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Impact of Covid-19 lockdown on online banking transaction in India

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Abstract
Banking has transformed from the traditional brick-and mortar prototype to modern day mobile banking which has enabled the customers to reach their banks virtually through Mobile phones and avail services anywhere and at any time within the click of a button. Mobile banking has provided innovational ways of conducting balance enquiries, online fund transfers, utility payments and other services with the help of a simple mobile handset. The constant developments & improvements in the fields of Information & technology have given rise to a number of enhancements in the product & service designing and their supply in the banking sector. The use of M-Banking is increasing with the addition of multiple services provided by the Banks as the customers find it very easy to pay their electricity bills, perform mobile recharges ,conduct immediate transfer of funds and much more. The launch of various Mobile banking apps like ICICI iMobile, HDFC Mobile Banking, SBI's YONO App etc. has proven to be the game changer across the globe and has forced the customers to shift to banks that provide M-Banking Services. RBI has also been promoting the digital payments through Mobile Wallets during the Covid-19 pandemic as it would ensure the social distancing norms as well as the flow of transactions at the same time without causing any exposure to the virus. This study is aimed towards identifying the growth in the online transaction during Covid-19. We have used Chow for our analysis and it shows that growth of mobile banking transaction significantly higher than previous periods.

Keywords: covid, lockdown, mobile, bank, online

Introduction

The World has been gripped by a pandemic over the first half of 2020. It was identified as a new coronavirus (severe acute respiratory syndrome coronavirus 2, or SARS-CoV-2), and later named as Coronavirus Disease-19 or COVID-19. While COVID-19 originated in the city of Wuhan in the Hubei province of China, it has spread rapidly across the world, resulting in a human tragedy and tremendous economic damage. By mid-June, there had been over 8 million cases of COVID-19 globally, with over 436,000 deaths. Given the rapid spread of COVID-19, countries across the World have adopted several public health measures intended to prevent its spread, including social distancing. As part of social distancing, businesses, schools, community centres, and non-governmental organization (NGOs) have been required to close down, mass gatherings have been prohibited, and lockdown measures have been imposed in many countries, allowing travel only for essential needs. In India, the first case of COVID-19 was reported in January end, 2020. While the number of cases remained low in February, the number of cases started to rise in March, which led the government to implement a nationwide lockdown in the country on 25th March, 2020.

In this paper we show the impact of lockdown on other digital payment modes such as NEFT and mobile banking. We present the extent to which COVID-19 and the subsequent nationwide lockdown has impacted the financial transactions in the country. The sheer slowdown of the economy gets depicted by the drastic reduction of retail payment activities in the country. In the past two years (2020-2021) there has been quite a number of studies that show the impact on India's online transaction due to the global pandemic of Covid-19. India went into lockdown on March 25, 2020, the largest in the world, restricting 1.3 billion people. Countries with a robust digital payments infrastructure already in place have coped better than those without when it comes to containing the economic impact of the pandemic. As the pandemic continues to drive changes in consumer and business behaviours, banks, merchants and intermediaries across the payment ecosystem are responding rapidly, prioritizing the shift to digital to protect current revenue streams, and searching for new ones through a fully digitised customer experience. The Department of Information Technology (DIT), in its swift response to unprecedented challenges due to COVID-19 pandemic and to keep pace with the fast-changing technology landscape, adopted a proactive approach by leveraging on technology. The Reserve Bank continued its efforts to graduate its ICT infrastructure to next generation applications with an inbuilt architecture for operational excellence, resilience, scalability and security. The goal of "Less-Cash" continued during the years 2020-2021 with a rapid growth in digital payments observed with the gradual relaxation in lockdown imposed due to COVID-19. Although from the charts, we will see that the nationwide lockdown due to COVID-19 pandemic resulted in decline in payments during its initial phase. However, the value and volume of payments

subsequently picked up with the gradual relaxations in lockdown. So, our object of the study is show how the Covid-19 has boosted India's online transactions because of social distancing.

Data and Methodology

For our study we have collected secondary data on online transaction from Reserve Bank of India. Data on mobile banking transaction for the period of January, 2019 to February, 2021 are taken under consideration i.e. one year before corona outbreak and one year after. Total mobile transaction value of 12 major public banks, 20 private sector banks and 2 mobile applications used for the study.

Total mobile transaction value is the dependent variable, which is denoted by Y. The values of the variable Y are observed with respect to each month that is denoted by T. We have estimated following regression equation

$$Y = A.B \wedge (T)$$

Or, $\log(Y) = \log(A) + T.\log(B)$

Or, $y = a + bT$……..(1); where $y = \log(Y)$ and $a = \log(A)$, $b = \log(B)$

Here co-efficient parameter B measures growth of mobile banking transaction over time. Our hypothesis can be formulated by the following way

H_0: The lockdown did not affect the mobile transactions in India

H_1: The lockdown has increased the mobile transactions

We have conducted Chow test to analyze our hypothesis.

