

Is Digital Financial Payment fuelling inflation? Evidence from India's Digital Payment Boom

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ABSTRACT

This paper examines the linkages between digital financial transactions and inflation in India. Using data on the Unified Payments Interface (UPI) transactions, for both volume and value, the study finds that there is a stronger relationship between the volume of transactions and inflation as compared to the value of transactions. The study also finds that the correlation is higher for non-food inflation as compared to food inflation. Lastly, the results of the paper illustrate that the relationship between UPI transactions and inflation was higher for urban India as compared to rural India. These results provide important policy implications for financial regulators, consumers, as well as other stakeholders in the market ecosystem.

Keywords: digital, financial, inflation, transactions

1. Introduction

Perhaps the most controversial macroeconomic shift of India lies not simply in the evolution of digital payments, but in how this shift may be affecting inflation dynamics. Today, India is chasing after an extraordinary experiment marked by a ‘two-speed’ trajectory: while cash remains the main mode of payment, especially for small street expenditures, a singular digital payment framework, Unified Payments Interface (UPI), now processes a major share of volumes. By December 2025, payments made through UPI rose to 21.63 billion transactions, amounting to ₹27.97 lakh crore in just a single month.¹ Over the long term, data from official sources has revealed that UPI transactions have risen from 92 crores in FY2017-18 to a

¹National Payments Corporation of India (NPCI) data as reported by Business Standard, “UPI ends 2025 strong with record 21.63 bn transactions worth ₹27.97 trn,” January 2, 2026. https://www.business-standard.com/industry/news/upi-ends-2025-strong-note-record-transactions-december-126010100687_1.html

staggering 13116 crores in FY2023-24². This suggests that digital payments are steadily becoming an element of everyday routine rather than a niche technology.

The starting point for this transition was the 8th of November, 2016, when the Indian Government demonetised the ₹500 and ₹1,000 currency notes. This sudden policy created acute constraints in liquidity, never ending queues at banks and ATMs, and significant disruption of cash-based payments. As a consequence, households and firms began shifting to already existing modes of digital payments. Demonetisation did not, in itself, create digital payment infrastructure such as UPI or mobile wallets, but rather, it simply boosted the adoption by reducing cash-based behavioural inertia and normalising digital payments. Accordingly, 2016 marks a fundamental turning point in India's payment ecosystem, not the creation of new technology altogether.

The intriguing puzzle here is that this 'payment revolution' has implications that extend beyond convenience, it has the potential to impact the velocity of money, discovery of prices, and the monetary policy transmission mechanism. From a behavioural economic lens, digital transactions significantly reduce the hassle of cash-based payments, basically remove mental accounting constraints, and hasten the pace of the transaction. As a result, individuals are more likely to spend more when paying digitally than when using cash. India's inflation has also shown significant episodic movements, falling to multi-year lows in 2025, raising a serious question: Does digitisation boost demand, and thus inflation, or does it dampen inflation by improving competition, compliance, and efficiency?

Digital transactions now process a substantial amount of household level commerce. The average retail inflation declined from 5.4% in 2023-24 to 4.6% in 2024-25,³ in alignment with RBI's future projection of 3.7% for 2025-26.⁴ This study takes into account both inflationary channels, where lower friction in transactions may increase demand and velocity of money, and disinflationary channels, including greater price transparency and improved tax compliance. Digital transactions are treated not simply as a fintech trend but as an institutional shift, with UPI acting like a widespread payment infrastructure which is capable of influencing inflation dynamics.

² Press Information Bureau, Government of India, "UPI Transactions Grew from ₹1 Lakh Crore in FY 2017-18 to ₹139Lakh Crore in FY 2022-23," December 2023. <https://www.pib.gov.in/Pressreleaseshare.aspx?PRID=1987764>

³ Press Information Bureau, Government of India, "Government and RBI have taken key monetary and fiscal measures to control inflation and mitigate its impact on common citizen," July 2025. <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2146815>

⁴ DD News / Reserve Bank of India, "RBI reduces inflation forecast to 3.7% for 2025-26," June 2025. <https://ddnews.gov.in/en/rbi-reduces-inflation-forecast-to-3-7-for-2025-26/>

The connection between digital payments and inflation is emerging as a controversial but highly relevant concept in macroeconomic literature, especially for developing economies which are currently undergoing financial transformation. Standard monetary theories interlink inflation and the growth of money supply, its velocity, and output. While new payment mechanisms are not responsible for a direct change in money supply, financial innovation in transaction technologies do alter money demand and the effective velocity by reducing the cost of transactions and increasing efficiency in payments (Alvarez & Lippi, 2009). This opens us a new path through which inflation dynamics may be subject to change even under a normal monetary regime.

Since digital payments reduce the pain of paying, and weaken cash-based mental accounting, marginal propensities to consume increases. This implies that mass adoption of digital, frictionless, payment systems can cause demand-side inflationary pressure, specifically in retail-based consumption industries, such as food and transport, industries that dominate CPI weights in developing economies like India. Simultaneously, opposing theories suggest that disinflationary forces emerge from digitisation of payments through better transparency in prices, more intense competition, lower costs in handling of cash, improved tax compliance, and smoother transfer mechanisms. Therefore, the literature, in this case, does not show or predict a single, unidirectional effect, but rather it calls for a structural re-evaluation of inflation channels, whose net impact is ambiguous and specific to context.

