

The Impact of Digital Payments on Money Supply in the Indian Economy: A Study on the Cashless Economy

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Abstract: A transformative shift in the Indian economy has taken place in a very short time, primarily due to the widespread adoption of digital payments. Initiatives of the government such as Digital India and technologies like Unified Payments Interface (UPI) have fuelled this change. This paper aims to examine the influence of digital payments on money supply in the Indian economy, with special emphasis on their impact on currency circulation, banking systems, and monetary policy. It will also look into their linkage with financial inclusion, along with opportunities and challenges in a cashless economy. The findings indicate that the inclusion of digital payments is now changing the dynamics of the money supply in India, reducing dependence on cash, yet placing further risks and challenges before the policymakers.

Keywords: Digital payments, Money supply, Cashless economy, Indian economy, financial inclusion, Monetary policy.

1. Introduction

In the previous decade, India has shown prospective growth in the direction of a cashless economy. Encouragement from the government such as the "Digital India" campaign has inclined people towards the electronic mode of payment, that is, mobile wallets, UPI, and other digital means. While the changes resulting from this transition can be termed positive, it's bringing significant changes to the actual way money flows through the economy. Because most of the transactions are happening online, in today's scenario, the question that arises is how this transition will actually impact the money supply in the Indian economy.

The basic components of money supply include M1, M2, and M3, which are crucial in empowering the economy for proper economic policy-making; digital payments also have a direct effect on the constituents of money supply, especially M1, which contains currency in circulation and demand deposits. The paper will discuss how the spurt in digital payments has been affecting money supply in India, namely the phenomena like cash reduction, the role of digital banking, etc., for further implications for the Reserve Bank of India's monetary policy.

A. Objective of the Study

The core objective of this investigation is analysing the impact of increasing adoption of digital payments on the money supply in Indian economy. More specifically Survey the

following objectives concerning the study:

- Examine the relationship between digital payments and money supply: this involves assessing how cashless transfers affect important measures of the money supply such as M1, M2, and M3.
- Assess the effect of reduced cash usage: To investigate how decreased reliance on cash impacts the money circulating within economics, especially the decrease in currency in circulation (CIC) after the introduction of digital payment systems.
- Evaluate the impact of digital payments on financial inclusion: How do digital payment systems in India encourage financial inclusion, primarily toward poorer rural areas?
- Understand the challenges and opportunities of a cashless economy: Analyse the advantages (for example, improved accountability and efficiency of transactions) and the challenges (for example, cybersecurity, the digital divide) of cashless economies.
- Provide policy recommendations: Recommendations are for the betterment of digital payment systems, increase in financial inclusion, and more effective management of money supply in cashless transition.

2. Literature Review

A. The Rise of Digital Payments

The unparalleled growth of digital payment systems in India, in fact, powered by technological innovation, has witnessed the induction of Unified Payments Interface (UPI) - an instantaneous payment-mode interface linking various bank platforms. Digital payments in India have more than doubled in the last five years according to the Reserve Bank of India (2019). UPI itself transacted 45.6 billion payments in 2020. Growing smartphone penetration and internet connectivity have further driven the development of digital payment systems with the adoption of mobile wallets and peer-to-peer transfer systems becoming mainstream in urban and rural areas alike (Chakrabarty, 2017).

B. Money Supply and Digital Payments

A number of studies have concluded that a decrease in cash circulation will shift the money supply. Dube (2020) elaborates that while digitally paying, consumers and businesses will require less cash—the major portion of M1, resulting in a fall in the growth of currency in circulation (CIC). This would imply a higher demand for speed in transactions, as more of them would occur sooner through the efficiencies that digital payments enable. However, Basu & Ghosh (2018) disagree that digital payments can reduce the dependence on cash, stating that the economic effects on M2 and M3 are not very clear because they depend on how reinvestments and savings are made in the banking system.

C. Monetary Policy in a Cashless Economy

The monetary policy thus gets complicated in a cashless economy. Where the paper currency notes available in our country are few in number, the RBI has fewer strokes to directly affect the money in circulation. Dube (2020) argues that, in a country where digital payments dominate, the incorporation of indirect measures of controlling the liquidity will be favoured, such as open market operation, by the central bank. Also, given the fact that digital payments are going to increase transparency in transactions, the RBI will be much better also at tracking money flow and regulating much more accurately, but it raises privacy and cybersecurity issues as well.

D. Financial Inclusion and the Cashless Economy

What really stands most importantly is the possibility of bringing financial inclusion as a benefit out of digital payments. Millions of Indians without access to the formal financial system now gain access to mobile wallets and other digital channels, thanks to dramatic improvements in financial access in India (World Bank, 2019). The flip side of this prospective benefit is uneven access to digital infrastructure in most Indian rural areas. Thus, while mobile penetration remains on the lower side and internet connectivity is scanty, rural India may fall behind urban areas in the adaption of digital payments.

E. Digital Payments and Their Impact on Money Supply

1) Understanding Money Supply in the Indian Context

In economic terms, money supply refers to the total amount of money available in an economy. It is divided into various categories:

- M1: Currency in circulation + demand deposits + other liquid assets.
- M2: M1 + savings deposits.
- M3: M2 + large time deposits.

For the purpose of this paper, we will focus on M1, which directly correlates with physical currency usage and digital payment transactions.

2) Impact on M1: Reduced Physical Currency in Circulation

The Indian economy has witnessed a decline in the growth rate of currency in circulation (CIC) with the burgeoning growth of digital payment systems.

The highly publicized demonetization drive in 2016, which pulled ₹500 and ₹1000 notes out of circulation, gave a huge push towards digital transactions. After demonetization, many businesses and individuals shifted to electronic payment systems, which have gathered momentum with the growth of the UPI platform. As a result, M1 has shown slower growth relative to previous periods when cash was dominant (RBI, 2017).

