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**Unified Payments Interface (UPI):
A Comprehensive Study of its Impact on India's Financial
Landscape and Global Aspirations**

Financial Regulation & Banking Supervision Term Paper

Ankit Karmakar
MA Financial Economics
Madras School of Economics, Chennai
fe22ankit@mse.ac.in

Abstract: The aftermath of demonetization was Unified Payments Interface (UPI) – a digital innovation developed by National Payments Corporation of India (NPCI) and a strong contender among the various electronic payment systems. In a very short span of time, it became the preferred payment method among the people in both urban and semi-urban areas – its monthly usage seeing millions then billions despite India's low penetration of digital devices like smartphones. This phenomenon attracted the attention of researchers. This paper also examines UPI's success in terms of the economic development caused by it rather than the technological aspects. The influence of UPI on financial literacy and financial inclusion with respect to economic development is also investigated, which is mediated by financial stability and trust. It also analyses UPI's slow but steady growth and potential in the global perspective as the world increasingly transitions to safe and reliable digital payment systems.

Keywords: UPI, Financial Inclusion, Literacy, Economic Development, Real-Time Payments

1. Introduction

On 8th November 2016, India embarked on a transformative journey by demonetizing its 1000 & 500 Rs. currencies, simultaneously encouraging Digital Payments. The Government of India had a longstanding objective of encouraging citizens to pay through digital methods to curb on black money. While the conventional methods like NEFT and IMPS were already in existence, a fast, easy & on-the-go solution was the need of the hour for the citizens of India. In response to this need, National Payments Corporation of India (NPCI) introduced the Unified Payment Interface (UPI).

UPI is a digital innovation with an instant payment option developed indigenously in India [1, 2]. UPI's versatility originates from its mobile app functionality, AADHAR linkage enabling offline use, and user-friendly design [1]. It works on a technology known as Open API (Application Programming Interface) [3,4]. API is a type of interface where parties can be linked with each other easily and an API without restriction is called Open API. It not only sought to address the challenges of a cash-centric economy but also aimed to propel the nation into a more technologically advanced era of financial transactions. The government had two key policy-level initiatives or focuses regarding UPI. Firstly, to utilize UPI as a tool to bolster the digitalization of financial services, particularly payment services. Secondly, the government placed emphasis on employing UPI to promote financial inclusion and drive economic development among the populace.

Over the last seven years, it had a widespread adoption and the seamless functionality it possesses has catalysed its integration into various facets of the Indian economy – becoming the preferred method of payment for individuals & businesses. As the reach of UPI extends to larger segment of the population, it illuminates the path toward financial inclusivity, serving as a catalyst for economic development. After success of UPI in India, the government now has its sights on the global stage. This strategic move will place the nation as prominent player in international arena of digital finance & payment technology.

In this paper, I will try to investigate the impact of UPI on Economic development through financial literacy and inclusivity, and will conclude by addressing how UPI may perform on global arena using the limited data sources available. This document is structured into different segments. Following this brief introduction, the next part delves into the discussion of existing literature pertaining to the subject and its components. The third section presents the model to be examined with overview of the data sources, time frame and primary methodology. Subsequently, the fourth Section analyses the study's findings. The final and the fifth Section concludes the discussion by addressing the limitations of this study and future research possibilities.

2. Literature Review

The literature concerning this subject ranges from UPI being regarded as a digital innovation and its significant role in addressing digitalization challenges in payment services to the social consequences of digitalization on financial services. This aim of the literature review is to establish that the analysis of UPI's role in economic development has primarily remained in the domain of theoretical discussion and descriptive studies. Additionally, I will endeavour to examine and deliberate on the key perquisites that should be understood before assessing the future possibilities of UPI.

In the theoretical investigations of UPI, an exploration is conducted into the prospective capacity of UPI to cater to a wider demographic and its merits in advancing the digitization of financial services [5]. Operational research involving UPI primarily focuses on its functional capabilities as a viable tool for digitalization, aiming to gain widespread acceptance and appeal in the future [6]. Still, none of the papers talk about the economic development of deprived people.

