How FinTechs And Their Partnerships With Financial Institutions Are Closing The Banking Gap:

Challenges And Opportunities Faced Towards Greater Financial Inclusion

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Abstract

FinTechs have been on the forefront of the financial services industry's reshape. There is a sound potential impact of such technologies worldwide, and more specifically among the 1.7 billion adults who constitute the unbanked, who lack affordable, useful and sustainable access to financial services and products.

Financial inclusion has been on key players' agendas for the past few years, considered to be key in reducing poverty and boosting prosperity worldwide.

While financial institutions have long enjoyed a centrality in customers' financial lives, and FinTechs threaten it by replacing parts of their value chains with innovative solutions, this competitive mindset becomes a cooperative one when developing economies are the target, where accessing unbanked populations requires the cooperation between both players, in order to reach a profitable and effective solution that brings together the know-how and trust afforded by banks and the innovative skills brought by FinTechs.

In this work, we have analyzed how partnerships have been made possible and what constitute their challenges, as despite allowing to overcome several constraints that impeded the unbanked to be served, finding the right partner, efficiently working together and effectively scaling innovation, is not always straightforward.

Many services provided by partnerships have not yet been through a complete financial cycle, and their benefits to financial inclusion take time to flourish. But one can already conclude that if both players are able to partner successfully, overcoming culture, working methods and ambition's differences, financial inclusion will continue to be targeted and one day, hopefully, fully addressed.

Contents

Personal Motivation

In my first year of studying Business Administration at Católica Lisbon School of Business and Economics I decided that it was time to try something new in what came to my volunteering experiences. For the previous five years I had managed to conciliate my studies with different opportunities to help others in need, in several parts of the country, but it was now the time to go abroad and explore different cultures, ways of thinking and getting outside of my comfort zone. I knew by far the country I would choose for this purpose – the decision had actually been taken some years before that, when a particular book about the country had left me very impressed. And so, in the summer of 2008, I landed in incredible-India where I spent four months.

While there, among other unforgettable experiences such as traveling from north to south, east to west, or caring for those known as the *untouchable* with the Missionaries of Charity, I was co-responsible for the creation of a NGO that would care for street children and adults, giving them a purpose in life through the development of a particular skill from which they could earn a living. Whether it was learning English to become tourist guides, learning the art of crafts to sell in local shops or understanding mathematics and negotiation to one day become owners of their own businesses, my *students* were 100% committed to prospering in life with this little help of ours.

Several years later today, when the need to find a topic for my Master Thesis came up, I recalled the wonderful people I had met in India and thought how their own businesses may be flourishing by now. Truth is, I am positive that this is precisely the type of population that fits into the *unbanked* definition, one that is hardly accessing banking credit to start a business due to lack of credit history, a bank account or a stable financial situation.

As the World Bank puts it in the 2017 Global Findex Report, financial services can be key to development as they “help people escape poverty by facilitating investments in their health, education, and businesses. And they make it easier to manage financial emergencies – such as a job loss or crop failure – that can push families into destitution. Many poor people around the world lack the financial services that can serve these functions, such as bank accounts and digital payments. Instead, they rely on cash – which can be unsafe and hard to manage”.

On the other hand, India is well known for its IT talented population which makes it the perfect country for alternative financial services providers to prosper, ones that can serve the hard-to-reach populations and allow them to become financially included in the society.

And this was how a topic that will be explored throughout this work arose: my purpose is to analyze the challenges and opportunities faced by FinTechs that work towards closing the banking gap. I hope this provides a solid base to understand how financial inclusion has been evolving in the latest years, what is the current landscape of digital payments and more specifically FinTechs, and what is there still to be done to definitely close the banking gap and reach a full financial inclusion globally.

Thesis Structure

This Thesis has been set out in six chapters. Chapter I provides an **Introduction** to this work, with an overview of FinTechs and its potential to foster financial inclusion, briefly summarizing the challenges and opportunities of the current landscape.

Chapter II deals specifically with **Financial Inclusion** and explores the reasons for it to be decisive in the development of individuals across geographies, highlighting who the unbanked encompass and what the most significant barriers for one to remain unbanked are.

Chapter III discusses **Account Ownership**, analyzing the developments made worldwide, identifying the most relevant gaps still in place and understanding what are the areas that currently need to be addressed to increase account ownership. It also analyzes the most recent data regarding what prompts individuals to increase **Account Usage** and the importance of **Financial Resilience**.

Chapter IV discusses the role of **Digital Technology** in account ownership and how the shift from cash to digital payments has had several benefits, despite the challenges that are still to be addressed. It also analyzes the FinTech concept and architecture, the current landscape for these new technologies and what the growth drivers and prospects are. It further highlights the cyber risks and other vulnerabilities that have emerged from these solutions.

Chapter V analyzes how **Partnerships between FinTechs and Financial Institutions** have been increasing, the value proposition behind it and what are the main challenges faced by both sides of the equation.

Chapter VI summarizes this Thesis **Main Findings** and what are the challenges and opportunities that need to be addressed in order to unlock the FinTechs' transformative potential in the financial inclusion arena.

It is important for me to highlight the key contribution of a tool that is mentioned frequently throughout this work, the 2017 World Bank's Global Financial Inclusion (Global Findex) report and database[1]. This tool constituted an invaluable data set that has helped to sustain this work with rigorous metrics, given its multidimensional picture of where the world currently stands in what financial inclusion is concerned and what is

[1] Demirgüç-Kunt, Asli, Leora Klapper, Dorothe Singer, Saniya Ansar, and Jake Hess. 2018. The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution. Washington, DC: World Bank.

still there to be done. The Global Findex has been key in helping governments and organizations realize how citizens make use of their accounts, where gaps remain and what is the best way to target interventions. Unless otherwise stated, the metrics related to financial inclusion and account ownership, mentioned in Chapters II, III and IV, were extracted from this source.

Chapter 1

Introduction

Technology has prompted the reshape of the financial services industry in the latest years, with new technologies offering a great potential to expand these services globally. Innovative technologies and business models have significantly reduced the cost for making transactions, helping to serve people that, until this point, had no access to financial services. Besides this straightforward benefit of convenience, these new services can also reduce costs and prompt the security of money transactions, spurring economic growth and easing income inequality.

Financial Technologies or FinTechs, comprehend the use of technologies to provide financial services or products. Such digital tools have been challenging financial institutions' legacy business models, as they create disruptive and convenient means for people to make transactions. Traditional banks are generally known for their old way of handling financial services and not exactly for their innovative approach. FinTechs, on the other hand, have been specializing in data collection and analytics, while reinventing and rethinking the way services are provided.