This paper addresses the question empirically by connecting India's sharp rise in digital transactions to economic growth and inclusivity, with a major focus on inflation dynamics. The analysis includes the period between 2016-2025, capturing the acceleration in retail digitisation and the upscale of UPI after 2016. It also makes use of monthly and annual digital payment indicators derived from National Payment Corporation of India's (NPCI) product ecosystem, together with inflation measures utilised within India's macroeconomic framework, i.e. Consumer Price Index (CPI), and Reserve Bank of India's (RBI) inflation assessments and projections.

We find that higher volume of transactions is closely associated with high inflation levels, however the associated is muted with regard to the value of transactions. Moreover, this degree of association is higher with regard to non-food inflation as compared to food inflation. Not surprisingly, the degree of association between digital payments and inflation is higher for urban India, compared to rural India. This study contributes specifically to the growing literature on digital financial inclusion. Moreover, it also contributes to the growing literature on inflation, by specifically examining how inflation can be affected through digital payments.

2. Literature Review

The swift growth of digital payment mechanisms has caused a major debate within macroeconomic literature with regards to whether payment innovation only improves transactional efficiency or does it completely reshape inflation dynamics and economic inclusion. Early literature treated digital transactions only as a tool for inclusion and modernisation, but recent literature has started to position payment digitisation within monetary transmission mechanisms, consumption theories, and complete transformation of market institutions. Based on all theoretical and empirical literature, there is one common insight: digital payments influence inflation, but not directly through changes in money supply. It does this through changes in money demand, velocity in transactions, formation of expectations, and economic participation.

Literature beyond payment systems themselves, delving into broader financial innovation also gives a cautionary insight into macroeconomic adjustment. Beck, Chen, Lin, and Song (2016), used cross country data from 32 economics and found that financial innovation fastens banking growth but also increases systematic fragility during times of crises. Although it is not specific to payments, their findings do suggest that a rapid financial transformation can amplify volatility in credit and demand cycles, complicating the management of inflation. Expansion of digital payments, especially when integrated into broader financial ecosystems, may thus introduce macroeconomic risks along with gains in efficiency.

Furthermore, another set of literature emphasises structural channels through which digitisation can dampen inflationary pressures. Naritomi (2019) shows that traceability of transactions enhances tax compliance and economic formalisation. The author studied Brazil's Nota Fiscal Paulista program and found that firm sales increased by more than 21% along with higher tax revenues.⁵ While formalisation may initially lead to an increase in measured prices, improvements in productivity and scale efficiencies cause medium-term disinflation. The findings imply that digitisation can lead to time dependent effects on inflation.

A major mechanism that links digital payment to inflation is money demand and money velocity. Ulfah and Suriani (2024) studied monthly Indonesian data from 2009-2023 using an Autoregressive Distributed Lag (ARDL) framework. They found that e-money significantly reshapes monetary behaviour. According to their findings, e-money reduces money demand in the short run but is increases it in the long run, with inflation itself being statistically insignificant in changing money demand. These results imply that innovation in payment mechanisms alters

⁵Naritomi, J. (2019). Consumers as Tax Auditors. *American Economic Review*, 109(9), 3031–3072. <https://www.aeaweb.org/articles?id=10.1257/aer.20160658>

monetary transmission irrespective of observed price levels. A short run reduction in money demand means higher money velocity, potentially amplifying demand pressures without expansion in money supply. On the other hand, long run stabilisation means that inflationary consequences of digitisation may be transitional rather than permanent.

Supporting evidence is provided by Muslikhati and Aprilianto (2022), who directly modelled outcomes in inflation using Indonesian data. Their results show heterogenous inflation effects across various payment industries: e-money reduces inflation, using debit-cards increases inflation, and inflation is unaffected by credit cards. This difference shows that outcomes in inflation do not depend solely of digitisation but on behavioural usage patterns and elasticity in transactions. Improvements in efficiency, linked with electronic payments may simultaneously generate disinflationary cost effects while facilitating higher consumption responsiveness.

Studies from developing economies reinforce the macroeconomic relevance of payment systems. Omubo-Pepple Stella Nathan (2025), used Nigerian data from 2012-2021. It was found that payment indicators can actually explain a major share of inflation variation, with Automated Teller Machine (ATM) and Point of Sale (POS) transactions exerting statistically significant positive effects on inflation. This implies that payment accessibility and transaction frequency have an effect on aggregate demand conditions. However, the study also suggests that the effects on inflation depend on institutional maturity and transactional context rather than digitisation alone. In totality, studies from emerging markets challenge the notion that payment modernisation is inflation neutral.

India based literature addresses an important behavioural dimension which links digital payments to inflation dynamics. Ghosh and Paul (2023) found that growth of digital transactions is positively related with consumer confidence, especially in the post pandemic India. This means that digitisation of payment mechanisms leads to strengthening of consumer expectations. The rising consumer sentiments suggests a latent demand channel through which digital payments can influence price dynamics, particularly in economies driven by consumers. Rooj and Mehta (2025) show that increase in usage of digital payment mechanisms is associated with greater inflation expectations in households, even when the actual CPI declines. This finding is pertinent in India's inflation targeted system, where expectations anchoring is vital to the effectiveness of monetary policies. Moreover, increased frequency of transactions may heighten price salience, allowing perceived inflation persistence independent of actual price movements. The meaning is that digital payments can affect inflation through formation of beliefs as much as through actual economic activity.

