

UPI Digital Payment: A Macro-Economically Necessary Condition for India's Ambition of \$ 5 Trillion GDP

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Abstract: *In India, GDP is increasing to catch the figure of 5 trillion surely by 2025 as predicted since the consumption spending as a major part of GDP gets pushed upwards by the digital payment. The three units, Government of India, Reserve Bank of India and National Payment Corporation of India (NPCI) have been working in tandem with each other to develop a strong digital payment network that meets the real time payment needs of the people and Unified Payment Interface (UPI) has become that mechanism which boosts the acceptance of online payment in India. UPI has brought about such a boom in online payment trend during last 5 years that has created a macro-economically favourable condition for the Indian economy to reach its ambition. The present descriptive study uses different macroeconomic facts which show that half of consumption is to be made by online mode and consumption expenditure acquires 71% of GDP in 2022. UPI as most preferred online payment mode has captured 30% of value of GDP in India in 2021. Online payment has been capturing major portion of consumption leading to growth of GDP.*

Keywords: Digital Payment, 5 Trillion, UPI, Consumption, GDP, NPCI.

1. Background

Globally India is the fastest growing major economy among the other developed nation. This growth is measured on amount of GDP which is amount of final finished output produced within the territory of the country. According to the macro economic theory, value of Consumption (C), Investment (I), Government expenditure (G) and Net export (NX) are the major components of GDP. The multiplier effect of increasing investment and government spending are routed through net increase in consumption which ultimately leading to the increase of GDP. Easy accessibility to banking money through different modes of online payment has increased and affected private consumption expenditure to the greatest extent. UPI mode of online payment has changed the consumption payment landscape and majority of transaction is done through UPI. India has observed a sharp shift of customers from offline to online mode of payment after the shock of Covid-19 pandemic that has also accelerated the share of online payment on driving the consumption spending in India (**The Economic Times¹, 2022**).

2. Brief View of Past Literature

Review of literature on similar subjects gives an important insight into the problem identification of the research. The intensive analysis of past studies always substantiates the philosophical understanding of the research and helps researcher making proper inferences. The present study has attempted to analyse the different past literature for increasing qualitative understanding to understand research gap and noted few of them as follows:

Nambiar et al. (2018) has found that cashless payment mode does not take major part of consumer expenditure of public. Thus the study finds no significant effect of online payment mode on consumption expenditure.

Ravikumar et al. (2019) have shown that real GDP has significantly impacted by retail payment in short run but digital payment methods do not substantially impact economic growth in India in long run.

Sanghvi (2020) has revealed that digital payments do have major impact on GDP growth and debit card transaction has the significant impact on GDP.

Angamuthu (2020) has also stated that different digital payments like IMPS, Cards and RTGS, have positive impact in consumption i.e. purchase of goods and services. It is also asserted that both volume and value of Digital transactions in India have increased to support the growth of economy.

Roaj and Sengupta (2020) have empirically asserted in their study that digital payment system can better predict the private final consumption expenditure in India.

Kamal Ch. and Souparnika (2021) have described that QR scanner payment has encouraged more digital payment on consumption and post covid-19, such payment will help economy to bring back in a stable condition.

Tripathi et al. (2024) have covered the impact of UPI on Indian economic growth and in this respect they have found that UPI has strong impact on Indian economy. The outcome of the primary survey has also suggested UPI has brought about financial inclusion and contributing to reduction of black money.

3. Research Gap

From the excerpt of the literature review, it is found that a good number of researchers have focussed on the growth of GDP and different major digital payment methods in India and correctly viewed on the increasing pattern of digital payments. But none of them have attempted to explicitly show the complimentary relationship and positive condition of digital payment mainly UPI on the ambitious target of USD 5 trillion GDP in India. The present study has identified it as major research gap at current point of time when India's GDP is pegged at one of the highest growing GDP in the world .

4. Objective and Research Methodology

It is no doubt Indian economy is going to reach at an unexpected height which certainly covers GDP of USD 5 Trillion in very near future. There are many macroeconomic factors and among which the gigantic growth of online payment must surely be the one such economic condition that drives the Indian economy to touch ambition of 5 trillion GDP. Thus, this study takes the endeavour as its objective to capture descriptively the relevance of online payment in getting at that macroeconomic ambition.

The present study descriptively present different facts collected secondarily from different websites namely Bank of International Settlement, RBI, World Bank etc. Different news articles are used to substantiate the objective. Open access data is presented through statistical tables and diagram.

5. Analysis and Findings of Relevant Macro-Economic Facts in India

Different reports, news articles and researches have given different estimates, prediction and macroeconomic views on GDP, final consumption, online payment trends etc. This segment has consolidated such facts and analysed through following four sub-segments.