Nowadays, there is a compelling economic case for countries to integrate these solutions in what comes to serve about 1.7 billion adults globally (mainly in developing countries), who continue to have no access to financial services. This adds to the 200 million businesses lacking access to savings and credit, which constitutes a key growth barrier. Together, these account for what is generally defined as the *unbanked*: individuals and businesses who have no "access to useful and affordable financial products and services that meet their needs – transactions, payments, savings, credit and insurance – delivered in a responsible and sustainable way"[2].

While there has been some progresses in tapping this very large market towards financial inclusion, significant challenges remain. The most common barriers stated by the unbanked include lack of enough money, religion, long distances to reach a financial services provider and absence of key documentation. Also, as mentioned above, several

[2] World Bank's website, Financial Inclusion Overview section. Available at https://www.worldbank.org/en/topic/financialinclusion/overview

informal businesses in developing economies have no access to financing, which would allow the scaling of operations, due to inexistence of collaterals and a credit history[3].

Financial inclusion has been on key players' agendas for the previous years, including regulatory bodies, policymakers and development agencies. The G20 has been especially involved in advancing financial inclusion globally through the implementation of the G20 High-Level Principles for Digital Financial Inclusion (a description of each of the 8 Principles can be found in Appendix A). The World Bank believes financial inclusion to be a key trigger to diminish poverty and prompt prosperity, explaining the setup of a plan to reach, by 2020, what has been defined as the Universal Financial Access.

FinTechs are "emerging as an innovative way to achieve financial inclusion and the broader objective of inclusive growth"[4]. For instance, the adoption of certain technologies that allow for the identification of clients can improve Know Your Customer (KYC) procedures, while credit scoring platforms that rethink and adapt their scoring processes can provide further information and help to select which businesses should be financed. Then, as the client is identified, and its creditworthiness proven, "loan disbursement can be improved by mobile and internet banking, crowd lending and the use of virtual currencies"[5].

The relationship between FinTechs and traditional banking services providers has not always been peaceful and still has significant room to grow. But more and more, these two sets of players are finding the need to compete less and join their strengths, partnering and pushing each other to go further, allowing hard-to-reach populations and businesses to access financial services. In the financial inclusion arena, when a bank and its expertise in risk management, compliance and low-cost funds meets advanced technology, and both institutions build something customer-focused, a solution will mostly probably arise, one that is profitable for both sides and offers a real benefit to the unbanked.

[3] Julapa Jagtiani and Catharine Lemieux. Fintech Lending: Financial Inclusion, Risk Pricing, and Alternative Information. July 2017. WP no. 17-17, Research Department, Federal Reserve Bank of Philadelphia.
[4] Inutu Lukonga. Fintech, Inclusive Growth and Cyber Risks: A Focus on the MENAP and CCA Regions. September 2018. IMF WP/18/201.
[5] ING, FinTech for micro, small and medium sized enterprises: Creating jobs at the bottom of the pyramid through financial and digital innovation.

Chapter 2

Financial Inclusion

2.1 Why it is key for development

Financial inclusion is considered to be a key enabling element in the fight against poverty worldwide and in boosting shared prosperity[6]. This has been the main trigger for the increasing focus on financial inclusion policies and initiatives of policymakers, regulators and development agencies globally.

For an individual to be financially included in an economy, there needs to be access to a financial offering that is both affordable and useful[7], and this must be delivered sustainably. Having the possibility to access an account allows people to perform some of the most basic financial transactions that can be life changing, despite their apparently minor impact. These include sending or receiving payments, saving funds, being able to access a broader spectrum of financial services, including credit to initiate a business, pay for health and education, offset risk, or absorb unexpected shocks.

When individuals, families or companies, are financially included and thus enjoy financial access, day-to-day activities are automatically and unconsciously eased, and long-term objectives and unexpected emergencies become better sustained. In short, the overall quality of lives improve significantly[8].

There are still several hurdles faced by countries in their efforts towards financial inclusion, including the existence of hard-to-reach citizens, significant financial illiteracy, inexistence of valid identification documents (IDs) and accessible means for these to be authenticated. Other hurdles include understanding what the most useful and relevant financial products are in order to meet the needs of consumers, while establishing a robust financial consumer protection framework.

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[6] Financial inclusion stands as an enabler for 7 of the 17 Sustainable Development Goals set by the United Nations. For further details see: https://www.un.org/sustainabledevelopment/sustainable-development-goals/

[7] Vinita Godinho and Supriya Singh. Technology Enabled Financial Inclusion and Evidence-Based Policy for the Underbanked: A study of Remote Indigenous Australia. RMIT University and the Smart Services Cooperative Research Centre.

[8] Mandira Sarma and Jesim Pais. Financial Inclusion and Development. May 2010. Journal of International Development.

As we will see throughout this work, digital financial technologies, generally defined as FinTechs, have been key to overcome several of the hurdles identified above and to expand services at a lower cost when compared to legacy financial services providers.

2.2 Describing the *unbanked*

According to the 2017 Global Findex[9], about 1.7 billion adults globally (2014: 2 billion), do not have an account at a financial institution or through a mobile money provider, constituting what is generally defined as the unbanked population.

In developed countries, having an account is almost considered to be universal, which means that virtually all the 1.7 billion adults without a bank account, come from countries belonging to the developing world: almost 50% of these live in one of seven developing economies including India, China, Pakistan, Indonesia, Nigeria, Bangladesh and Mexico.

The unbanked encompass several social groups, ranging from families with a reduced income level, those that do not have a job, elder people, those living in hard-to-reach areas, immigrants and those who speak little or no English, people with disabilities and those who do not trust financial services providers. Women constitute about 56% of all unbanked adults globally. It is interesting to note that, even in economies that have been successful at increasing account ownership and in which the share of unbanked adults is now relatively small, women continue to present a gap to men in what account ownership is concerned. In both China and India, women make up for 60% of total unbanked adults, with the share being even higher in Turkey.

Another important aspect of the unbanked adults is that they are disproportionately young, with 30% globally standing between the ages of 15 and 24 years old. In India and Kenya, about four in every ten adults without a bank account belong to this age group. Going forward, the unbanked (including both genders), are more concentrated in lower-income households and thus have low educational attainment.

The causes for citizens to remain unbanked vary across regions. ID verification, assets ownership and valuation, and credit history, are some of the many hurdles financial institutions and financial technology companies encounter when trying to reach the unbanked. The most common barriers cited by the unbanked are the lack of enough money, the high cost of having an account, the fact that a family member already has one

[9] Demirgüç-Kunt, Asli, Leora Klapper, Dorothe Singer, Saniya Ansar, and Jake Hess. 2018. The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution. Washington, DC: World Bank.

(a reason cited mostly by women), distance, documentation requirements, distrust in the financial system and religious concerns (the share being substantially higher in economies where Muslim populations are predominant).