Now, UPI is propelled by accessibility, convenience, and the elimination of financial inclusion barriers, with cost being a critical factor for fintech in fostering economic development and financial inclusion [7]. Similar reasoning can be applied to demonstrate that UPI contributes to enhancing financial literacy. Information and communication technology (ICT) also promotes economic growth, which, in turn, positively influences financial literacy [8,9]. This notion is reinforced by the fact that literacy itself fosters economic development, suggesting that UPI plays a role in supporting literacy. So, we are safe to take the following hypothesis,

H_1 : UPI has an impact on the Financial Literacy

As there are enough convincing evidences that financial literacy plays a part in advancing financial inclusion. Also, financial stability is also modulated by literacy and inclusivity of financial activities. So, we can formulate the following hypothesis,

H_2 : Financial Stability is influenced by Financial Literacy and Financial Inclusion

Research indicates a connection between financial inclusion and the economic growth of the underprivileged [10,11]. It also provides an abundance of research regarding obstacles that may prevent financial inclusion from reaching its full potential, with trust emerging as a critical component in resolving these issues [12]. Thus, we may draw the following hypothesis,

H₃ : Trust mediates between Financial Inclusion and Economic Development

Now, as far as the global digital payments market is concerned, it is on an upward trajectory and expected to reach \$9.46 Trillion in 2023 with CAGR of 11.80% from 2023 to 2027. This momentum is being fuelled by increasing adoption of e-commerce, mobile payments, and contactless payments. However, there are still significant challenges to global digital payments adoption like Security concerns, High Transaction costs and Lack of inclusivity. Billions of people do not have bank accounts or do not have access to any other formal financial services, thus failing to participate in the digital economy. Even if they do have access, their usages are limited to conventional payment mechanisms like credit card and wire transfers, which is expensive for both the merchants and consumers. Digital payments always have a risk of frauds and cybercrimes, which led people susceptible and reluctant to make use of, but an easy to use, safe and secure digital payment platform is what the world needs. To fill this void comes UPI, backed by Govt. of India, with a potential to become a major player in the arena. In this paper I will try to explore how UPI has the potential to be that global digital payment platform which will lead economic development through financial inclusion and financial literacy surpassing geographical boundaries and benefitting not only India but the entire world.

3. Theoretical Framework & Hypothesis

This study focuses only on two aspects – one is to examine the relationship between the Unified Payment Interface (UPI), Financial Literacy (FL), and Financial Inclusion (FI), which in turn leads to Economic Development (ED) of the poor while the other aspect is to examine how UPI can be relevant in other countries and contribute to their economic development.

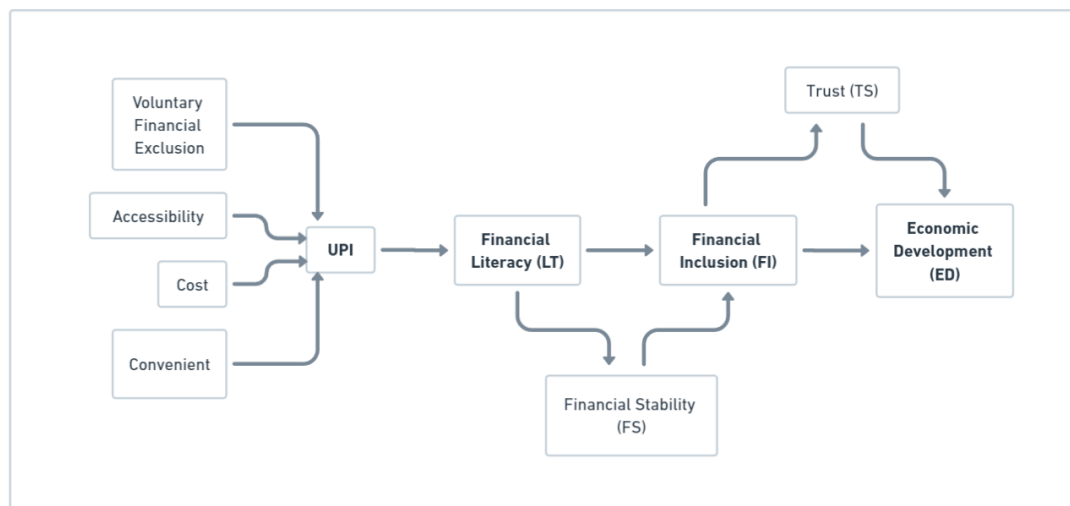


Fig.1: Conceptual Framework of relationship between UPI and Economic Development

The relationship between UPI and Economic Development has been conceptualized, which accounts for different factors that affect UPI and how it eventually leads to Economic Development.

Starting with UPI, it becomes evident that primary factors influencing are Voluntary Financial Exclusion, Accessibility, cost and convenient. This, in turn, impacts the financial literacy (FL), as increased usage leads to greater knowledge among the population. Subsequently, the interplay between financial literacy (FL) and financial inclusivity (FI) hinges on the existence of financial stability (FS). And finally, financial Inclusivity (FI) can help us realize economic development (ED) in the economy when the trust (TS) within system acts as mediator.

