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Financial Inclusion: Fintech Innovations Powering the Last Mile Outreach

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***Abstract*: Financial inclusion involves the delivery of financial services at an affordable cost to all segments of the society Financial inclusion forms an important policy agenda for both the World Bank and the United Nations. Despite the impressive growth globally in account ownership, about 1.7 billion adults remain unbanked and almost half of them live in just seven developing economies: Bangladesh, China, India, Indonesia, Mexico, Nigeria, and Pakistan. Financial inclusion is vital for improving the livelihoods of the poor and disadvantaged sections of the society. Much of the progress in account ownership has been due to a global phenomenon known as financial technology or 'FinTech': the interaction between finance, technology and regulation. The article discusses the emergence and role of Fintechs in promoting financial inclusion and the digital innovations powering the last mile connectivity both globally and in India.**

***Keywords*: Financial Inclusion, Fintech, Smartphone, United Nations, Findex, Unbanked, e-KYC**

1. Introduction

Financial inclusion involves the delivery of financial services at an affordable cost to all segments of the society. Financial services can help drive development. They help people escape poverty by promoting investments in their health, education, and businesses. Many people around the globe still lack financial services that can serve these functions, such as bank accounts and digital payments. Instead, they rely on cash, which can be unsafe and difficult to manage. Over the last century, a series of initiatives worldwide have aimed to increase access to financial services, but these have accelerated in the last decade as technological developments coupled with strong policy support show potential for rapid progress in the years to come. Financial inclusion forms an important international policy agenda for both the World Bank and the United Nations. It is included as an enabler of many of the UN Sustainable Development Goals (SDGs) and the World Bank has also made it a key priority to promote financial inclusion.

2. Continued growth in account ownership

The World Bank's Global Findex database shows that 515 million adults worldwide opened an account at a financial institution or through a mobile money provider between 2014 and 2017. This effectively means that 69 percent of adults now have an account, up from 62 percent in 2014 and 51 percent in 2011. The vast majority of account owners have an account at a bank, a microfinance institution, or another type of regulated financial institution. Even though the account ownership continues to grow, inequalities still persist. Men continue to have an edge in account ownership over women and the gap between the rich and the poor hasn't narrowed down either. India, however has made an impressive progress in this regard, where a strong government push to increase account ownership through biometric identification Aadhar cards helped narrow both the gender gap and the gap between richer and poorer adults.

3. Who remains unbanked and why?

In spite of the impressive growth globally in account ownership, about 1.7 billion adults remain unbanked, without an account at a financial institution or through a mobile money provider. Because account ownership is nearly universal in high-income economies, virtually all these unbanked adults live in the developing world. Almost half live in just seven developing economies: Bangladesh, China, India, Indonesia, Mexico, Nigeria, and Pakistan.

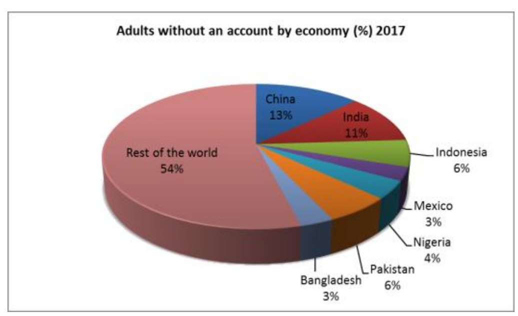

Fig. 1. Nearly half of all unbanked adults live in just seven countries
Source: Global Findex Database 2017, World Bank

The 2017 Global Findex survey conducted by World Bank asked the adults the reasons for not having an account with a financial institution. The reasons offered are as under:

- Having too little money to use an account.
- Cost and distance
- Family member already having an account.
- Lack of documentation and distrust in the financial system
- Religious concerns

4. Why financial inclusion matters for development?

Financial inclusion is vital for improving the livelihoods of the poor and disadvantaged sections of the society. Providing people with access to financial services, such as payments, savings, insurance and credit, helps them to manage their financial obligations and build better futures for their families while also supporting economic growth, poverty reduction and sustainable development. Many potential socio-economic benefits emanate from financial inclusion, especially from the use of digital financial services and other financial technology (or fintech) applications.