In many cases, the unbanked remain in this situation as the cost of providing financial services to such communities outweighs the potential returns on investment for financial providers.

In the unbanked space that financial institutions leave untapped, others are sometimes willing to fill in the gap, including intermediaries that recur to excess rates for fund transfers and loan sharks. This harms the unbanked even further, as their cycle of poverty increases, accentuating their inability to become financially stable. The absence of credit and access to other financial services drives consumers to alternative providers, which may come at a much higher cost and risk than traditional financial services. This may cause a devastating effect on the lives of borrowers and their families. These people are more subject to the snowball effect as these alternative entities target heavily indebted or unemployed citizens, offering the idea of a debt relief which is in the end a further extension in the length of time that they remain in financial distress.

It is also relevant to mention that financial inclusion efforts aim not only at targeting the unbanked but also what is known as the *under banked*. These constitute people with poor or unreliable access to formal financial services, such as consumers that open an account to receive government transfers but as the money enters the account it is immediately withdrawn to be used solely in a physical, cash-based way.

Chapter 3

Account Ownership

3.1 Global overview

About 69% of adults globally are provided with an important financial tool – an account. This number increased significantly since 2011 when the share of adults with an account stood at 51%. Accounts constitute an effective way to keep liquidity and savings while providing easiness in paying bills, accessing credit, making purchases or sending and receiving remittances[10].

To own an account is to possess one, at an individual or jointly level, either at a financial institution or by recurring to a mobile money provider. Among the 69% of adults who own an account, about 64% have it through at a financial institution. In developed countries, 94% of adults are in possession of an account, while in the developing ones this number shrinks to 63%.

The growth in account ownership has been very different among developing economies, dependent on the efforts made by key stakeholders. In India, for instance, the share of adults in possession of an account has more than doubled since 2011 to date, currently standing at 80%, justified by a 2014 government support to provide accounts for unbanked citizens, by recurring to biometric identification cards.

3.2 Gaps in account ownership

Account ownership growth has benefited groups distinctively. In terms of genders, it is less probable for women to possess an account, than it is for men. The gender gap stands at 7% (roughly the same as in 2011 and 2014), with 65% women globally having an account against 72% for men. This gap increases to 8% in developing economies, with 59% women having an account, against 67% for men.

Indeed, the gender gap is a reality in almost every developing economy, although its size varies across geographies. In high-income economies there are also cases of gender gaps.

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[10] Franklin Allen, Asli, Demirguc-Kunt, Leora Klapper and Maria Soledad Martinez Peria. The Foundations of Financial Inclusion: Understanding Ownership and Use of Formal Accounts. December 2012. The World Bank Development Research Group Finance and Private Sector Development Team.

There are countries in which the financial inclusion's progress has been slowed by a large gender gap as the overall rate of account ownership results from the average of both men and women's share of account possession. In these countries, the increase in account ownership must prioritize financial inclusion for women[11].

In other economies such as India, different effects have happened. By 2014, women were 20% less likely than men to own an account, a gap that has declined to 6%.

As can be seen, some countries registered an increase in account ownership but this effect was not done transversally to both men and women. More inclusive growth in account ownership focused on women needs may lead to faster overall progress in the future.

Another relevant gap to be discussed is that between the richer and poorer. Globally, on average, adults with less financial possibilities are less likely to possess an account.

Age, educational and employment status, or living in rural areas, are also important features to be taken into consideration when analyzing the likelihood of having an account. Adults that have little formal education are more likely to be poor, which builds up on the challenge of increasing financial inclusion for this particular segment.

Active adults in the labor force, including those who are employed or searching for a job, are also more likely to hold an account than those who are not. Working adults are much more dependent on financial services in order to receive their wage payments from an employer or save the earnings of a business.

Account ownership is more likely in adults that live in urban areas than those who live in rural ones. This gap is usually the most difficult to quantify, as the distinction between urban and rural areas is not direct across geographies.

3.3 The use of accounts

The first approach to financial inclusion arises when an individual holds an account. But to make a full use of its benefits, there is a need to know how to use it in a safe and convenient way, taking advantage of the full benefits of being financially included.

The use of accounts for digital payments has been increasing in the past years but in some geographies, such as India, the use of digital payments is still very low. In high-income economies, recurring to digital payments among account owners is nearly universal for

[11] Sowjanya S. Shetty, V. B. Hans and Prakasha Rao A. Self Help Groups, Financial Inclusion and Women Empowerment – A Critique. September 2015. Karnataka State, India.

both genders. However, in developing economies the picture differs, with men surpassing women by 5% on average.

The internet and the use of mobile phones increasingly offer alternative ways to make payments through accounts. There is also the phenomenon of accounts that remain inactive. The share of these accounts among account owners varies across geographies and India stands as the country with the highest share in the world at 48%, about twice as the 25% average for developing economies. This is in part explained by the government's Jan Dhan Yojana scheme already mentioned[12], which by March 2018 had welcomed 310 million Indian citizens into the financial system. Even so, many of these citizens may not have yet used their new account.

3.4 Financial resilience

The ability to offset or manage financial risk is key for those who earn their living through agriculture (growth of crops or livestock raising), as these are exposed to weather and disease shocks. Thus, this segment of the population is very likely to adhere to account ownership, if given the means for that, in order to have a trusted place to save funds and access credit, and thus better manage the intrinsic risks associated to their activity.

People save for several purposes but mostly for future expenses. When they are confronted with immediate expenses, the most common option is to borrow instead. In developing economies, the most common way for almost 50% of borrowers is to recur to family and friends.

[12] Asli Demirguc-Kunt, Leora Klapper, Saniya Ansar and Aditya Jagati. Making It Easier to Apply for a Bank Account: A Study of the Indian Market. September 2017. World Bank. Policy Research WP 8205.

Chapter 4

Digital Technology

New technologies such as the internet and mobile phones have prompted new and disruptive ways to grow account ownership among the 1.7 billion that remain unbanked and to increase the use of accounts among those who are already banked. But the shift of payments from cash into accounts has several benefits besides the increase in account ownership or account usage. Digitizing payments increases their speed, convenience and efficiency, enhancing the access to affordable financial services for everyone. It also increases payments' security, lowering crime frequency. Furthermore, given the increased transparency, the room for corruption declines.

The main challenge relies on ensuring that these new alternatives are better than the cash-based ones, as the first can only prompt financial inclusion if the right physical infrastructure (electricity and mobile networks) is set in place. When the frequency of network outages in a particular geography is significant or there are other technical problems undermining its usage, this goal is harmed.