Recent literature links digital payments to inclusive economic growth as well. Mritunjay and Singh (2025) analysed India between 2015-16 and 2024-25. They found that financial inclusion

drives economic growth to a great extent, while intensity of digital payments shows no major short-run macroeconomic impact. Their findings suggest that digitisation effects macroeconomic outcomes gradually through institutional integration rather than immediate expansion in demand, meaning that inflation effects can emerge with lagged transmission. Cross-country evidence reinforces this. Birigozzi (2025) found that adoption of digital payment mechanisms significantly enhances economic growth through behavioural channels like financial literacy and reduced cost of transactions. It was observed that higher digital payment penetration increases GDP growth, consumption, and investment by reducing the friction while conducting transactions and improving financial transparency. These studies position digital payments as an institutional infrastructure which shapes economic participation rather than a mere technological upgrade.

Through the evidence of theoretical, country-specific, and cross-country studies, it is clear that digital payment systems have a number of mechanisms that affect inflation. The short-run mechanisms include the velocity of transactions, the cost of payments, and spending behaviour, which are demand-side pressures. The long-run mechanisms include efficiency, transparency, formalization, and fiscal capacity, which are disinflationary. The net effect of digitization on inflation, according to existing literature, is therefore ambiguous.

Despite increasing interest, the existing literature shows two clear gaps. Firstly, only few studies analyse digital transactions, inflation expectations, and realised CPI inflation together within a single research paper. Secondly, India's UPI based digitisation, marked by a staggering transaction frequency, is under-examined in comparison to card-based systems of digital payments, prevalent in majority of the nations. By combining NPCI transaction indicators with CPI inflation and RBI assessments over 2021-2025, this paper seeks to address those very gaps. It treats digital payments, not merely as a fintech innovation, but as an institutional transformation, capable of influencing inflation dynamics through multiple, potentially offsetting channels.

3. Data & Descriptive Statistics

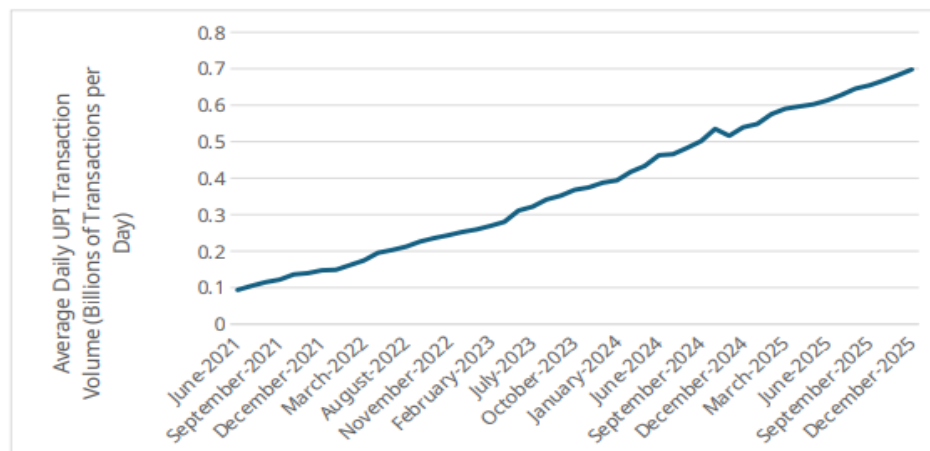
To undertake this study, we need data on two parameters, namely, data on digital financial transactions and data on inflation. The data on digital financial transactions is sourced from the NPCI and the data on inflation is sourced from the database on India economy from the RBI. Both of these datapoints are at a monthly level. The data on the digital payments from the NPCI is from June 2021 to December 2025, while the data on inflation is available from a much earlier period, we restrict our data on inflation within the same time period as mentioned earlier to ensure comparability.

Digital Payment Data

The data on digital payments is recorded in the form of volume and value. Volume denotes the magnitude in terms of *how many* transactions were fulfilled in a particular month. Similarly, value denotes, the intensity in terms of *how much* transactions were done in a particular month. Figure 1 denotes the trend in average monthly transaction volume from June 2021.

The trend visible in the daily average UPI transaction volume shows a consistent structural expansion in the adoption of digital payment mechanisms across India. Over the observed period, daily average transactions recorded a mean level of 376 million transactions, with a minimum of 93.58 million transactions recorded in June 2021 of the sample and a maximum of 697.89 million transactions recorded in December 2025 of the sample. This corresponds to a compound annual growth rate (CAGR) of around 65%, which reflects the quick diffusion of digital payment mechanisms into daily, low-value consumption activities. Seasonal trends are also present in the data. There are recurring increases during October-December, which coincides with the festive consumption cycle of India led by Diwali-related retail spending, travel, and gifting expenses, as is visible across the years with average daily transaction value increasing from ₹248.84 billion in October 2021 to ₹266.73 billion in December 2021, from ₹390.83 billion in October 2022 to ₹413.54 billion in December 2022, from ₹553.47 billion in October 2023 to ₹588.05 billion in December 2023, from ₹758.01 billion in October 2024 to ₹749.90 billion in December 2024, and from ₹879.93 billion in October 2025 to ₹902.17 billion in December 2025, indicating a marked year-on-year festive season surge.