This model can be applied for both developed and developing countries, as a real-time payment system that is open source, interoperable, scalable, and inclusive. In developed countries, UPI can solve the issue of high cost of digital transaction and can make them more accessible to citizens. This will contribute to boost overall economic activity, consequently expanding their GDP further. In developing countries, UPI may be great fit, as it can effectively promote financial inclusion and financial literacy. It's cheap and easy-to-use payment system, accessed by mere smartphone, makes it affordable by larger size of people of different income group. Its transparent nature can help people to build trust in the digital economy and help people learn about financial management.

4. Data and Methodology

In order to determine the impact of UPI on economic development, I utilized secondary data from another study [13]. This dataset was collected from 500 participants, who met a specific criterion that he/she should have Pradhan Mantri Jan Dhan Yojana (PMJDY) account and had some level of exposure to conventional financial or banking services. This study focused on the population belongs to urban or semi urban areas of Maharashtra, India and data collection was conducted during the period July to December 2019.

To find out the potential effect of UPI on economic development, I explored multiple data sources to obtain relevant information. Through the NPCI website, I was able to collect daily and monthly transaction volume statistics from 2017 to 2023, sort by different banks. Additionally, I accessed a range of data regarding UPI service disruptions and incidents involving various banks at different points in time. I used Statista to get variety of statistics, including worldwide real-time payment data.

As I embark on the methodology part of this paper, I will interpret the findings from the original study with a broader perspective, aiming to apply them on a global scale and exploring implications on a country-to-country basis.

5. Discussion

5.1 UPI's impact on India's Progress

To Start, Structured Equation Modelling (SEM) is employed to test hypothesis, as it enables the consideration of unobservable factors and facilitates the comprehension of intricate connections among multiple variables. Also, SEM is a preferred mode of studies on financial

inclusion and its impact on the economic development [14]. As we continue, there is no evidence of multicollinearity in the dataset, and the model shows indications of both convergent and discriminant validity.

Then mediation analyses were performed to see how Financial Stability (FS) and Trust (TS) affect the relationship between Financial Literacy (FL) and Financial Inclusion (FI), and between Financial Inclusion (FI) and Economic Development (ED). For the scenario where Financial Stability (FS) acts as a mediator between Financial Literacy and Financial Inclusion, a significant indirect effect was detected, indicating partial mediation. There was also a notable direct effect. This indicates that Financial Stability contributes to the influence on Financial Inclusion (Table 1, Section A). In the case of Trust (TS) serving as a mediator between Financial Inclusion and Economic Development, a significant indirect effect was observed, signifying partial mediation, alongside a substantial direct effect. This implies that Trust exerts an influence on Economic Development, acting as a mediator in the relationship between Financial Inclusion and Economic Development (Table 1, Section B).

Table 1: Hypothesis Testing and Total, Direct and Indirect effect

Section A		Section B	
Relationship	β	Relationship	β
Literacy -> FI (Direct effect)	0.1034*	FI -> ED (Direct effect)	0.2719*
Literacy -> FS	0.2610*	FI -> Trust	0.1775*
FS -> FI	0.3816*	Trust -> ED	0.1739*
H2: Literacy -> FS -> FI (Indirect effect)	0.0996*	H3: FI -> Trust -> ED (Indirect effect)	0.0309*
Effect	β	Effect	β
Total effect model	0.2030*	Total effect model	0.3028*
Direct effect	0.1034*	Direct effect	0.2719*
Indirect effect	0.0996*	Indirect effect	0.0309*

Notes: *statistically significant. The model demonstrates a substantial direct influence of Financial Inclusion on Economic Development, indicating a partial mediation effect present in the model.

As previously outlined, this study aims to validate three primary hypotheses. All three hypotheses, denoted as H1, H2, and H3, have been substantiated (as indicated in Table 1), affirming the model's compatibility with the conceptual framework presented in Figure 1. The model underscores the robust validity and reliability of all the constructs, providing strong support for the hypotheses based on existing literature.

The significance of the research in the field of financial inclusion is emphasized by its substantial impact on the ultimate goal of attaining economic development. This section of the current study provides light on the ancillary factors influencing financial inclusion and explains the complex interplay between financial inclusion and economic development. Among notable financial technology advancements, the introduction of UPI appears as a crucial advancement within the digital banking ecosystem. These innovations are critical for building a resilient digital ecosystem and fostering financial inclusion, which is a primary focus of this research (Figure 1). The study identifies critical characteristics that support the long-term viability of the UPI platform, including technology accessibility, user convenience, cost-effectiveness, and citizen participation in financial inclusion programs.