Several barriers arise when considering providing financial services to everyone worldwide, as we will explore in the following chapters, but throughout this path of increasing financial inclusion, several potential solutions have already been discovered as well. In rural areas, for instance, financial institutions may find it cost-ineffective to open a branch where a significant slice of the unbanked population lives. For this purpose, the agent banking figure was adopted, which consists on forming partnerships with entities such as post offices or retail shops to serve as intermediaries that offer basic financial services to customers, including the ability to deposit and withdraw cash in a safe, reliable and convenient way.

Moreover, to ensure the maximum benefit is extracted from digital financial services it is mandatory that governments implement the right regulations and consumer protection frameworks.

4.1 The role of technology and innovation

Globally, about 1.1 billion unbanked adults have a mobile phone. Unbanked women are less likely to have one (62%) when compared to unbanked men (72%). Digital financial services may prompt the distance reduction between people and financial institutions. They may also reduce the cost of providing financial services as less physical investments are usually required.

There are still millions of unbanked citizens worldwide getting regular payments in the form of cash, including wages, government transfers or the result of agricultural products' sale. Therefore, there is significant room for growth if these payments are made digitally through an account rather than being cash-based.

The increasing data consumption and the digitization of commerce, coupled with advanced data analysis tools, have contributed to a transformation in the way people relate to transactions. Focusing on the later, the significant data produced through all the interactions made online and the records that are consequently generated become usable and allow for a better understanding of the needs of those who remain unbanked due to their lack of relevant historical information.

Other enablers include biometric identification technology, which allows for remote account-opening, cloud computing and open APIs (Application Programming Interfaces), which ease systems' integration between two parties, and distributed ledger technology, or block chain, which allows to verify and complete transactions in a fast and convenient way.

But as technology can have a positive and determinant impact on financial inclusion, some risks may also arise. Thus, the legal and regulatory framework must be adapted accordingly, in order to ensure the minimization of potential risks.

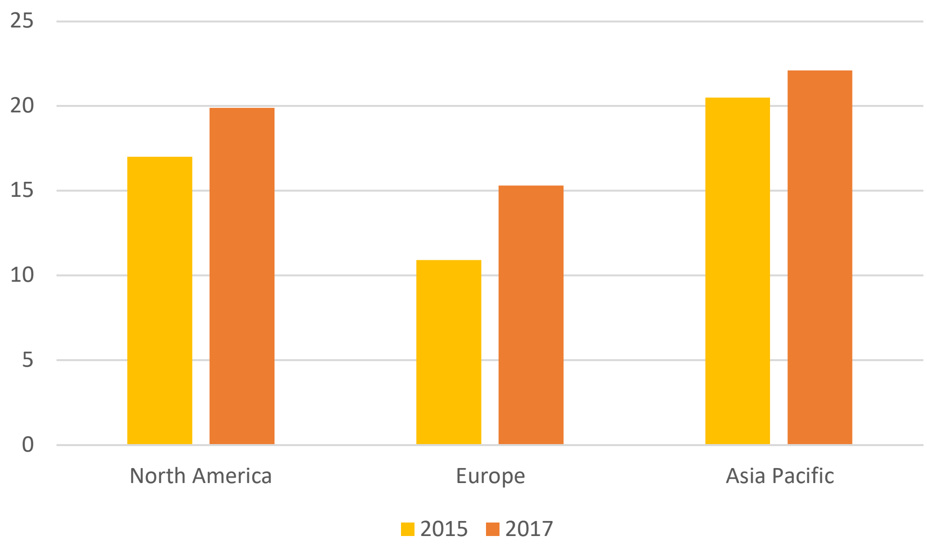
4.2 Financial Technology

Financial exclusion comes at a high cost and risk for both individuals and governments. For the unbanked, characterized for having no bank account, no credit score, no personal verification and no involvement established with a financial institution, technology stands as the key enabler when seeking to gain access to financial services.

Financial Technology or FinTechs comprehend the use of technological innovation to deliver financial products and services. FinTechs have been the drivers to several alternatives, prompting new business models in the financial sector. These new alternatives challenge and in some cases displace legacy financial institutions, as they approach data as a key commodity.

The customer designed approach has been decisive to the way FinTechs have been thriving in developing economies. Despite having begun to address the matter of digitalization for some time now, banks relied for a long time on their established banking infrastructure and somehow neglected the need for innovation. Part of this delay has been a consequence of the global financial meltdown of 2008[13] along with several regulatory, compliance and accounting matters, most notably Basel III. As such, non-established finance players took the chance to tap into the financial services industry and grab a piece of the pie. But banks are more and more focusing on new technological solutions in order to increase their competitiveness, and to retain customers, while attracting new ones. This provides FinTechs with more room for growth.

Figure 1. Forecast of bank spending on new technologies (2015 and 2017, by region; US$bn)



Source: Statista. Bank expenditures correspond to forecasted figures.

FinTechs have also been responding to the change in the demand of consumers, mainly millennials, who grew in a digital environment and are not as loyal to financial institutions as their ancestors. Indeed, millennials have been significantly contributing to the changes prompted by FinTechs towards reshaping the banking industry, as this is believed to be a generation that is known to think and risk big. As examples there is Stripe[14], an online payment processing for internet businesses, started by two brothers

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[13] Roy S. Freedman. Financial Technology and Services at a Time of Economic Turmoil. Fall 2008. Polytechnic Institute of NYU Department of Finance and Risk Engineering Newsletter No 7.
[14] Official website: https://stripe.com/pt

who were 19 and 21 years old at the time, or Venmo[15], a free digital wallet that allows payments to be made and shared with connections, started by two friends in their 20s.

In developing economies, hundreds of FinTech innovations and underlying technologies aim at increasing financial inclusion[16] by finding solutions to challenges including "large unbanked populations, SMEs whose growth is constrained by limited access to finance, high youth unemployment, large remittance markets and informal transfers, undiversified economies, vulnerabilities to terrorism, large income disparities, large displaced populations, and endemic corruption"[17].

4.2.1 Current landscape

The recurrence to new technologies by financial institutions differs significantly from country to country, as several are still to implement the simplest solutions including ATMs and credit cards. Thus, in developing countries where such a landscape prevails, FinTechs and mobile financial services are still at a nascent stage, prompted by the lack of talent, regulation, high costs, and weak infrastructures.

In some regions, banks have been seeking partnerships in areas that include artificial intelligence, block chain, digital transformation, cloud solutions, smart payments and cyber security, among others.