Figure 1: Average Daily UPI Transaction Volume (Billions of Transactions per Day), India: June 2021 – December 2025



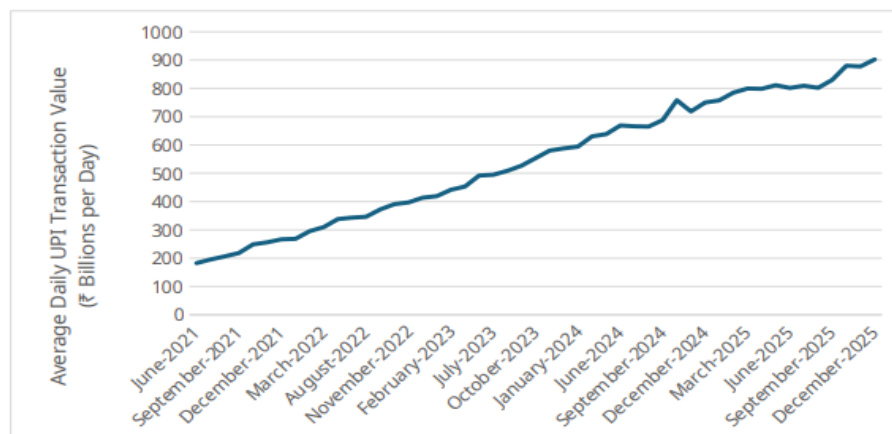
Source: Computed by the author using data obtained from the NPCI's UPI Product Statistics

Furthermore, subtle increases are also visible around March, coinciding with fiscal year-end settlements, disbursements of salary, and business payments, where the average daily value rises each year from ₹309.87 billion in March 2022 to ₹453.21 billion in March 2023, ₹638.18 billion in March 2024, and ₹799.10 billion in March 2025, indicating a consistent annual trend. On the other hand, slower momentum is observable in May-July due to seasonal consumption moderation and economic adjustments related to the monsoon. This indicates that seasonal consumption has a significant impact on the overall trend in terms of volume of UPI payments in India.

Value of Digital Payments

The value of digital payments represents the financial value of the transactions undertaken by UPI across India. The growth of average daily transaction value reinforces the scale of India's payment digitisation while also revealing important nuances in behaviour. In the research period, the average daily value of UPI transactions was found to be ₹545.57 billion, ranging from a minimum of ₹182.46 billion recorded in June 2021 to a maximum of ₹902.17 billion recorded in December 2025. This means that the estimated CAGR was around 49%, which is slower than the growth observed in transaction volume. Seasonal trends are similar to those witnessed in volume data, with marked increases during October-December, secondary increases around March, and moderation during mid-year months. The divergence between faster growth in volume and relatively slower growth in value implies a gradual decline in the average transaction size, meaning that UPI is increasingly substituting cash in daily micro transactions rather than simply facilitating payment digitisation.

Figure 2: Average Daily UPI Transaction Value (₹ Billions per Day), India: June 2021 – December 2025



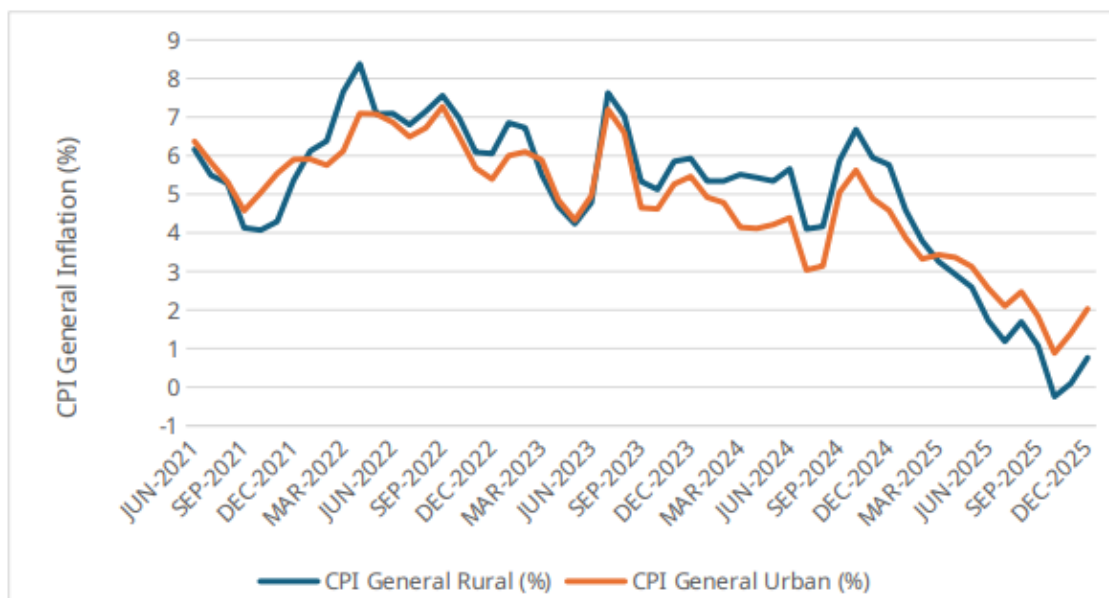
Source: Computed by the author using data obtained from the NPCI's UPI Product Statistics