Findings

In Fig-1 we have measured the values of total mobile banking transaction from January, 2019 to February, 2021. We can see a rise in the values of total transaction. In the January of 2019 the amount transaction through mobile banking was Rs. 26395497.7 lakh, this valued increased to Rs. 86286390.01 lakh by the beginning of the year 2021. This surge mainly started from May 2020 after a sudden drop in April 2020.

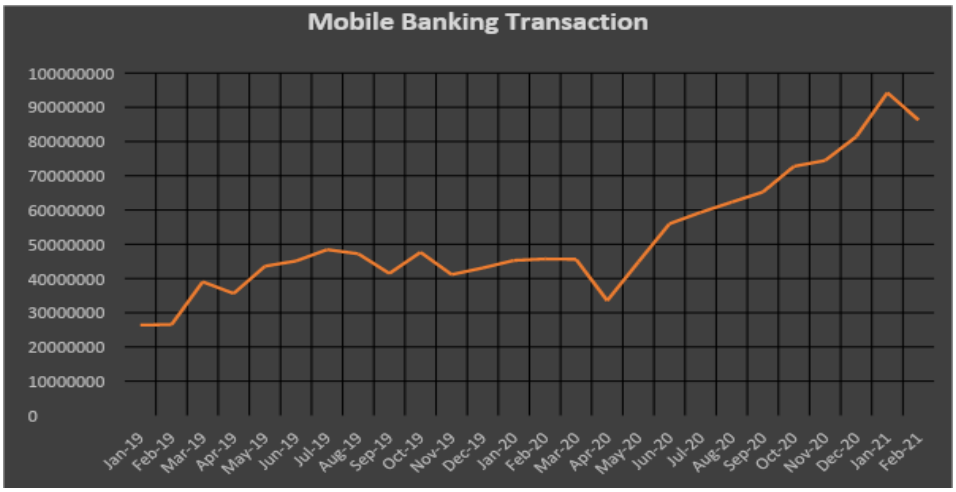

Fig 1

Data Source: RBI

First we have regressed the equation-1 for Jan'2019 to March'2020 (pre Covid period) data and found that parameters are significant as indicated by t-stat and P-values. Than we have regressed the equation-1 for April'2020 to February'2021 (Covid lockdown period) data and found that parameters are significant as indicated by t-stat and P-values. Slope coefficient for lockdown period is greater than pre lockdown period signifies higher drive for mobile banking transaction.

Table 1: Regression result for Jan'2019 to March'2020

	Coefficients	Standard Error	t Stat	P-value
Intercept	7.506878639	0.034212212	219.4210281	1.38016E-24
T	0.012983789	0.003762842	3.450527639	0.004303758

Table 2: Regression result for April'2020 to February'2021

	Coefficients	Standard Error	t Stat	P-value
Intercept	7.506878639	0.034212212	219.4210281	1.38016E-24
T	0.012983789	0.003762842	3.450527639	0.004303758

To get a better understanding we have used Chow test with the following hypothesis
H0: $b_1 = b_2$
H1: $b_1 < b_2$

Here b_1 and RSS_1 is the slope coefficient and Residual Sum of Square from the first regression. Similarly b_2 and RSS_2 is the slope coefficient and Residual Sum of Square from the second regression. Residual Sum of Square from the pooled regression represented by RSS_p.

$$CHOW = \frac{(RSS_p - (RSS_1 + RSS_2))/k}{(RSS_1 + RSS_2)/(N_1 + N_2 - 2k)},$$

RSSp = 0.123015571; RSS_1 = 0.051538676; RSS_2 = 0.018315; N_1 = 15; N_2= 11; K=2
Chow statistic follows F-distribution and our calculated value 8.37 is greater than tabulated F-value 2.71. Therefore, we cannot accept the null hypothesis and we conclude that after lockdown mobile banking transaction grew significantly.

Conclusion
It is clear from the data analysis that, after the Covid-19 lockdown on April 2020, the total transactions have increased at a much faster rate than the time span before the lockdown started. COVID-19 Pandemic has wrecked the economy and affected the Export Import services, aviation industry, construction industry, mining and mineral industry, & the retail industry of all the corporate sectors which have further affected the banking infrastructure very drastically due to the nationwide lockdown. The pandemic has also created fear in the minds of the people as it is believed that the currency notes could transmit the deadly virus. This created greater difficulties for the common man to conduct transactions. Mobile banking has been very helpful in the times like COVID-19 as it has been successful in promoting the social distancing policies as well as providing 24/7 banking facilities to their customers. COVID-19 is the second catalyst after demonetization which has increased the shift of the banking customers from the physical banking to digital platforms like mobile banking and mobile wallets.

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