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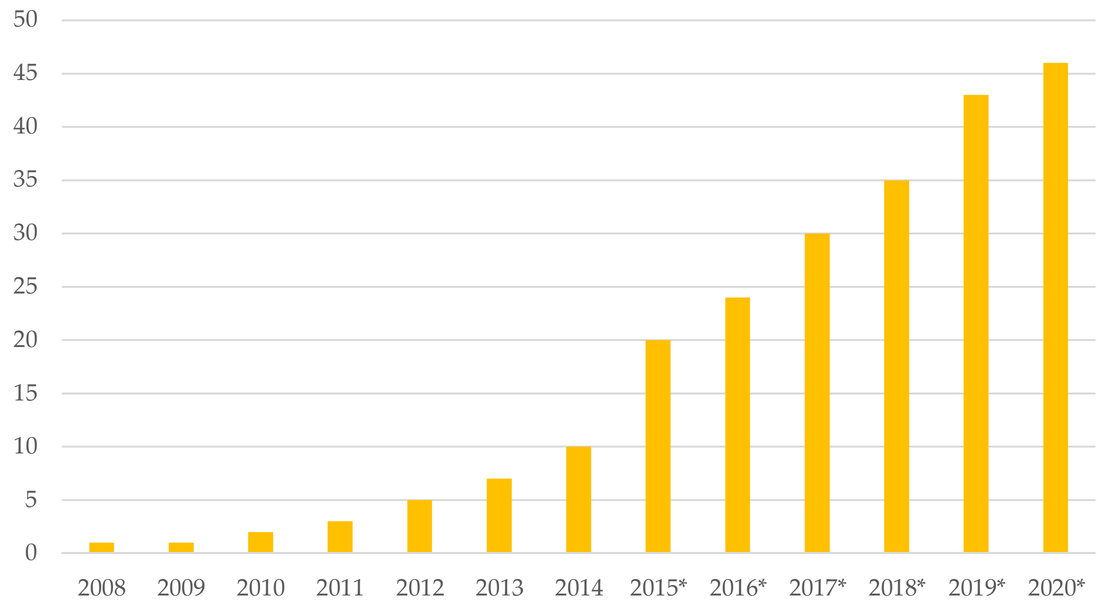
[15] Official website: https://venmo.com/

[16] Emily Lee. Financial Inclusion: A Challenge to the New Paradigm of Financial Technology, Regulatory Technology and Anti-Money Laundering Law.

[17] Inutu Lukonga. Fintech, Inclusive Growth and Cyber Risks: A Focus on the MENAP and CCA Regions. September 2018. IMF WP/18/201.

Figure 2. Total FinTech investments worldwide (2008 - 2020; US$bn)



Source: Statista. Years marked with (*) correspond to forecasted figures.

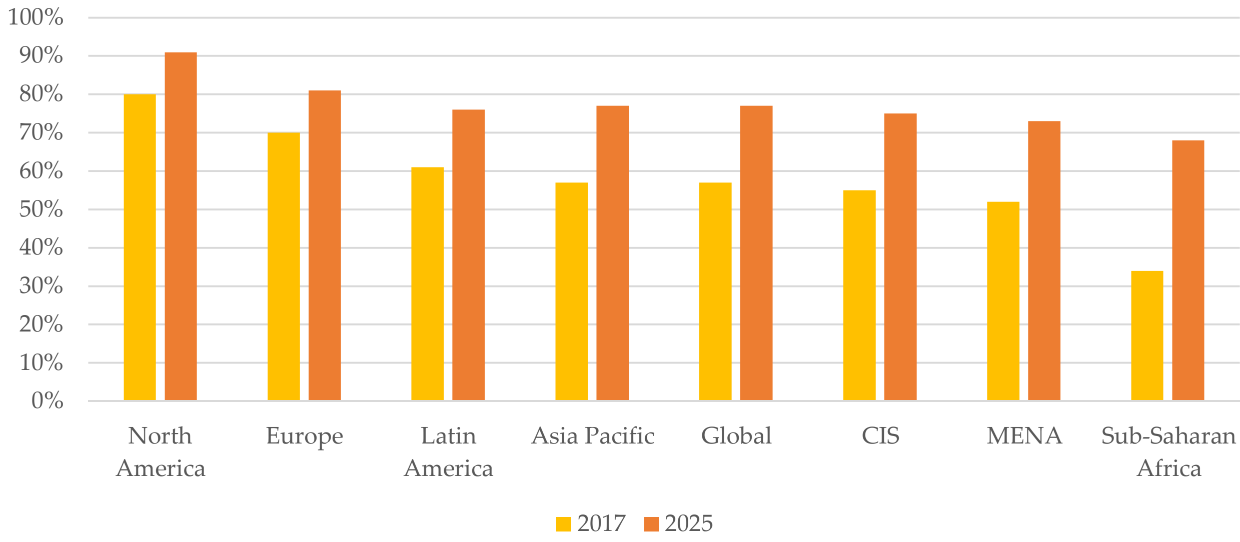
4.2.2 Growth drivers and prospects

A sustainable development of FinTechs requires enabling environments. For FinTechs to thrive, several mutually reinforcing factors need to be set in place. These mainly include a significant demand from the consumers' side in what concerns digital products, high information investments in information and communication technology (ICT) and government support. Other factors include a fast adoption of e-commerce, favorable demographics, and the growing positioning of FinTechs towards financial inclusion.

While most developed economies already have high smartphone adoption penetrations, new large mobile internet markets are emerging in developing economies. China already overtook the US back in 2012 to become the largest smartphone market by installed base and in 1H16, India also overtook the US and is now seeing an accelerated move to 4G[18]. Indonesia and Brazil are growing at a fast pace as well. These represent major addressable markets for FinTechs.

[18] GSMA, The Mobile Economy, India 2016.

Figure 3. Smartphone adoption
(as a % of total mobile connections excluding cellular IoT)



Source: GSMA "The Mobile Economy 2018"

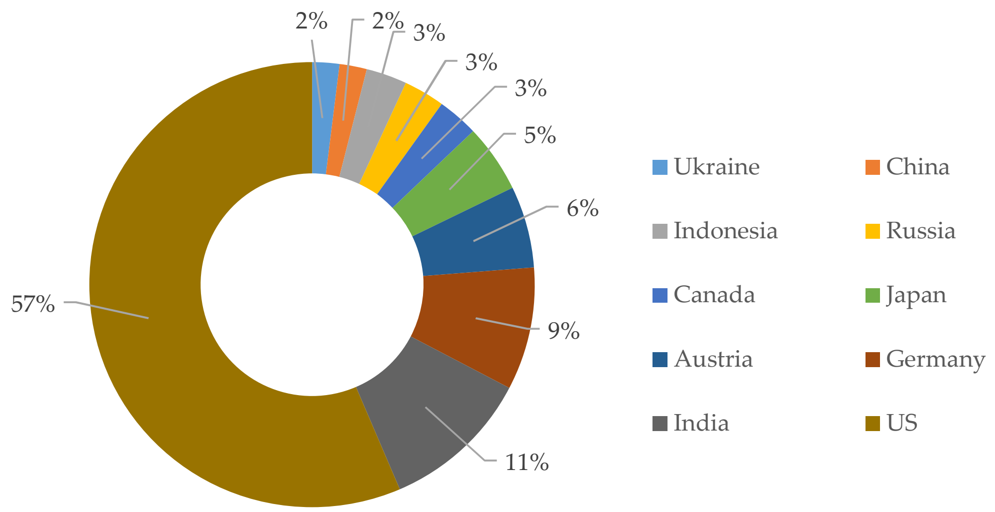
Going forward, there are still some developing economies where citizens lack trust in incumbent banks, leading to a constrained development of legacy institutions while presenting great opportunities for FinTechs.