The establishment of this digital ecosystem assumes a pivotal role in enhancing the financial literacy of individuals. Individuals with a strong grasp of financial concepts are more likely to leverage a diverse array of financial services and integrate themselves into the financial ecosystem, which is underpinned by the overarching digital infrastructure. Furthermore, the research demonstrates that the relationship between financial literacy and financial inclusion is influenced by the stability of the financial system. It also posits that the correlation between financial inclusion and economic development is mediated by trust. A considerable level of trust in the financial system among marginalized segments of the population can significantly fortify the economy.

5.2 UPI's Global Potential

In September 2023 alone, UPI facilitated a remarkable 15 lakh crores rupees in transactions. UPI stands at the forefront of the digital payment ecosystem, supported by an extensive network of 492 banks and complemented by third-party apps such as Amazon Pay and Google Pay, numbering 30 plus in total. From its inception in April 2016 with just 21 banks, UPI has experienced remarkable growth. It now consistently records over 1000 crore transactions in a single month of September, 23.

This wealth of data provides valuable insights that can inform us about the potential applicability of this ecosystem to countries around the world. Therefore, I will endeavour to analyse this accessible data to support the research presented in this paper, which explores the potential for UPI to emerge as a global leader in digital payments.

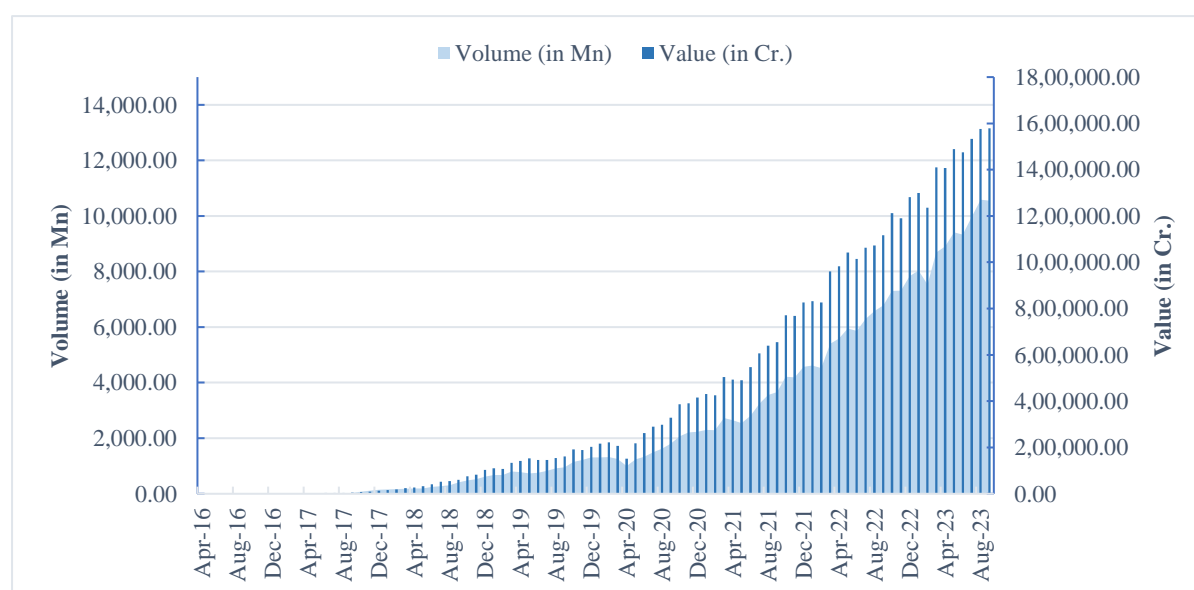
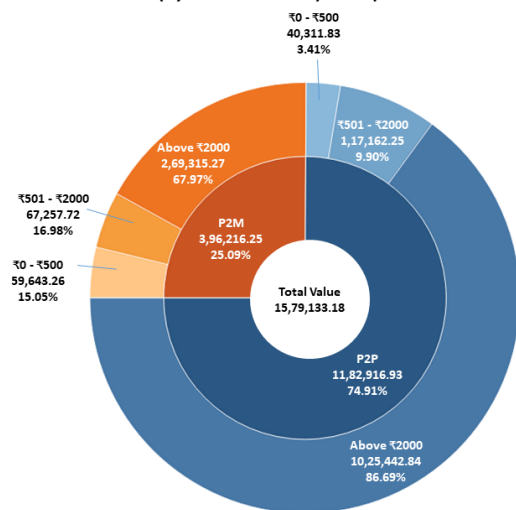


Fig.2: Volume and Value of UPI transactions over the years

In Figure 2, we can observe the progression of UPI over the years, notably with minimal impact during the COVID-19 crisis. This is attributed to the increased adoption of digital payments, particularly for contactless transactions during that period. The provided data illustrates monthly transaction volumes up to September 2023, with NPCI recording an impressive 15 lakh crores rupees in transactions and over 10 billion transactions in total.