✚ 5.1 Facts on GDP Growth in India

Currently India is the fifth largest nations globally in terms of GDP which is predicted to reach \$ 5 trillion by 2025. It is predicted to be world's second largest economy by 2075 as per Goldman Sachs forecasts (**CNBC Article, 2023**). The following table shows the predicted GDP in 2075:

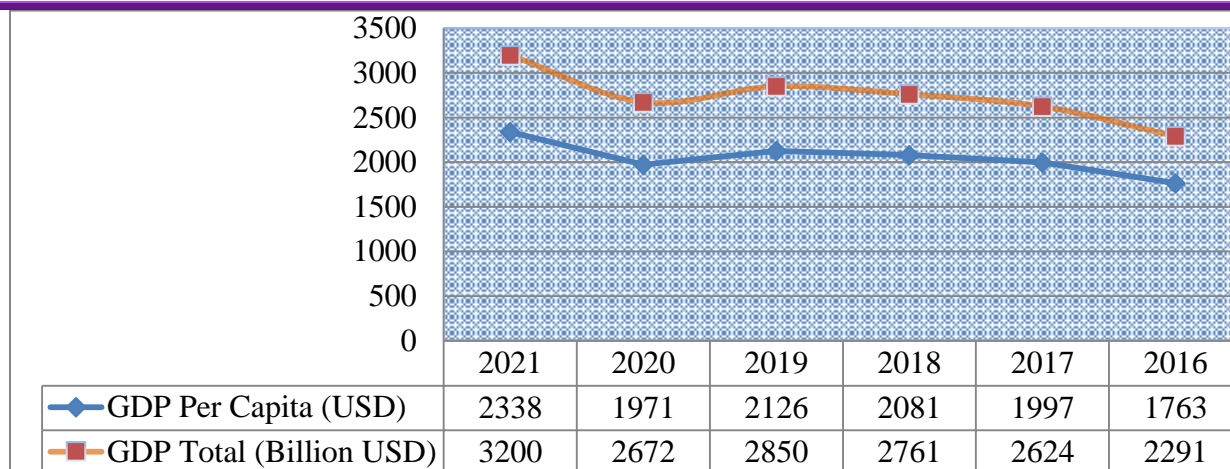
Table 1: Projection of GDP by 2075 (in USD Trillion)

GDP Prediction	China	India	USA	Euro Area	Japan
Value	57	52.5	51.5	30.3	7.5

Source: Goldman Sachs Research

In India, nominal value of GDP and per capita GDP are rising. It is published that India's GDP in nominal terms has crossed the 4 trillion USD according to the IMF data (**The Times of India², 2023**). The following figure 1 shows the increasing trend of GDP in India.

Fig 1: Trend of GDP in Per Capita and Total in India



Source: Bank of International Settlement¹

It is seen from the above table 1 and Fig 1 that India's GDP is rising and predicted to position at second place in global economy by 2075. Both in total and per capita of GDP shows positive steady increasing trend. Thus it can be stated that GDP can surely touch 5 trillion by the predicted near future i.e. 2025.

✚ 5.2 Facts on Final Consumption in India

According to the report of The Future of India Retail Payment, it is stated that India's household consumption is expected to hit at more than \$ 3 trillion within financial year 2026 (**Business Standard, 2023**).

Table 2: Trend of Final Consumption Expenditure

Year	Final Consumption (\$ in trillion)	Consumer Expenditure Per Capita (\$)	Final Consumption Expenditure as a % of GDP
2022	2.13	1,282	71
2021	2	1,203	72.3
2020	1.81	1,090	72.9
2019	1.89	1,161	71.9
2018	1.8	1,115	70.1
2017	1.69	1,053	69.5
2016	1.57	1,003	69.6

Source: World Bank & macrotrends.net

From the table 2 it is clearly observed that final consumption is steadily rising and reached at 2.13 USD Trillion in 2022 from 1.57 USD Trillion in 2016. As a percentage of GDP, it has reached to 71% in 2022 from 69.6% in 2016 and in last two years i.e. 2022 & 2021 it is has decreased due to Pandemic. But per capita consumer expenditure is rising from USD 1003 in 2016 to USD 1282 in 2022. Thus from the above facts it can be stated that final consumption expenditure takes a major portion of India's GDP and both total and per capita final consumption expenditure are rising.

✚ 5.3 Facts on Online Payment on Consumption Expenditure

Online payment through UPI has made most of the consumption transaction non cash in nature and it is observed that in next three years in India, half of the consumption expenditure will be digital i.e. non Cash. Such consumption expenditure has achieved an estimated amount of \$1.8 - \$1.9 trillion in 2022 in which non cash transaction is accounted for 30% to 35% (**Business Standard, 2023**). Another report has stated that consumer spending can touch \$4 trillion across online channels by 2023. It is also expected that India's digital payment market is expected to reach at \$ 10 trillion by 2026 (**The Economic Times, 2023**). Indian household

¹ <https://stats.bis.org/statx/srs/table/CTA1?c=IN&p=2020&m=>

sector currently makes 35% of their transaction digitally in which 80% of digital payments are made for grocery, travel & tour and delivery of food (Business Line, 2023).