Some of the benefits that accrue from financial inclusion are summarized below:

- Digital financial services can also help people manage financial risk, by making it easier for them to collect money from distant friends and relatives in difficult times.
- Digital financial services can lower the cost of receiving payments.
- Financial inclusion can make the management of daily life far more efficient: electronic payments allow people to pay for essential services without taking time off work to queue up for payment of bills.
- Financial inclusion also enables the shifting of financial risks from individuals to the financial system where these risks can be socialized and diversified, for instance, insurance against severe illness of the family bread earner(s) can prevent people from falling back into poverty.
- Financial inclusion supports economic growth by expanding access to financial resources that support real economic activity particularly for individuals and micro, small and medium size businesses (SMEs).

5. Emergence of Fin techs

From 2010 to 2017, much of the progress in ownership of accounts was related to the impact of financial technology (Fin Tech) in a number of countries. The following three examples are worth mentioning.

- The first is the development of mobile money, particularly in Kenya and East Africa, where Fin Tech has done the most to promote financial inclusion allowing the unbanked to make payments, remit funds and save using their mobile phone.
- The second example is China, where a traditional and not overly efficient financial system became one of the world's most digitized financial systems. This process was accompanied by the single greatest decrease in poverty in world history.
- The third major example is India, where financial access increased dramatically in a very short span of time. As of 2017, 80 percent of adults in India had an account. This is the result of a major strategy to build an ecosystem for a new digital economy and financial system, underlying infrastructure and an enabling policy environment.

These developments are part of a global phenomenon known as financial technology or 'FinTech': the interaction between finance, technology and regulation. While finance and technology have a long relationship, a new FinTech era has emerged characterized by an unprecedented speed of change and a growing range of new participants, from startups to banks to e-commerce companies. Today's FinTech encompasses not only the digitization and datafication of global financial markets, but also the emergence of new startups ("FinTechs") around the world, the technological transformation of finance through digital financial services in developing countries, and most recently the emergence of giant technology firms engaging in finance ("TechFins"). Mobile money has played a major role in promoting financial inclusion, and the mobile phone is possibly the most powerful instrument of development in history. It is estimated that two-thirds of the 1.7 billion unbanked adults in 2017, own a mobile phone. Although smartphone penetration levels are not high, they are increasing rapidly, and many economies will formulate appropriate strategies and support policy environment for a transformative digital financial inclusion and economic development. Despite massive progress in China and India, these countries still have the largest unbanked populations in the world in 2017: 225 million in China and 190 million in India. Increasingly, the unbanked are those who do not have access to a mobile phone, and this digital divide remains a major challenge. However, the gap appears to be closing every day as the costs of mobile phones and smartphones continue to drop and could be reduced further with digital financial infrastructure.

6. Fin techs Powering Financial Inclusion

Fin Tech is a new term for a long-standing phenomenon: the application of technology in finance. With the advent of cloud computing, smartphones and high-speed internet, the sector has expanded dramatically over the last decade. Today, Fin Tech describes a new era of digital finance around the world that extends from the application of artificial intelligence and machine learning to Big Data, and from the use of biometric identification to block chain technology. The real opportunity Fin Tech affords is the development of an entire digital financial ecosystem that meets the needs of both individuals and SMEs. This is the essential next phase in the journey to comprehensive financial inclusion and vital to digital economic development and broader financial sector development. Alliance for Financial Inclusion (AFI) has suggested a Four Pillar framework for Fin Tech for financial inclusion. These pillars provide a foundation for an evolving digital financial ecosystem and help economies maximize the financial inclusion benefits from Fin Tech while also balancing financial stability, consumer protection and financial integrity.