UPI: Transactions (by Value in Crores) for Sep'23



UPI: Transactions (by Volume in Mn) for Sep'23

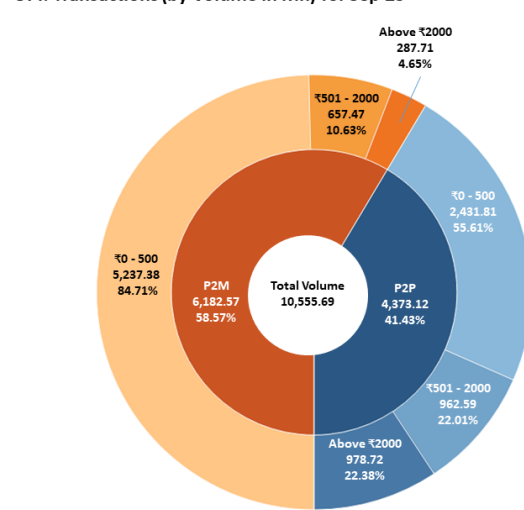


Fig.3: Distribution of UPI transactions over P2P & P2M of Sep'23

In Figure 3, the graph illustrates the distribution of Peer-to-Peer (P2P) payments, which encompass person-to-person transactions, and Peer-to-Merchants (P2M) Payments, both in terms of volume and value. Notably, a significant portion of the P2M transactions, approximately 85%, falls within the 0 to 500 Rupees range. This indicates that people engage in a higher number of transactions with merchants, yet the individual transaction values remain relatively low. Consequently, the total value of P2M transactions represents only 15% of the total P2M transactions. Furthermore, the data shows that 75% of all transactions occur in the P2P category, with 87% of those transactions exceeding 2000 Rs. in value. However, in terms of transaction volume, this accounts for just 22% of the total P2P transactions.

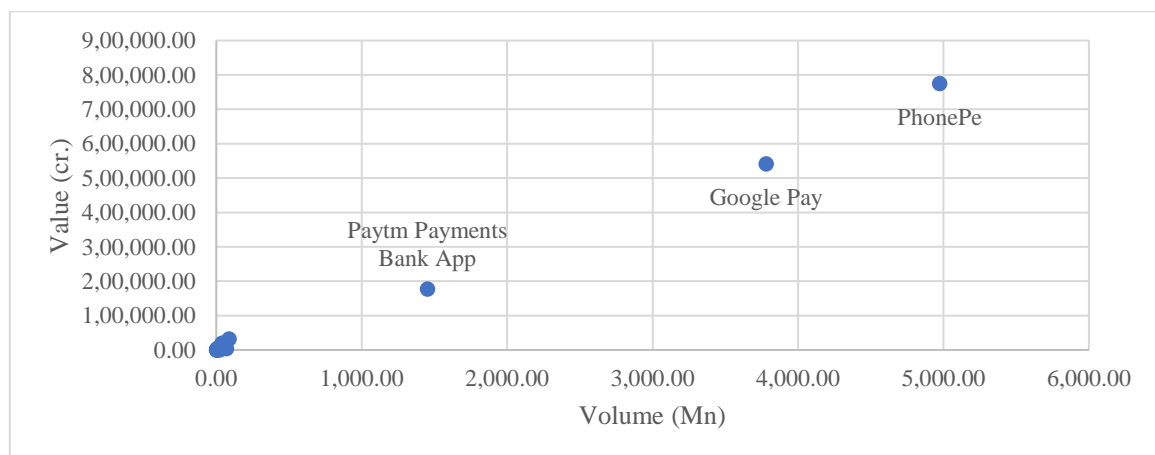


Fig.4: Scatterplot of UPI apps by Volume (Mn) & Value (Cr.)

In Figure 4, we can observe the most frequently utilized apps for UPI transactions in India, as measured by both volume and value. PhonePe leads the way, accounting for nearly 7.5 lakh crores Rupees in transactions, encompassing almost 500 crores transactions. Google Pay

closely follows, facilitating transactions worth over 5 lakh crore Rupees. In the third position, we find Paytm Payments Bank, which recorded approximately 2 lakh crores in transaction value and over 145 crores transactions in September 2023 alone.