5.4 Facts on Share of Major Online Retail Payment System on India’s GDP

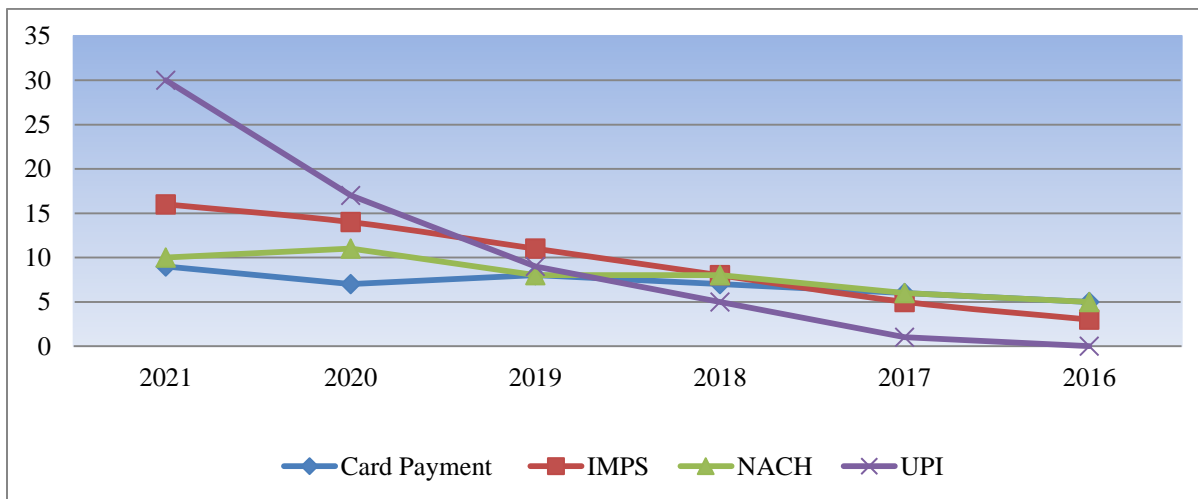
Digital payment is rising at a rapid speed in India and it overtakes the other developed nations too. In 2022, India accounted for 46% of global real time online payments amounting to 89.5 million online transactions overtaking Brazil and China (Mint, 2023). Of the major retail payment systems, UPI has captured the highest digital payment market share around 84%. It is also stated by the National Informatics Centre has brought that in 2022, UPI’s total transactional value has almost accounted for 86% of India’s GDP. The following table shows the portion of major online retail payment on GDP.

Table 3: Value of Major Online Payment as a % of GDP

Year	Value as a % of GDP			
	Card Payment	IMPS	NACH	UPI
2021	9	16	10	30
2020	7	14	11	17
2019	8	11	8	9
2018	7	8	8	5
2017	6	5	6	1
2016	5	3	5	0

Source: Bank of International Settlement

Fig 2: Value of Major Online Payment as a % of GDP



From the table and fig, it is well understood that UPI has overtaken other major payment mode as a percentage of GDP. It is 30% of GDP in 2021. IMPS has taken the second position. Thus it can be stated UPI is growing at a rapid speed and drives the online payment on consumption expenditure.

5.5 Facts on Digital Payments in India

The total digital payment in volume and value both are rising at speed India. In 2017-18, the volume of total digital payments is 20.71 billion numbers of transactions whereas value stands at INR 1962 trillion. Both of which have increased to 88.40 billion and 3021 INR trillion respectively 2021-22. Such increase shows the fact that digital payment have gained the traction and momentum in comparison to cash payment showing a drastic shift to cashless economy.

Table 4: Digital Payments in India

Financial Year	Total Number of Digital Transactions (in billions)	Total Value of Digital Transactions (trillion INR)
2017-18	20.71	1962
2018-19	31.34	2482
2019-20	45.72	2953
2020-21	55.54	3000
2021-22	88.4	3021

Source: <https://www.orfonline.org/research/indias-upi-market>

India has also seen an increasing trend in the value of digital payment to GDP ratio. It has 660% in 2014-15 which increases to 862% in 2018-19 as per **RBI report (2020)**

Table 5: Ratio of Value of Digital Payment to GDP (%)

Year	2014-15	2015-16	2016-17	2017-18	2018-19
Value of Digital Payment to GDP (%)	660	668	730	802	862

Source: <https://www.rbi.org.in/Scripts/PublicationsView.aspx?id=19417>

In 2022, it is observed that India has accounted for 46% all of real time payments globally which brings the 1st position for digital payments in the world (**The Times of India, 2023**).

6. Concluding Remarks

It can be concluded that consumption expenditure is a major part of GDP in India and online payment makes it easy to pay online on such consumption. As per the information, online payment has been rising at a rapid velocity and UPI is taken as the most preferred mode of online payment. It creates a major inter linkage between online payment and GDP growth. Thus online payment through UPI can provide huge contribution to the successfully winning the ambition of USD 5 trillion economy in India.

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