Inflation

Inflation is defined as the general rise in the price levels for goods and services in the Indian economy. Inflation is measured by the consumer price index (CPI). CPI is a basket of goods that resembles the general consumption basket for most households in that particular economy. The CPI is an index which is measured and tracked at a monthly level. The month-on-month increase in CPI is defined as inflation (which is depicted in the form of percentages). For the Indian economy, CPI is also measured separately for the food category; this is called the CPI food index. For our study, we use data from both the general CPI level and the CPI food levels. In essence, we consider both general and food inflation. We also compute and compare CPI across both rural and urban India. Similar to the digital payments data, inflation is also measured at a monthly level. Figure 3 denotes the general inflation trend for rural and urban India.

The trajectory of General CPI inflation in both rural and urban India shows a distinct long-term disinflationary trend alongside cyclical volatility. During the period 2021–2025, the average rural inflation was 5.38%, which ranged from a maximum inflation of 8.43% to a minimum inflation of -0.25%. On the other hand, urban inflation averaged slightly lower, at 5.02%, reaching a maximum of 7.96% and a minimum of 0.88%. Structurally, rural inflation witnessed a 90% reduction from the start till the end of the study period, while urban inflation witnessed a 74% reduction, indicating a stronger disinflationary adjustment in rural price dynamics.

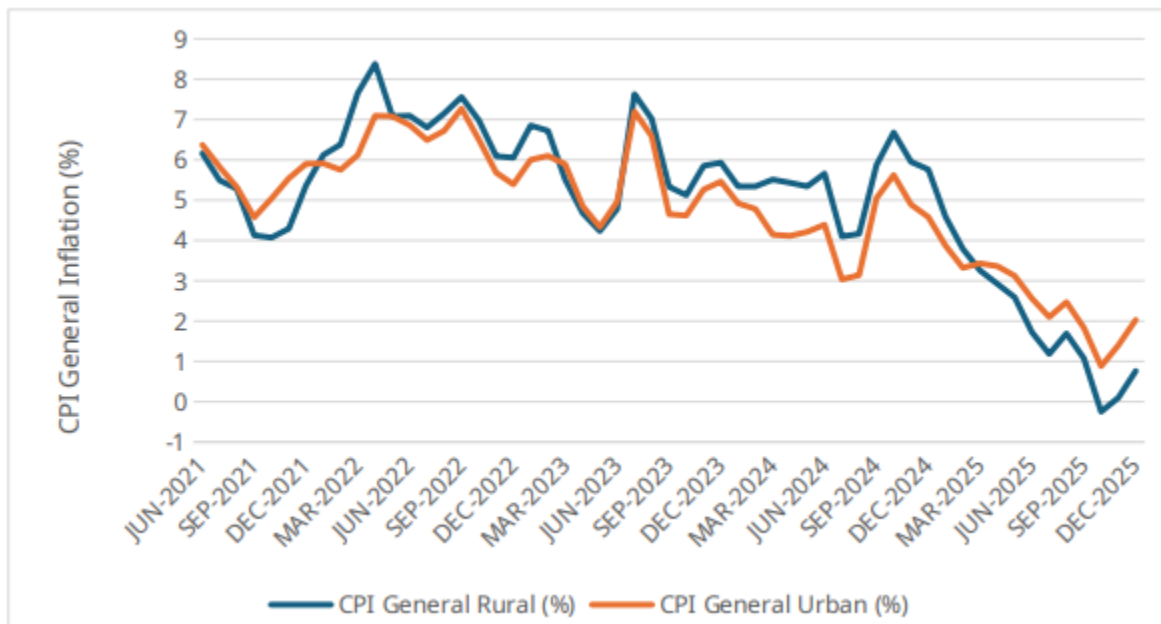
Figure 3: CPI General Inflation (%), Rural vs Urban India: June 2021 – December 2025



Source: Computed by the author using data obtained from the RBI's Database on Indian Economy

Seasonal movement across rural and urban data is visible as well, specifically during mid-year monsoon periods, when uncertainty of food supplies raises prices, and during October-November which are festive months, where consumption demand temporarily strengthens inflation, as was visible with the combined CPI increasing from 4.35% in June 2022 to 7.79% in October 2022, from 4.81% in June 2023 to 7.44% in October 2023, and from 5.10% in June 2024 to 6.21% in October 2024, showing a repeated seasonal trend. Rural inflation shows slightly higher volatility as compared to urban inflation due to greater dependence on agricultural price cycles and supply shocks. The graph also illustrates the core movement of both rural and urban inflation, thereby denoting no significant departure between the two geographical areas.