In the global real-time payment market, notable performance is evident, with 195 billion transactions in 2022 and a remarkable YoY growth of 63.2%. Projections indicate continued growth, with expectations of 511.7 billion transactions and a solid CAGR of 21.3% between 2022 and 2027 [15]. Among the top five real-time payment markets, India takes the lead with 89.5 billion transactions in 2022, followed by Brazil with 29.22 billion, China with 17.6 billion, Thailand with 16.5 billion, and South Korea with 8.1 billion. Notably, India and Brazil stand out as undisputed leaders in the real-time payment landscape, with India accounting for a substantial 46% of all global real-time transactions in 2022, largely attributed to the influence of UPI, while Brazil, while impressive, contributed to 15% of all real-time transactions worldwide in 2022.

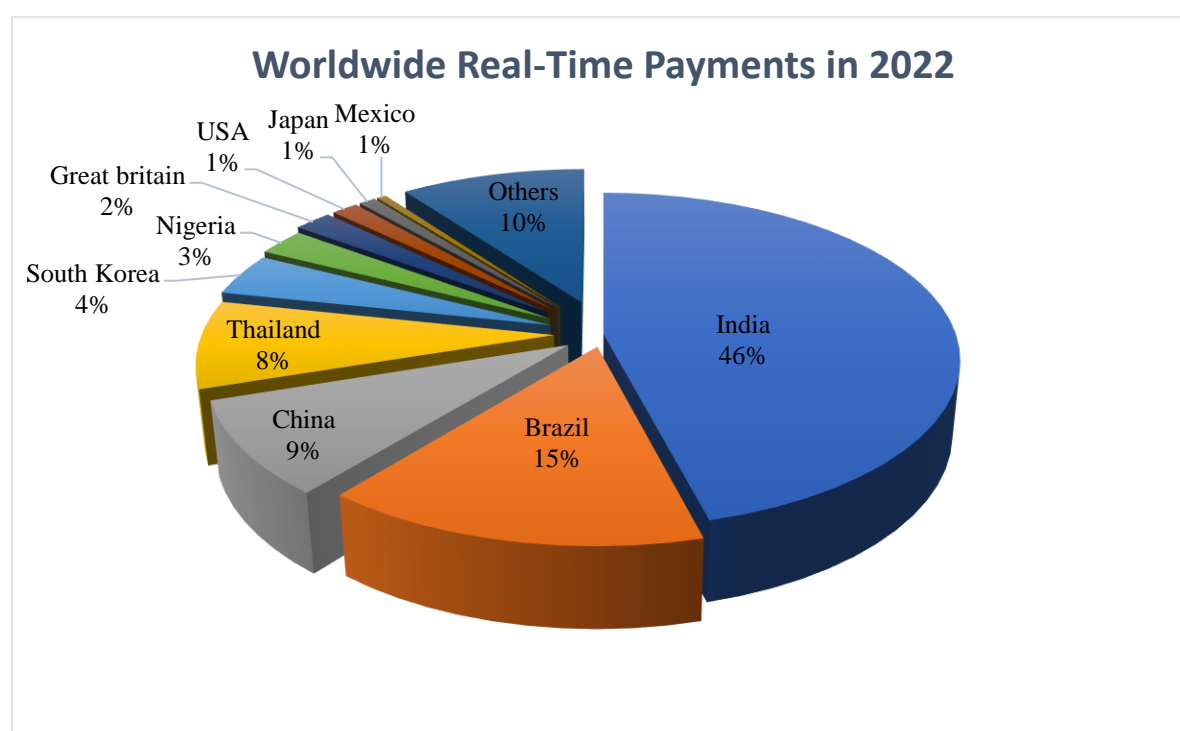


Fig.5: Worldwide Real-Time Payments (RTP) in Volume in 2022

This shows the share of India in terms of realtime payments throughout the world in 2022. We can find that much developed countries like Great Britain, Japan and USA are far behind in this game. Whereas developing countries like Brazil and Thailand did a great job. Brazil was the third fastest growing real-time payments market in the year 2022 with an impressive YoY growth of 228.9% [15]. Now if we look into area specific, we can observe Europe and North America only contribute 8% share over the world RTP market by volume, where as they are pretty well developed than the other areas like Middle East, Africa & South Asia which is holding 49% of global RTP market. No only that their share of Real-Time Payments over the other electronic payments is also impressive at 72.2%.