Policy makers in developing economies in which there are a high and growing share of techie-millennials, an increasing trend in e-commerce and large unbanked populations, along with underserved SMEs, migrant workers and refugees, are demonstrating a target to leverage FinTechs as a mean to reach financial inclusion and economic diversification.

4.2.3 Cyber risks and other vulnerabilities

Cyber-attacks have been increasing in frequency and are unpredictable, with potential systemic impact. These risks existed long before the appearance of FinTechs but their potential frequency has increased as there are now more access points due to an increased connectivity. Ransom ware attacks are also increasing in volume, diversity and complexity, significantly damaging the targeted institutions, especially those of smaller dimensions.

Figure 4. Top 10 countries for mobile malware in 2017



Source: Symantec, Internet Security Threat Report Volume 23, March 2018

In some cases, besides investing in cyber technology, there is a need to invest in employers' training as these mistakes are believed to be one of the major threats to sensitive data. In developing economies, deficiencies in cybersecurity frameworks are very widespread and lack important mitigates.

4.2.4 Factors impeding growth

The most common obstacles hampering the potential growth of FinTechs include ill-suited regulation, talent and private capital to bring startups to sufficient scale and profitability, absence of trust, low financial literacy, low income levels and data security concerns.

The current landscape for licensing and regulating FinTechs may also present some challenges as a fast FinTech development requires that a significant number of layers composed by different institutions cooperate, including central banks, financial regulators and supervisors, among several others.

As for the talent gap, startups that rely on cloud computing, cybersecurity, machine learning and artificial intelligence, face the challenge of attracting and retaining the talent needed for the FinTech to succeed. Some governments have made this top priority and are promoting and investing in technical education to help unemployment in young ages and the shortage that countries have in digital talent. Other countries have also started to offer entry visas for investors and talented professionals.

In what concerns new entrants, the most common identified challenges are restrictive labor regulations, the access to finance, inflation, tax regulation, unreliable electricity supply, skill gaps, work ethics, policy instability and corruption and heavy government bureaucracy.

In several geographies, as will be explored further on, it is the demand factors referred to above, such as lack of trust in FinTechs, cyber security fears, among others, that prompt FinTechs to seek collaboration with banks.

Chapter 5

Partnering Made Possible

5.1 Rationale for partnering

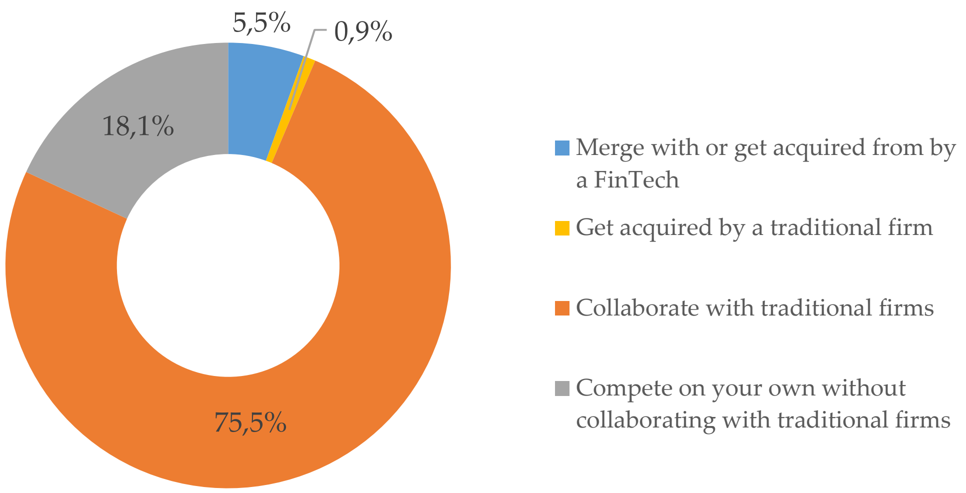
Financial institutions, particularly those positioned as investment banks, have had a long history of product innovation (asset-backed securities, derivatives and structured products) and of being early adopters of state of the art technologies (data-center virtualization, in-memory computing and algorithmic trading). When performed well, these innovations have brought important benefits. FinTechs on their part, are now offering similar opportunities but only if banks develop a holistic framework built upon a cohesive innovation architecture and one that relies on partnerships[19].

When one starts thinking about how companies like Spotify, iTunes, Netflix, Amazon or Twitter have revolutionized the way consumers deal with media, it is easy to see the potential of FinTechs. Competition comes in many shapes, and in the banking industry, competition can be seen as any product or service that somehow reduces revenues for players in the game. FinTechs do this, as in a way they pressure margins for legacy financial providers that were already part of the industry, whether by acting in the beginning, middle or end of the value chain.

By recurring to innovative technologies, FinTechs are increasingly able to deliver low-cost personalized products and are having a sound impact on raising customer expectations while providing frictionless banking services, which increases the pressure on traditional banks.

[19] Accenture. Getting Innovation Right: Top 10 Challenges for Investment Banks.

Figure 5. Primary business objectives of FinTechs (%, 2017)



Source: World FinTech Report Survey 2018, Capgemini, Linkedin and MaRS

The top reasons for FinTechs to partner with traditional banks are to enhance visibility by allying themselves with an established brand name, to achieve economies of scale, gain customers trust, access capital, and to deepen its expertise in regulation and risk management[20].

The main competitive advantages of FinTechs that are valuable for banks to be willing to partner instead of competing, include agility due to absence of legacy systems, the enhanced customer experience, accessing the development of new products while innovating in the existing ones, cost reduction and improved data management.

Traditional banks have reduced interest to address financially underserved markets as their business is historically focused on attracting customers through branches which in these areas becomes very costly, as there are poor infrastructures and low inherent profitability, along with other significant challenges[21]. On the other hand, financial institutions have long positioned themselves in the center stage of customers' financial lives. Any strong-enough entity that aims to replace this centrality poses a threat to the entire banking system. With new players such as Amazon or Facebook tapping into the financial market in order to replace the whole value chain of traditional banks, legacy financial institutions are feeling the pressure to innovate as not to lose their market share.