Figure 4: CPI General Inflation (%), Combined India: June 2021 – December 2025



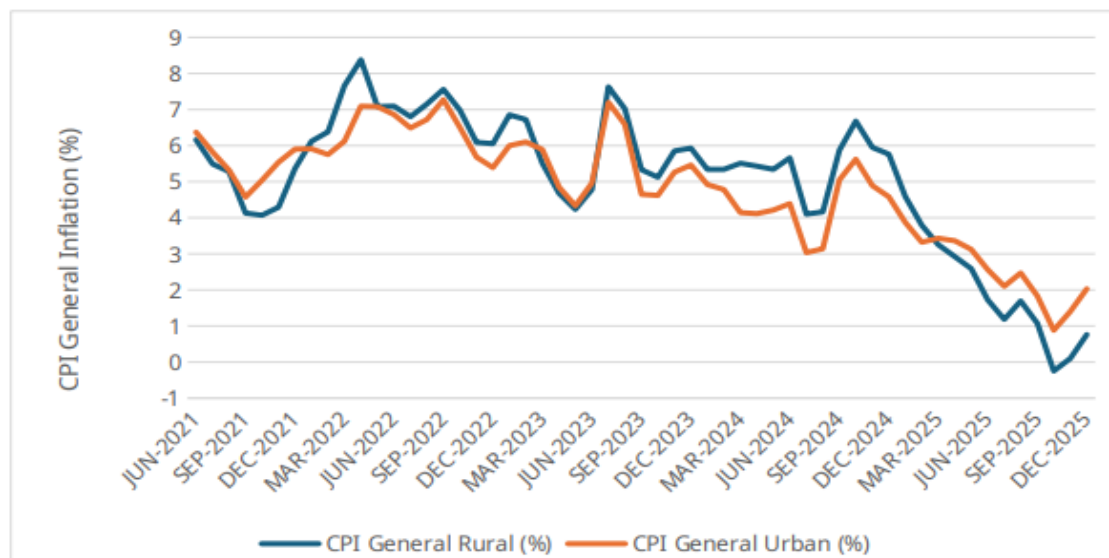
Source: Computed by the author using data obtained from the RBI's Database on Indian Economy

The combined General CPI inflation shows India's transformation from an economy marked by high inflation towards relative price stability over the course of the past decade. This index witnessed an average inflation rate of 5.18%, ranging from a maximum of 7.79% and a minimum of 0.25%. There was an overall 79% reduction in headline inflation. Cyclical peaks were observed during 2021–2022, due to pandemic-related disruptions in supply, shocks in commodity prices, and reopening pressures in demand. Seasonal inflation persistence was most visible during monsoon months of June–September and during festival-driven demand cycles, with inflation rising from 4.35% in June 2022 to 7.79% in October 2022, 4.81% to 7.44% in

2023, and 5.10% to 6.21% in 2024, showing a repeated seasonal inflation trend. The downward movement in the long run supports the argument that structural reforms, inflation targeting by the RBI, improvement in supply chains, and an increase in digital transactions' transparency may have together strengthened price stability mechanisms.

Food inflation has been made a part of this study because it has a disproportionately large role in the shaping of India's overall inflation dynamics. Unlike general CPI, which shows a broader basket of goods and services, food inflation is highly sensitive to factors from the supply side such as variation of monsoon patterns, agricultural output, constraints in storage, and inefficiencies in distribution. As we know, food articles constitute a major part of household expenditure, particularly in rural India, fluctuations in prices of food directly impact real incomes and patterns of consumption. Furthermore, food inflation is marked by higher volatility and stronger seasonal trends as compared to general inflation, making it a vital factor to understand short term movements in inflation. Since digital payments are being used more and more for frequent, small value transactions, especially in food consumption and retail consumption, studying food inflation separately facilitates a more precise analysis of how changes in transaction behaviour may interact with consumption categories. Therefore, by including consumer food price inflation, we ensure that the study captures both the structural as well as cyclical aspect of inflation in a comprehensive manner.

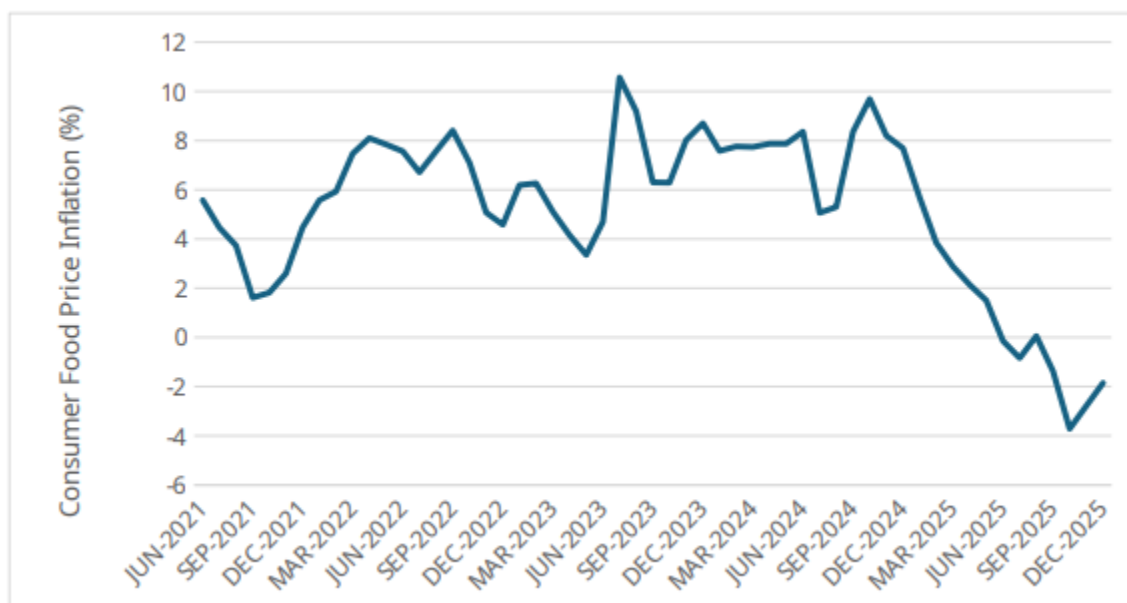
Figure 5: Consumer Food Price Inflation (CFPI, %), Rural vs Urban India: June 2021 – December 2025