Table 2: Regional Comparison for 2022-2027

Region	2022		2027 Forecast		CAGR (2022-27)
	Real-Time Payments Volume	RTP Share of Electronic Payments Total (%)	Real-Time Payments Volume	RTP Share of Electronic Payments Total (%)	
Middle East, Africa, and South Asia	95.7	72.2	249.8	79.3	21.2%
Asia Pacific	49.2	11.0	327.8	12.0	14.1%
Latin America	33.0	33.0	119.5	56.0	29.3%
Europe	13.2	7.0	34.2	13.0	21%
North America	3.9	2.0	13.0	5.0	27.3%

The data points to Latin America as a promising region with the potential for impressive 30% Compound Annual Growth Rate (CAGR) in real-time payments, indicating a swift transition to more efficient electronic payment solutions. Latin America leads the way, followed by North America and the Middle East, Africa, and South Asia, indicating a global trend toward the adoption of faster and more efficient electronic payment solutions.

In this context, UPI emerges as an ideal choice, as it aligns with the shift toward a dependable and user-friendly global digital payment ecosystem that transcends international boundaries. The Indian Government has proactively initiated efforts to promote UPI adoption in various countries across South Asia, South-East Asia, and Europe. This involves strategic partnerships with existing payment systems in those regions, integrating UPI into their infrastructure, enabling seamless UPI-based payments for individuals and merchants within those countries. The next section delves into the introduction and potential impact of UPI in different countries.

1) Bhutan:

In 2021, Bhutan became the first country in adopting UPI, thanks to a collaboration between NPCI International Payments Ltd (NIPL) and Bhutan's Royal Monetary Authority (RMA). This partnership enabled Indian tourists to utilize BHIM UPI-based payments in Bhutan. Given Bhutan's status as a small, landlocked country with limited resources, establishing an independent digital payment ecosystem proved challenging, making UPI adoption a valuable solution. This transition to real-time payments holds the potential to greatly benefit Bhutan, particularly its small businesses reliant on tourism. Additionally, UPI's usage by Bhutanese citizens promotes seamless currency circulation within the country, fostering financial inclusivity and literacy—a vital contributor to economic development, as demonstrated in previous research.

2) Nepal:

In February 2022, Nepal introduced UPI with the collaboration of Gateway Payment Services and Manam Infotech. This marked Nepal as the first country to extend UPI as a payment platform beyond India's borders. The primary aim was to enhance interoperable, real-time person-to-person (P2P) and person-to-merchant (P2M) transactions. Similar to Bhutan, Nepal, as a small landlocked country with a significant dependence on tourism, anticipates substantial benefits for its small businesses through

the implementation of real-time payments. Both tourists and citizens will find it a convenient and accessible solution, ultimately fostering financial inclusivity and literacy, with the potential for economic development, as validated by prior research.

3) Singapore:

Once again, in February 2022, a significant development took place as India's Unified Payments Interface (UPI) and Singapore's PayNow were interlinked, facilitating real-time cross-border fund transfers. This advancement allows residents of both India and Singapore to transfer funds using mobile applications such as Paytm and Google Pay. In Singapore, users can transfer money to India through a UPI virtual payment address, while in India, they can send money to Singapore using a recipient's mobile phone number. Notably, Singapore stands out as a small yet highly developed country with a unique UPI target audience. Given its affluence and the prevalence of businesses drawn by favourable corporate tax rates, UPI's primary focus here lies in offering a secure and reliable platform for wealthier individuals seeking safer money transfer options. This approach is poised to foster further growth of UPI in Singapore, ensuring seamless transactions for both residents and tourists conducting business with merchants in the country.

4) United Arab Emirates:

In April 2022, NIPL announced the introduction of BHIM-UPI at NEOPay terminals throughout the UAE, offering an easy payment solution for Indian tourists. This move signifies the availability of the Unified Payments Interface (UPI) in the UAE, allowing Indian visitors and Non-Resident Indians (NRIs) to utilize UPI-based mobile applications for making purchases at various merchants and shops within the UAE. The collaboration between the National Payments Corporation of India (NPCI) and Mashreq Bank has been instrumental in extending the global reach of UPI. This UPI-IPP connection facilitates swift, secure, and cost-effective cross-border fund transfers between users in both countries. Notably, the UAE holds a unique position as India's largest trading partner, necessitating a seamless real-time payment system for daily transactions between Indian and UAE businesses. UPI is set to play a pivotal role in enabling not only person-to-merchant (P2M) but also person-to-person (P2P) transactions. Additionally, with a significant Indian workforce in the UAE, UPI will facilitate the easy remittance of funds to India.