- The first pillar is building digital identification and e-

KYC systems to simplify access to the financial system. Once these are established for individuals and businesses, they provide a solid foundation not only for finance, but also for the development of the digital economy more broadly.

- The second pillar is digital payment infrastructure and open electronic payments systems, the primary way to facilitate digital financial flows in an economy.
- The third pillar combines the promotion of account opening and access with the electronic provision of government services, particularly for public transfers and payments, to scale up the use of digital finance and related services. By supporting access, payments and savings, together these three pillars provide a foundation for digital financial transformation and financial inclusion.
- The fourth and final pillar – design of digital financial markets and systems –builds on the first three to support broader access to finance and investment, clearing and settlement, and other more sophisticated financial functions. Some of the examples include SME finance, insurance and investments.
- Together, the four pillars form an ecosystem of digital financial infrastructure in an appropriate policy and regulatory environment supporting financial transformation and economic growth. This is a major journey for any economy, but has tremendous potential to transform financial inclusion and support digital economic development.

7. Financial Inclusion in India

India's population is in excess of 1.3 billion and is close to overtaking China to become the most populous country in the world. However, a large portion of the population still doesn't have access to basic banking services, let alone credit facilities. Despite the success of ambitious Jan Dhan Yojana, which has doubled the country's adult population with a bank account to 80% since 2011, more than 190 million Indian adults still don't have access to formal banking channel.

The table below highlights the progress made by India in financial inclusion from 2011 to 2017.

Table 1
Progress made by India in financial inclusion from 2011 to 2017

Year	*Unbanked Population(in millions)*
2011	557
2014	415
2015	233
2017	190

The four pillar framework as discussed in the previous section has formed an integrated strategy in India and the results are impressive. "India Stack" is a set of systems, policies and APIs (application programming interfaces) that enable government, businesses and others to use its digital infrastructure to support a range of paperless and cashless services. India Stack comprising of four main levels are making India's financial sector more efficient, expanding access to financial services across the country, opening the market to competition from entrepreneurs, start-ups and IT/e-commerce firms, supporting economic growth and development, and reducing poverty.

- The first level is a national system of biometric identification, Aadhaar. Identity is at the core of most financial access issues, and India has addressed this by developing biometric national identification cards based on fingerprints and retina scans. Aadhar IDs have been issued to more than a billion people since 2010.
- The second level is the establishment of bank accounts to deliver national services, such as pension, health and other social welfare payments. To date, over 200 million bank accounts have been opened as part of this process.
- The third level is a common payment API to enable payments to be made by anyone through a common system supported by the Reserve Bank of India (RBI).
- The fourth level involves a series of electronic KYC initiatives that allow individuals to maintain details of their financial affairs and provide these details to financial services and other providers to meet KYC requirements. These eKYC utility platforms show how Reg Tech —regulatory technology — can strengthen the integrity of financial markets and reduce counterparty risks.
- Apart from infrastructure, enabling policy ecosystems play a big role in furthering financial inclusion. In India, some of the policy/regulatory considerations that have propelled financial inclusion include allowing correspondent banking with relaxed KYC norms; allowing payment and small finance banks, permitting new players such as telecommunications and Fin Tech firms into the market; allowing Aadhaar/eKYC to open accounts; and developing a national financial inclusion strategy with a focus on digitizing government-to-person (G2P) payments.

8. Fin tech Innovations driving Financial Inclusion in India

A. Digital transformation enabling financial inclusion for the masses

Payments and financial technology are the areas experiencing maximum enablement and hence transformation in the Indian market. A major breakthrough in digital transformation resulted in laying the foundation for extensive technology innovation in this field. The introduction of UPI by the National Payments Corporation of India (NPCI), the draft guidelines on peer-to-peer (P2P) and alternative lending platforms and the plan to come up with guidelines governing the use of virtual currency are just a few such examples. These emerging technologies can be leveraged for driving financial inclusion for the masses as well as the other neglected segments of society.

