barriers in acceptance and use of digital payments is crucial to adding consistent end-customer base.

B. Which according to you, is the key limiting factor for adoption of digital payments?

The key hinderances highlighted by the participants in the adoption of digital payments in India include inadequate awareness and allied unease in use, lack of infrastructure and setup and transaction charges, accounting for around 89 per cent of the concerns voiced. Other considerations include inadequate dispute handling (8 per cent) and security concerns (3 per cent). Most participants have indicated lack of awareness across various aspects such as ease of access and initiation, transaction mechanisms and costs as the primary reasons for avoiding adoption of digital payments. This might denote a simultaneous need for targeted advertising about the know-how of digital modes of payment as well as upgrading infrastructure to support payloads anticipated.

Appendix - 3 (annual reports data)

	Digital transactions through UPI	
Month	Volume (in Mn)	Value (in Cr.)
Aug-21	3,555.55	6,39,116.95
Jul-21	3,247.82	6,06,281.14
Jun-21	2,807.51	5,47,373.17
May-21	2,539.57	4,90,638.65
Apr-21	2,641.06	4,93,663.68
Mar-21	2,731.68	5,04,886.44
Feb-21	2,292.90	4,25,062.76
Jan-21	2302.73	4,31,181.89
Dec-20	2,234.16	4,16,176.21
Nov-20	2,210.23	3,90,999.15
Oct-20	2,071.62	3,86,106.74
Sept-20	1,800.14	3,29,027.66
Aug-20	1618.83	2,98,307.61
July-20	1497.36	2,90,537.86
June-20	1336.93	2,61,835.00
May-20	1,234.50	218,391.60
Apr-20	999.57	151,140.66
Mar-20	1,246.84	206,462.31
Feb-20	1,325.69	222,516.95
Jan-20	1,305.02	216,242.97

Dec-19	1,308.40	202,520.76
Nov-19	1,218.77	189,229.09
Oct-19	1,148.36	191,359.94
Sept-19	955.02	161,456.56
Aug-19	918.35	154,504.89

Cash in Circulation	
Date (end-month)	Volume CIC
Aug-21	29 438 605
Jul-21	29 465 776
Jun-21	29 732 802
May-21	29 630 378
Apr-21	29 148 565
Mar-21	28 585 467
Feb-21	28 366 048
Jan-21	28 066 632
Dec-20	27 703 148
Nov-20	27 706 955
Oct-20	27 151 758
Sept-20	26 829 268
Aug-20	26 805 468
July-20	26 710 833
June-20	26 654 253
May-20	26 165 398
Apr-20	25 351 781

Cash in Circulation	
Mar-20	24 393 075
Feb-20	23 482 385
Jan-20	23 072 003
Dec-19	22 689 093
Nov-19	22 568 750
Oct-19	22 577 885
Sept-19	21 861 478
Aug-19	21 763 826

Table 1: Broad Parameters under RBI-DPI

Parameters	Weight (Per cent)	Indicators
1	2	3
1. Payment Enablers	25	Internet users, mobile users, Aadhaar numbers, bank accounts, digital payment facilitators, and payment system members.
2. Payment Infrastructure - Demand-side Factors	10	Payment and other instruments issued, customer registrations for mobile and internet banking, and FASTags.
3. Payment Infrastructure - Supply-side Factors	15	Physical and digital payment acceptance points, and payment intermediaries.

4. Payment Performance	45	Volume and value of various payment systems, unique users in such systems, cheque transactions, cash withdrawals using cards, and cash estimates.
5. Consumer Centricity	5	Consumer awareness and education initiatives, declines, complaints, frauds, and system downtime.
Source: RBI.		

	BHIM		
nth	**No. of Banks live on BHIM**	**Volume (in Mn)**	**Value (in Cr.)**
21-May	182	20.92	6,760.07
21-Apr	180	22.16	6,872.08
21-Mar	180	24.32	7,638.65
21-Feb	178	20.36	6,366.88
21-Jan	173	23.28	7,448.38
20-Dec	165	24.71	7,734.19
20-Nov	160	23.47	7,456.95
20-Oct	152	24.44	7,866.77
20-Sept	146	21.33	7,215.09
20-Aug	133	20.36	6,909.59
20-July	133	19.77	7,229.33
20-June	132	17.87	6,610.45
20-May	132	16.8	6,006.69
20-Apr	130	13.9	4,492.73
20-Mar	130	17.05	6,049.18
20-Feb	130	18.4	6,524.11

20-Jan	129	18.54	6,611.22
19-Dec	128	17.82	6,316.37
19-Nov	125	15.76	5,853.50
19-Oct	120	16.96	6,339.61
19-Sep	119	17.18	5,924.15
19-Aug	117	16.89	6,132.10
19-July	114	16.01	6,121.67
19-June	111	15.49	6,202.49
19-May	112	15.77	6,627.42
19-Apr	113	15.15	6,583.58
19-Mar	111	14.92	6,417.02