5) Oman:

In October 2022, Oman made its way onto this expanding list by forming a partnership with the National Payments Corporation of India (NPCI) to facilitate UPI payments. This collaboration was made possible through an agreement signed between NPCI and the Central Bank of Oman, paving the way for seamless digital payments and offering advantages to the numerous Indians employed in the country. Non-Resident Indians (NRIs) in Oman can now employ UPI services for transactions using their international mobile phone numbers. In furtherance of this, the Central Bank of Oman (CBO) and NIPL inked a Memorandum of Understanding (MoU) in October 2022 to introduce Indian RuPay cards and the UPI platform in Oman, thereby providing a boon to Indian workers and professionals. NRIs in Oman can access UPI through local mobile numbers. It's imperative that member banks ensure strict adherence to the prevailing

FEMA regulations and adhere to the guidelines issued by the Reserve Bank of India. Given Oman's location in the Middle East, it anticipates significant growth in real-time payments soon. The introduction of UPI is poised to deliver substantial benefits, including increased financial inclusivity and literacy, ultimately contributing to the country's economic development.

6) France:

India and France have forged an unprecedented agreement to introduce the Unified Payments Interface (UPI) in France, marking a significant milestone in their collaboration. This historic partnership took shape in June 2022 when the international division of the National Payments Corporation of India (NCPI) formalized a memorandum of understanding (MoU) with Lyra Network in France. The arrangement empowers Indian students, tourists, and Non-Resident Indians (NRIs) in France to conduct transactions via UPI and RuPay using international mobile numbers at any terminal supported by Lyra Networks. The payment system was in its final stages of development and was slated to go live by September 2023. An interesting highlight is that the iconic Eiffel Tower became the first merchant in France to embrace UPI. Notably, despite being a European nation with relatively limited adoption of real-time digital payments, France provides an opportunity for UPI to expand, capitalizing on its primary strength—reliability. Given the European Union's heightened focus on data protection, as evident in the data protection bill, India is advised to navigate diplomatically to establish UPI as a trustworthy and secure digital payment platform in these countries.

7) United Kingdom:

In August of the previous year, India and the UK entered into a partnership to introduce QR code-enabled transactions within the UK. The National Payments Corporation of India (NPCI) joined forces with PayXpert, a payment solutions provider, to facilitate this collaboration. According to an NPCI announcement, this venture aims to make Indian payment solutions accessible in the UK, initially focusing on UPI-based QR code payments and subsequently incorporating the capability for RuPay card payments on all of PayXpert's android point-of-sale (POS) devices for in-store transactions.

Apart from these nations, the Indian government is utilizing diplomatic avenues to promote UPI in various countries, including the United States, Australia, Saudi Arabia, Maldives, and Bahrain.

The future prospects of UPI appear highly promising as it will expand to more countries, with expectations of substantial growth ahead. Presently constituting a significant portion of India's digital transactions, UPI is projected to experience a remarkable four-fold expansion by 2026. A PwC report suggests that it could potentially dominate nearly 90% of the total transactional volume in retail digital payments within the next five years, particularly as it extends its reach to rural areas and tier III and IV cities. The global expansion of UPI offers significant opportunities, especially in light of the \$10 billion spent by Indian travellers overseas between April and December 2022. However, as UPI enters the global stage, it is likely to face stiff competition from established payment giants like Visa and Mastercard, who currently hold a substantial share of the global payments market. Adapting UPI's technology for a broader

customer base in Western markets and addressing initial high transfer costs due to limited penetration will be among the challenges. Ensuring compliance with diverse digital regulations and fostering interoperability between payment systems are also significant hurdles. To overcome these challenges, NPCI is focusing on strategic collaborations with global payment providers and regulatory bodies to ensure compliance with local regulations and standards.

6. Conclusion

This study presents an intriguing exploration of the literature concerning financial inclusion and its impact on economic development, with the potential for broader global application. UPI, a pioneering element in the realm of digital finance, takes centre stage as the primary catalyst. The paper seeks to demonstrate how UPI facilitates economic development by fostering financial literacy and inclusion, with Financial Stability and Trust acting as mediating factors. UPI, as a groundbreaking innovation, plays a pivotal role in extending financial access to the underserved populations. The influence of this innovation transcends national borders, as the impressive global adoption of digital payment systems positions UPI to emerge as a worldwide leader, symbolizing security and reliability in real-time payment solutions.

This research can be elevated by broadening the scope of the study and incorporating additional variables. To enhance the study, a more comprehensive assessment of UPI's performance in countries where it has been implemented can be conducted. By incorporating well-defined policies and considering behavioural factors, it becomes possible to delve deeper into the realm of digital innovation and its impact on financial inclusion.

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