B. Driving financial inclusion by simplifying P2P remittances

Many start-ups have entered this space and have simplified mobile money transfer. Some of the applications facilitate P2P money transfer for customers of banks without using bank account details. Many banks are leveraging NPCI's Immediate Payment Service (IMPS) platform to launch their own mobile wallets. In some cases, digital wallets are integrated with social media features for payment solutions enabling money transfer, P2P transfer, etc. The UPI platform collectively uses Aadhaar, mobile and account numbers to achieve the goal of simplifying digital payments and collections. With a seamless user interface and payments through a virtual payment address (VPA), UPI can enable customer-centric business and technology models for the mass market.

C. Financial inclusion of SMEs through alternative lending

The healthy performance of SME sector in India is vital for the economy, however, a majority of the SMEs do not have access to formal credit due to issues like small ticket size of loans, high underwriting, transaction and acquisition cost, lack of collaterals, lack of formal credit rating leading to perception of high risk, which in turn results in high turnaround time for loan processing. A majority of these challenges are being overcome through the application of technology. Several Fin tech start-ups are using artificial intelligence (AI) and machine learning (ML) to create an alternate lending score by analyzing personal, professional, social and financial details employing innovative data-driven and the behavioral risk management models. Banks are partnering with Fin Tech firms and are taking the entire process online to reduce the transaction cost and turnaround time. This has led to the emergence of a new sector known as alternative lending, which is essentially an online platform for lenders (retail or institutional) to lend directly to borrowers (individual or corporate).

D. Financial inclusion by simplifying government payments

Many banks are driving financial inclusion by acting as sponsor banks for disbursing government to person (G2P) payments. Many Fin Tech companies are leveraging the IMPS platform and offering solutions to banks to simplify government payments. Low-cost POS devices are helping villagers in remote areas to deposit and withdraw funds. Another example worth mentioning here is that of a tie-up between a digital payment solution company and milk dairies and cooperative societies to digitize the payments and enable direct payments in farmers' account/prepaid card.

E. Low-cost technology to improve acceptance infrastructure and widen reach

The reach of financial services in India is restricted by logistics and infrastructural issues. To counter these issues, Banks and technology firms are looking to leverage the growing smartphone penetration. As a result, the adoption of mobile devices for POS transactions or mobile POS holds immense potential. Most of the SMEs in India do not have a high investment capital and are hence restricted in the ways they can accept payments from customers (most accept 'cash-only' payments). Mobile POS platforms represent an affordable channel for them to accept non-cash payment from cards and mobile phones. These systems require less upfront investment; moreover, their maintenance is more economical than that of conventional POS systems. Many merchants are also seeking to replace the traditional fixed payment terminals and cash registers with tablets linked to mobile POS devices or smart POS. Several payment banks and enablers have started tying up with kirana stores in semi-urban and rural areas as they seek to grow in regions underserved by banks.

9. The way forward

Almost half of the world's unbanked live in seven countries: China, India, Pakistan, Indonesia, Nigeria, Mexico and Bangladesh. Spectacular progress has been made in China and India, and similar strategies for digital financial inclusion have been developed in Indonesia, Mexico, Pakistan and Bangladesh. Many other countries are developing similar strategies to support the transformation offered by digital finance. Mobile phones and the internet have created new opportunities for providing financial services. Relatively simple, text-based mobile phones allow the use of mobile money accounts, and smartphone technology provides a convenient means for people to make transactions from their financial institution account. But people's ability to use digital financial services like these depends on their having access to the necessary technology. Having access to the internet as well as a mobile phone brings a wider range of financial services within reach.