[20] Capgemini, Linkedin and MaRS. World FinTech Report Survey 2018.
[21] Julapa Jagtiani and Catharine Lemieux. Do Fintech Lenders Penetrate Areas That Are Underserved by Traditional Banks? WP 18-13.

And banks have already realized that it is only through innovation that they can leverage on the historical trust afforded to them by their customers.

The technologies that make FinTechs more efficient, such as artificial intelligence and data analytics, DLT (distributed ledger technology), cloud computing and APIs, can be used by banks to automate processes and improve supervisory efficiency and effectiveness.

Strategic partnerships between incumbents and FinTechs can help the first ones to "innovate quickly and prepare for new market competitors by establishing a superior digital experience with more specialized, higher quality, and lower cost services"[22]. Therefore, in opposition to a competition environment among financial institutions and FinTechs, the first ones are increasingly viewing FinTechs as great partners for innovation, giving them the chance to learn about innovation at minimal cost and risk.

5.2 Impacts in the value chain

Block chain, artificial intelligence and other FinTech innovations have the potential to reconfigure the whole value chain of financial services. By partnering with FinTechs, banks let these digital innovators focus on a specific part of their value chain, a specific trigger that they are not as efficient addressing.

FinTechs have been targeting industry niche areas with products and services that allow them to fill the gaps that are left by incumbents. In the last decade, FinTechs have penetrated nearly every financial services' segment. The areas range from marketing (advertising, branding and sales support), sales (customers acquisition and retention and multichannel management), products (different offerings) and transactions (payments, trading activities, custody, among others) to risk management, technology development, human resources and infrastructure.

Unlike before, when people were dependent on the physical presence of a branch to settle a bank transaction, they can now easily do most of it using the web or a mobile device. The number of customers that has not been at a bank in the past months is increasing in developed economies. And while in these countries the existence of branches is losing its core importance as a result of changing consumer demands and expectations, in

[22] Sonja Kelly, Dennis Ferenzy and Allyse McGrath. How Financial Institutions and FinTechs are Partnering for Inclusion: Lessons from the Frontlines. Institute of International Finance and Center for Financial Inclusion. 2017.

developing economies the reality differs, as customers still relate security and safety with a physical presence.

In developing economies there are FinTechs offering financial institutions the means to the unbanked segments of the population. The first ones have been focusing on ways to make it more cost-effective to supply the unbanked profitably, overcoming physical barriers and long distances.

5.3 Challenges to partnerships

As financial institutions and FinTechs partner with a common goal of increasing financial inclusion, the success of the outcome depends on several factors, some that are controllable by the partnered entities (creativity, dedication and foresight, among others) and some that are not, such as the regulatory processes or the length of time to move from idea to implementation.

The level of receptivity financial institutions have towards innovation varies according to the internal organization in place. To what level the person in charge of the innovation area inside the bank is committed to making significant changes where needed, as traditional bankers are usually risk-averse, can also determine the success of a partnership. Banks in which the most senior executives have performed an innovation or FinTech role in the past have greater willingness to think innovation inside the organization, without lifting as many hurdles as those who did not.

In terms of investment, it is very important to have what is known as a separately funded innovation arm, as it is more straightforward that profits are funneled towards operations rather than innovation.

As for the time horizon of partnerships, some FinTechs wait for one or two years before being able to move from idea to implementation, with significant delays negatively implicating the future of these startups. Nevertheless, in most cases, FinTechs are not expected to partner exclusively with one institution, and it is acceptable if they try to broaden the number of institutions with which they partner, shall some of these institutions end up quitting the partnership or developing the same software in house, after getting the majority of the know-how. Some banks impose an exclusivity clause in order to avoid competitors replicating their ideas, which comes at a cost and benefit.

Financial institutions can also offer favorable contract terms to FinTechs where banks cover pilot costs, or make strategic investments (buying a percentage of the FinTech and getting a seat on the board) to ensure the stability of the partnership.

There are other barriers including technical issues in system's integration or regulatory issues around data sharing, usage and ownership. Financial institutions try to grant FinTechs as little access to data as possible, allowing them to see some informations but not become the owners of that information (no transfer occurs).

From the moment a partnership is set and working, having demonstrated its scalability, utility and positive demand for the adjacent technology, both financial institutions and FinTechs may wish to pursue different paths. Banks make FinTech acquisitions both to protect themselves and to grow their internal capabilities, such as Facebook, Microsoft or Google have often done in the past in their own businesses.

While in the first approach to a new, unproven technology, a bank may wish to partner with a FinTech in order to avoid having to invest in the development of something that may end up with a negative cost-benefit trade-off, it is easier to justify an in-house technology development once this has been tested.

Still, many partnerships move from the willingness to address a specific part of the bank's value chain to the FinTech becoming the provider of many other engines that power the financial institution, allowing the entity to provide a truly digitized experience to its customers.

For FinTechs to thrive in both partnerships and in the financial inclusion arena, there are a set of challenges that can be addressed upfront. These include hedging against the risk of being shut down on regulatory grounds, as some FinTechs operate under the license of the bank with which they partner but others do not.

Another challenge that FinTechs must address for thriving is hiring and retaining the right talent, building a skilled team that is committed to its mission. When highly skilled professionals are reluctant to leave their jobs were salaries are more competitive, offering equity in the FinTech is a potential solution.

Other challenges that need to be addressed include approaching the right partners at the right time, having a clear value proposition for the potential partner and educating the market, explaining what the service being offered is about, especially when targeting the unbanked, whose financial literacy is reduced, if not null.

Chapter 6

Conclusion

A confluence of drivers contributed to the increasing adoption of FinTechs on a global scale. These included mainly the 2008 financial crisis and consequent partial loss of trust from customers, evolving technologies and the need to foster economic development through greater financial inclusion.

The financial arena, once considered relatively homogeneous, has transformed itself in a dynamic place, with the entrance of new players. At first, FinTechs were met with uncertainty from stakeholders that hardly believed these startups could overcome significant barriers to entry, including regulatory compliance, ability to scale and trust gaining. But as FinTechs started successfully making their way to the top, a second phase occurred, in which they began being seen by legacy institutions as true disruptors who would soon take over the banking industry.

A third instance occurred, one in which we currently stand, in which both FinTechs and traditional banks have reached the conclusion that several synergies may arise from partnering together. Banks that have struggled with innovation, have gradually accepted that FinTechs can be of great help to target customer needs for creative and agile solutions. FinTechs, on the other hand, have come to realize that to expand their base, gain customers' trust, reach scale of operations and thrive in a complex regulatory environment, they need to rely upon the support, experience and valuable insight of industry veterans.