According to the RBI data, before the boom in digital payments, M1 (currency in circulation) was growing at an average of 12% annually, and its growth slowed to about 6% in the years following demonetization. This represents the change of public preferences away from physical currency toward digital payment mechanisms.

3) Effect on M2 and M3: Broader Impacts on Banking

The reduced physical currency affects M1 directly, whereas by being a major push towards digital payments, the latter also influences M2 and M3. By easing the clearing and faster movement of funds in bank accounts, digital channels facilitate efficient transactions. Still, this gain in efficiency poses the question of whether that extra money is going into saving or investment in the formal banking channel, so short-term effects on M2 and M3 will largely depend on that.

This research by Dube (2020) states that digital payments do facilitate the transfer of funds from cash into more productive channels such as savings accounts and mutual funds. M2 might receive a slight upward push if savings deposits are higher due to such transactions, thereby also affecting bank behaviour as regards lending.

F. Background of the Study

India's financial landscape has considerably evolved due to the digital payment system, which has determined how money exchanges hands through the economy. A "cashless economy" has caught significant attention in recent years due to government initiatives like Digital India and Pradhan Mantri Jan Dhan Yojana (PMJDY), and the marketing of mobile payment institutes like UPI, Paytm, and Google Pay. Demonetization in 2016 has enabled these initiatives to make an aggressive push for establishing digital systems that are more efficient, transparent, and secure for India.

Digital payment evolution has opened several new gears on monetary policies in India with regard to money supply and so on. The money supply that is analysed in terms of M1, M2, and M3 becomes crucial with regards to economic activities and the RBI policy decisions thereof. M1 comprises currency in circulation (CIC), demand deposits with the banking system, and other assets easily convertible into cash or highly liquid assets. The most commonly affected by a shift in digital payments is M1, as physical currency is increasingly out of demand. As digital payments continue to gain traction, further aspects emerge, thereby affecting M2 and M3.

The last ten years have seen a rapid rise in digital payments. The Unified Payments Interface (UPI), launched in 2016 by the National Payments Corporation of India (NPCI), has created a paradigm shift in payments by making possible real-time interbank settlement between peer-to-peer and person-to-merchant transactions. Following demonetization in November 2016, the digital-payments inclination received a fillip as both consumers and businesses sought alternatives to the now-demonetized ₹500 and ₹1,000 notes. During the economic confinement of the COVID-19 pandemic, when physical use of cash declined and people turned toward contact-less transaction methods, digital payments took on even greater importance.

This study attempts to narrow the existing literature gap by analysing the systematic way through which digital payments impact the money supply in India, while evaluating possible implications for monetary policy, financial inclusion, and the economy at large.

G. Financial Inclusion in a Digital Economy

1) The Role of Digital Payments in Financial Inclusion

One of the key achievements the digital payments revolution stands for in India is its potential to improve financial inclusion. Millions of Indians had little or no access to basic banking services before the advent of mobile payments. Today, mobile banking services of some kind are reaching more than 500 million people in India, and this number is steadily on the rise (World Bank 2019).

2) Challenges in Achieving Universal Financial Inclusion

Despite all the achievements towards financial inclusion, barriers remain. A major hinderance for many populations who have not yet fully enjoyed the benefits of digital payments are in the rural areas where internet access and smartphone penetration are very poor. According to the RBI (2017), financial literacy and awareness also become barriers for many people, especially for the elderly and others who have never been formally educated.

H. Challenges of a Cashless Economy

1) Security Concerns

With the boom in digital payment systems come the rising incidence of cybercrimes. After having made tremendous advancements in its cybersecurity protocols, the Indian banking system is still under threat from incursions, identity thefts, and frauds. Users are wary of sharing their financial transaction details due to data breaches and online scams. Therefore, the government and private parties must invest constantly in enhancing the cybersecurity framework for user protection.

2) Digital Divide

Most digital payments have found their roots in urban settlements, leaving a vast divide between the rural and urban populace. The need for cash among those from rural settlements has been due to lack of access to smartphones and internet connectivity, in addition to the issue of bank branches. The RBI-defined Financial Inclusion Index states that rural areas are still on the back foot with regard to the establishment of digital payment infrastructure.

I. Policy Recommendations

1) Enhancing Digital Infrastructure

For India, cash-lessness is only going to become a reality if heavy investments are made in digital infrastructure, especially in rural areas. Initiatives like expanding internet coverage, subsidizing smartphones, and free digital literacy programs can help in bridging the gap of digital payments adoption.

2) Promoting Cybersecurity

It is mandatory for the government to develop some stringent rules concerning cybersecurity while ensuring that people are sensitized to the safe practices in digital payments. By bringing the government and the private sector to work together toward a common goal, digital infrastructure security will be strengthened, which in turn should lead to great confidence in consumers to make transactions over digital platforms.

3) Financial Literacy Campaigns

Ensuring that all segments of society can benefit from digital payment systems would require the launching of extended financial literacy programs, especially for the rural areas. There should be an awareness program to teach people how to use digital platforms securely and how these tools can assist in improving their financial well-being.

3. Conclusion

India's transition towards a cashless economy, propelled by the rapid uptake of digital payments, has an additional impact on the money supply of the economy. The transfer from cash to digital payments is directly impacting M1 and rebuffing the growth of currency in circulation by creating new avenues for the expansive money supply. While the cashless economy has contributed to far-reaching financial inclusiveness, it also brings further challenges like cybersecurity threats and digital exclusion for rural areas.

Policymakers must foster an environment conducive to digital payment adoption while protecting the security and inclusivity of these systems. With proper investment in infrastructure and education, India can continue working toward a more efficient cashless economy benefiting all its citizens.

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