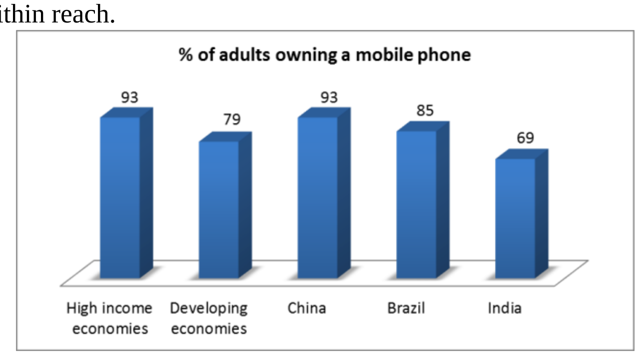

Fig. 2. Mobile penetration in different economies
Source Gallup Word Poll 2017

A strategy to develop digital financial infrastructure rests on the availability of communications infrastructure and offers the greatest potential in countries with high smartphone penetration rates and inefficient financial systems. While financial inclusion remains a challenge in many countries, the cost of smartphones is falling rapidly and the construction of supporting infrastructure is proceeding apace in most markets, especially in urban and semi-urban areas. The 2017 Global Fin dex has highlighted that financial access often varies greatly between more affluent urban dwellers and poor, rural residents and the elderly. These along with the gender disparity in account ownership pose some of the major challenges towards the goal of universal financial inclusion. The four pillar strategy as discussed earlier has the potential to address the vast majority of these problems including gender based disparities and enabling the 'last mile' touch point in digital financial inclusion. With an appropriate framework of digital infrastructure and an enabling policy and regulatory environment, the development of digital financial ecosystems holds great promise for supporting financial inclusion and economic growth around the world.

10. Looking ahead -- India

Increasing smartphone penetration and increasing access to the internet are making it easier for start-ups to reach lower and middle-income groups. Government initiatives in India such as UPI, Jan-Dhan, Aadhaar and GST have provided underlying infrastructure for fin tech companies to permeate 'last mile' touch points. Fin tech companies are slowly adapting themselves to meet the needs of this segment. The demonetization of the high-value currency notes was a catalyst for mass scale Fin tech adoption. The Indian consumers in smaller areas are now slowly becoming more open towards adopting UPI platforms and mobile phone wallets such as Pay tm, giving a boost to financial inclusion in the country. As digital platforms become the norm, data security becomes increasingly important too. The explosion of data available in digital formats makes it susceptible to security breaches. Block chain technology can help solve the problem of data security and control. A significant barrier to accessing financial services for individuals at the base of the pyramid is lack of required documents. Block chain technology can resolve this challenge by creating digital identities for the unbanked, thus allowing them to start taking advantage of banking services. These identities can be shared with trusted entities across the block chain, and used for various business, social, and financial transactions such as the flow of remittance from unbanked Indian workers overseas. Block chain technology has the potential to lead the way to India's universal financial inclusion in the coming years.

11. Conclusion

The 2017 Global Findex database showed that between 2014 and 2017, the share of adults who have an account with a financial institution or through a mobile money service rose globally from 62% to 69%, although still 1.7 billion adults remain unbanked. The drive towards universal financial inclusion is high on the agenda for many at both national and global levels. It also remains the World Bank's and United Nation's primary agenda to foster sustainable economic development of the global economy. Fin tech have emerged as the driving force behind financial inclusion and empowerment in developing economies. In many countries fin tech innovators and entrepreneurs are seizing the day and creating new businesses to tackle financial inclusion. Start-ups across both developed and developing countries are answering the World Bank's call and the tangible outcomes have been phenomenal so far. Start-ups are also working hard to address another key issue in connecting the majority of the "unbanked" and "under banked" in developing economies. The majority of these individuals live in rural areas that lack the digital infrastructure. Government initiatives in India such as UPI, Jan-Dhan, Aadhaar and GST have provided underlying infrastructure for fin tech companies to permeate 'last mile' touch points. The beauty of this new wave of innovation is that the mobile technology and the use of data is a given. Not restricted by legacy technology systems or thinking, these entrepreneurial teams are able to solve major societal issues across the globe. It is expected that most of the economies will formulate appropriate strategies to support the ecosystem, infrastructure and policy environment for a transformative digital financial system, financial inclusion and sustainable economic development.

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