Source: Computed by the author using data obtained from the RBI's Database on Indian Economy

Consumer food price inflation shows substantially greater volatility than general CPI inflation, indicating the major role of supply shocks in India's price dynamics. Rural food inflation showed an average of 5.63%, ranging from a maximum of 11.07% to a minimum of -3.82%, whereas urban food inflation showed an average of 5.74%, ranging from a maximum of 11.41% to a minimum of -3.60%. Overall, by the end of the study period, rural food inflation witnessed a decline exceeding 122%, while urban food inflation witnessed a decline of roughly 108%, marking a transition from persistent food inflation to episodic food deflation. Seasonal trends are also visible, with highs during monsoon disruptions and post-harvest supply adjustments, whereas declines were observed during periods following improved agricultural output and policy interventions such as the release of buffer stocks.

Figure 6: Consumer Food Price Inflation (CFPI, %), Combined India: June 2021 – December 2025



Source: Computed by the author using data obtained from the RBI's Database on Indian Economy

The behaviour of the CFPI trend over the years in India demonstrates that there was an instance of high volatility, together with the gradual process of disinflation throughout the analysis period. In the interval starting from June 2021 until December 2025, the average level of combined food inflation was approximately 5.69%. In particular, the peak level of CFPI was about 10.57% recorded around mid-2023, while the lowest point was around -3.82% in late 2025, meaning that the degree of volatility was considerable and resulted from supply-side problems. Based on the data, one can identify certain patterns in consumer food price dynamics that relate to strong

cyclical and seasonal aspects. Thus, food price inflation tended to increase during the summer period because of supply problems, when agricultural products' supplies would be interrupted, and there would be a surge in perishable products' prices. As evidence, one can consider a steep jump from 3.28% to 10.57% in April and July 2023. Besides, high values of CFPI were also found in 2022 and 2024 when the index was in the range of 7-9%. Meanwhile, significant corrections happened towards 2025 when the index was falling and finally turned negative. The magnitude of fluctuation in food inflation is much higher than that of general CPI, supporting the hypothesis that food prices are still the main cause of short-term inflationary pressure in India. In sum, it shows that although food price inflation stability has improved significantly, it is still largely driven by seasonality and uncertainty on the supply side.

In this paper, the main objective is to study the relationship between digital payment activity and inflation by comparing the growth rates of UPI transactions with general inflation and food inflation. Instead of utilising absolute levels of transaction volume and value, our analysis primarily focuses on the growth rates, because inflation in itself is measured as a rate of change in prices over a period of time. By using growth rates, conceptual consistency is ensured and it also facilitates a more meaningful comparison between variables that capture changes instead of levels. Absolute transaction values would depict structural expansion of the payment system, but growth rates depict short term fluctuations, momentum, and behavioural responses, which are more relevant factors to analyse inflationary pressures. Fittingly, our study analyses a series of correlations, which include the relationship between UPI volume and value, the growth rate of transaction volume of general CPI inflation, the growth rate of transaction volume and food inflation, and the growth rate of transaction value and both general CPI and food inflation. These correlations are used to understand whether increases in intensity of transactions are related with corresponding movements in inflation, thereby giving us an empirical insight into the means through which digital payments may influence price dynamics.

4. Results and Analysis

The empirical results of the study, based on the correlation values computed, reveal the following important results: Firstly, a strong positive correlation exists between the UPI transaction volume and transaction value, which indicates that the growth of digital payments in India is not only broad-based but also intensive, with an increase in the number of transactions being accompanied by an increase in the transaction value. Secondly, the correlation between the growth rate of UPI transactions, both in terms of volume and value, with overall inflation as measured by the Consumer Price Index (CPI) inflation rate is found to be weak and relatively less significant, which indicates that the sharp rise in the growth of digital payments in India does not directly or immediately result in an increase in the overall rate of inflation in the country.

Thirdly, the correlation between the growth rates of UPI transactions and consumer food price inflation (CFPI) is also found to be weak, which indicates that food inflation in India seems to be driven primarily by supply-side factors, including weather conditions and agricultural output, rather than the growth of transactions. Taken collectively, these findings suggest that, although digital payments have a substantial impact on the nature and extent of transactional behaviour and economic participation, the impact on inflation is limited and indirect, and operates through more complex channels.