FinTechs are known for their customer-centricity as they bridge the gap between what legacy financial services provide vis-à-vis what today's customers really want and need. These emerging technologies have eased the customer experience by suppressing several *pain points* across a customer's lifecycle. When we transpose this to the financial inclusion arena, it is easy to understand how FinTechs' personalization ability, quick response and easiness to reach what were once unreachable areas to legacy providers, will help the unbanked worldwide. By enjoying a customer-centricity focus, FinTechs have been helping financial institutions to address the challenge of account ownership and usage globally.

There was an overall progress in financial inclusion in the latest years, but some gaps persist at the same size as they were back in 2011. The 2017 Global Findex points out to a cautionary message, as women, the unemployed and the poor continue to be left behind. These gaps can only be addressed with a thorough understanding of what these groups need and look for in financial services, including the premises already known like privacy, low cost and security.

Financially including the unbanked and improving SMEs' financial access, will improve a country's economic diversification. Other important reforms in these geographies include improving efficiencies in government operations, creating jobs feasible with digital millennials, increasing transparency and reducing corruption, and FinTechs are in place to help countries achieve many of these targets. Partnerships have allowed to address several constraints that impeded banks to target financially excluded customers via traditional means. And while in high-income economies, financial institutions are not easily willing to give away their customer relationship, in developing economies banks are willing to let go of some of the control as they identify a clear positive trade-off.

However, partnerships also have some challenges, with banks struggling to find the right partner for their innovation needs, efficiently working together and finding the value proposition they can achieve with a collaboration, and effectively scaling innovation.

Thus, this has and will continue to be an ongoing discussion, as there are many services provided by FinTechs that have not been through a complete financial cycle. Furthermore, its impact on financial inclusion is ongoing and the benefits arising for the unbanked continue to grow, as new players enter the market with different solutions to tackle financial inclusion issues. Also, several regulatory bodies are taking the time to analyze the financial stability implications arising from FinTechs.

If both banks and FinTechs continue to partner successfully, overcoming their differences in terms of culture, working methods and ambitions, and if the relationship continues to be beneficial to both, there will be a sound impact in financial inclusion worldwide.

Appendixes

Appendix A.

G20 High-Level Principles for Digital Financial Inclusion

Promote a Digital Approach to Financial Inclusion

Promote digital financial services as a priority to drive development of inclusive financial systems, including through coordinated, monitored, and evaluated national strategies and action plans.

Balance Innovation and Risk to Achieve Digital Financial Inclusion

Balance promoting innovation to achieve digital financial inclusion with identifying, assessing, monitoring and managing new risks.

Provide an Enabling and Proportionate Legal and Regulatory Framework for Digital Financial Inclusion

Provide an enabling and proportionate legal and regulatory framework for digital financial inclusion, taking into account relevant G20 and international standard setting body standards and guidance.

Expand the Digital Financial Services Infrastructure Ecosystem

Expand the digital financial services ecosystem—including financial and information and communications technology infrastructure—for the safe, reliable and low-cost provision of digital financial services to all relevant geographical areas, especially underserved rural areas.

Establish Responsible Digital Financial Practices to Protect Consumers

Establish a comprehensive approach to consumer and data protection that focuses on issues of specific relevance to digital financial services.

Strengthen Digital and Financial Literacy and Awareness

Support and evaluate programs that enhance digital and financial literacy in light of the unique characteristics, advantages, and risks of digital financial services and channels.

Facilitate Customer Identification for Digital Financial Services

Facilitate access to digital financial services by developing, or encouraging the development of, customer identity systems, products and services that are accessible, affordable, and verifiable and accommodate multiple needs and risk levels for a risk-based approach to customer due diligence.

Track Digital Financial Inclusion Progress

Track progress on digital financial inclusion through a comprehensive and robust data measurement and evaluation system. This system should leverage new sources of digital data and enable stakeholders to analyze and monitor the supply of—and demand for—digital financial services, as well as assess the impact of key programs and reforms.

Bibliography

Accenture. Getting Innovation Right: Top 10 Challenges for Investment Banks.

Anamika Sharma. Challenges: For Building Financial Inclusive India. Faculty Finance ICFAI National College Adam Smith Institute of Management. Jaipur.

Ardhendu Shekhar Singh, Bhama Venkataramani and Dilip Ambarkhane. Role of Mobile Banking in Financial Inclusion. India: Symbiosis International University (SIU).

Capgemini, Linkedin and MaRS. World FinTech Report Survey 2018.

Demirgüç-Kunt, Asli, Leora Klapper, Dorothe Singer, Saniya Ansar, and Jake Hess. 2018. The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution. Washington, DC: World Bank.

Demirguc-Kunt, Asli, Leora Klapper, Saniya Ansar and Aditya Jagati. Making It Easier to Apply for a Bank Account: A Study of the Indian Market. September 2017. World Bank. Policy Research WP 8205.

Emily Lee. Financial Inclusion: A Challenge to the New Paradigm of Financial Technology, Regulatory Technology and Anti-Money Laundering Law.

Franklin Allen, Asli Demirguc-Kunt, Leora Klapper and Maria Soledad Martinez Peria. The Foundations of Financial Inclusion: Understanding Ownership and Use of Formal Accounts. December 2012. The World Bank Development Research Group Finance and Private Sector Development Team.

GSMA, The Mobile Economy, India 2016.

ING, FinTech for micro, small and medium sized enterprises: Creating jobs at the bottom of the pyramid through financial and digital innovation.

Inutu Lukonga. Fintech, Inclusive Growth and Cyber Risks: A Focus on the MENAP and CCA Regions. September 2018. IMF WP/18/201.

Julapa Jagtiani and Catharine Lemieux. Do Fintech Lenders Penetrate Areas That Are Underserved by Traditional Banks? WP 18-13.

Julapa Jagtiani and Catharine Lemieux. Fintech Lending: Financial Inclusion, Risk Pricing, and Alternative Information. July 2017. WP no. 17-17, Research Department, Federal Reserve Bank of Philadelphia.

Roy S. Freedman. Financial Technology and Services at a Time of Economic Turmoil. Fall 2008. Polytechnic Institute of NYU Department of Finance and Risk Engineering Newsletter No 7.

Sonja Kelly, Dennis Ferenzy and Allyse McGrath. How Financial Institutions and FinTechs are Partnering for Inclusion: Lessons from the Frontlines. Institute of International Finance and Center for Financial Inclusion. 2017.

Sowjanya S. Shetty, V. B. Hans and Prakasha Rao A. Self Help Groups, Financial Inclusion and Women Empowerment – A Critique. September 2015. Karnataka State, India.

Vinita Godinho and Supriya Singh. Technology Enabled Financial Inclusion and Evidence-Based Policy for the Underbanked: A study of Remote Indigenous Australia. RMIT University and the Smart Services Cooperative Research Centre.