Furthermore, the correlation analysis also reveals some important differences between volume and value-based relationships with inflation. The correlation between general inflation and growth rate of transaction volume is 0.2364, which is higher than that between general inflation and the growth rate of transaction value, i.e. 0.1858. For food inflation, the correlation between volume and CFPI is 0.1176, which is also higher than that between value and CFPI, i.e. 0.0705. This implies that the transaction frequency, i.e. volume, has a stronger association with inflationary movements than the transaction intensity, i.e. value. Additionally, when we compare across inflation categories, the correlation of UPI growth with general inflation is higher than the correlation of UPI growth with food inflation, which implies relatively weaker links with the dynamics of food prices. Generally, volume has a stronger correlation with both general and food inflation as compared to value, and this is true for both rural and urban India. The correlation between UPI growth and inflation, both in the case of volume and value, is seen to be higher in urban areas as compared to rural areas, which means that the digital payment activity has a relatively stronger association with movements in prices in the more monetised urban economies driven by consumption.

The correlation patterns observed can be justified through the structural as well as behavioural changes in the consumption and digital adoption in India. One major insight was that transaction frequency matters more than transaction value, and this is consistent with UPI's nature as a high frequency, low value payment mechanism that is made for everyday consumption. From the evidence provided by the results of the Household Consumption Expenditure Survey (HCES) 2022-23 carried out by the National Sample Survey Office (NSSO), it is evident that the percentage of food in the total consumption expenditure has reduced significantly and now accounts for around 46-48% in rural areas and 39-41% in urban areas. ⁶Historically, food was the largest constituent of household consumption, but now, with incomes rising, urbanisation, and diversification of demand, the spending on services and non-essential items has increased. This

⁶ Ministry of Statistics and Programme Implementation (MoSPI) / National Sample Survey Office (NSSO), Household Consumption Expenditure Survey (HCES) 2022-23, Government of India. https://www.mospi.gov.in/sites/default/files/publication_reports/Factsheet_HCES_2022-23.pdf

transition explains why the correlation with general inflation is stronger than that with food inflation. UPI also remains more pertinent in urban India as compared to rural India due to greater internet penetration, greater smartphone access, higher per capita income, and better digital infrastructure. This means that the urban consumer will be involved in more digital transactions for a wider range of products and services, and this will help to reinforce the relationship between transaction growth and inflation. In contrast, rural consumption patterns are still somewhat more traditional and are heavily influenced by cash-based and necessity-driven expenditure, especially on food items. As such, this helps to provide a logical explanation for the results that were observed in this study.

5. Conclusion, Policy Implications, & Limitations

Considering the rapid digitalisation of the Indian economy, especially through the adoption of the Unified Payments Interface (UPI), the paper aimed at investigating the impact of the rapid increase in digital payment transactions on the rising inflation levels in the country. Using data on Unified Payments Interface transactions, Consumer Price Index (CPI), and Consumer Food Price Inflation (CFPI), the paper aimed at empirically investigating the relationship between digital transaction intensity and inflation. Based on the findings, the paper reveals three important findings: Firstly, the paper reveals a strong positive relationship between transaction volume and value; secondly, the paper reveals a weak relationship between UPI growth and inflation; lastly, the paper reveals an even weaker relationship between UPI growth and food inflation. The analysis is based on the data obtained from National Payments Corporation of India (NPCI) for digital transactions and the database from the Reserve Bank of India (RBI) for inflation, with a consistent time period from June 2021 to December 2025.

The results obtained by this study have significant policy implications. Although digital financial transactions, especially through UPI, have been found to contribute significantly to the promotion of financial inclusion, financial literacy, and the provision of easier access to goods and services, the potential long-run impact of these transactions on inflation cannot be entirely ignored. Although the results obtained by this study have shown that the impact of UPI on inflation is low, the growing frequency and ease of transactions may have a long-run impact.

Hence, it is important that the government is cautious about the growing high-frequency transactions through digital mechanisms. At the same time, given the low and indirect relationship between the growth rate of UPI and inflation, there is a strong case to be made for the promotion of the use of digital transactions. Such policies should aim at providing rural populations with access to digital infrastructure, improving access to the internet, and promoting technological literacy. Furthermore, it is also essential to promote awareness among rural populations, particularly in less digitally literate areas, about the risks involved in digital

transactions, such as overspending and financial mismanagement. This will help to maximise the advantages of digitalisation, as well as mitigate any potential risks to economic stability.

This study also has some limitations. First and foremost, the study would have been more insightful if state-wise figures on the volume and value of UPI transactions were also available. Such figures would have helped in a more in-depth study of the state-wise variations in the usage of digital transactions and would have been more effective in establishing a robust state-wise correlation between the impact of digital transactions and inflation. Secondly, while the scope of digital transactions is broad and covers a range of instruments such as debit cards, credit cards, and net banking, the study has focused on UPI as a representative form of digital transactions. While UPI has emerged as the most popular form of digital transactions in India, the study has been restricted to UPI only. Hence, in the future, studies could be extended to cover other forms of digital transactions and a more comprehensive understanding of the impact of different forms of digital transactions on the dynamics of inflation could be included. Moreover, it should be noted that this study only focuses on India, and therefore, the results cannot be generalized to other economies. Further research could explore this topic in other emerging economies to check if such relations also exist in other settings.

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