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The Impact of Financial Technology on Financial Inclusion: The Case of Egypt

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Abstract: Financial inclusion become one of the national priority in Egypt's sustainable development strategy 2030, this research identified the readiness of the Government of Egypt to innovate in leveraging financial technology and new technologies to achieve financial inclusion. One of the major problems that represent the research findings was lack of vision and mapping strategy for financial inclusion in Egypt, collaborative efforts between relevant entities from different stakeholders is a must to have accurate data and information about the current situation especially the role of informal economy as an obstacle for financial inclusion which will guide the government in setting up the policy of the state in the right path. Despite Government's efforts, fintech startups booming in various industries in parallel of high internet and mobile phones penetration, research results and statistical analysis using multiple logistic regression showed that Egypt's has low rank of financial inclusion among African and Arab states. The Government of Egypt shall pay more attention to enhance the ecosystem through eliminating constraints and act as a regulator and incubator to enhance the financial literacy to achieve financial inclusion as a result, by filling in the supply and demand gap in providing different financial services through different players' banks and fintech startups that have the potential to introduce innovative business models in accordance with different customer, business and market needs.

Background: Egypt has witnessed booming of Fintech startups booming in various industries. E-payments represent the main theme of digital financial services in Egypt, another themes are mostly in the field of “Regtech, E-payment, Recruitment, Transportation, Health, Micro-lending and E-commerce”, however the market is still vague. Growth of mobile money in Africa, allowed disqualified millions of people from the formal financial system to perform financial transactions. Since 2010 the Government of Egypt started to issue laws and regulations to push financial inclusion and digital transformation forward as a step for less cash society. Many studies have tackled the research question (how far Development of financial technology (fin Tech) can better contribute to financial inclusion?) in other countries in Africa and Arab Countries.

The present study attempts to close the knowledge gap and to provide some policy suggestions with the aim to advance theoretical knowledge on fintech and financial inclusion and as a starting point for researchers about fintech and digital transformation of financial services systems.

Materials and Methods: I used the World Bank's 2017 Global Findex data base to realize our analyses. The database is obtained thanks to surveys realized in 143 countries and covering almost 150,000 persons worldwide. The survey was carried out by Gallup, Inc., in association with its annual Gallup World Poll. Using randomly selected, nationally representative samples, roughly 1000 people in each economy have been questioned using over 140 languages. The target population is the entire civilian, noninstitutionalized population aged 15 and above. The Global Findex database provides a large number of indicators on financial inclusion enabling to assess the amount of account penetration, the use of financial services, the purposes and motivations, the alternatives to formal finance, etc. It also provides micro-level information – gender, age, income and education – that will be used in our estimations. This research is focus only on Egypt, Saudi Arabia, Jordan, United Arab of Emirates, Bahrain, Kuwait, Tanzania, Kenya, Ethiopia, so the total sample size that is used in this research is 9084 individuals.

Results we found that with a 95% confidence level that all the independent variables “Have mobile money account, Mobile Subscribers and use of Internet” have significant effect on the financial inclusion as they all have p-value less than the significance level $\alpha = 0.05$.

Conclusion: Regarding of high internet and mobile phone penetration in Egypt, still has the lowest rank of financial inclusion among other Arab and African States

Key Word: CBE, Fintech, Financial Inclusion, Startups, E-payment

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I. Introduction

How financial technology (Fin-Tech) can improve financial inclusion is not only a topic that draws attention in the global agenda, but also is of great significance for the economic development of Egypt. Although there is no distinctive for financial inclusion and financial technology, in this thesis financial inclusion defined as all employed adults age group that have actual access to credit, savings, payments and insurance from official institution providers (Cáamara and Tuesta 2017). Actual access requires appropriate and accountable provision delivery, at a rate reasonable to the client and sustainable for the provider with a result that those excluded clients financially prefer to use formal financial services instead of informal existing alternatives. By Fin-Tech we denote the new financial transactions that applies innovation and technology to develop conventional financial operations through new software applications, methods, products or corporate models in the financial services industry, that contain one or more corresponding financial services provided as end-to-end process through the internet. (Schueffel 2017).

CBE (2018) recognizes that digital platform extension can play big role in including those who are financially excluded and underserved in more secured, transparent and lower transaction cost with wide range of different financial services and products. Financial inclusion through this can maintain financial and social stability by creating more inclusive opportunities and achieve other economic and social national objectives.

The potential of Fin-Tech for facilitating financial inclusion deserves careful study. First of all, poverty alleviation through promoting financial inclusion has been widely discussed in international conferences. For example, G20 in Seoul 2010 and (Maya declaration 2012) both acknowledge the importance of financial inclusion in poverty alleviation, and initiate the efforts to enhancing Global partnership for promoting financial inclusion. The statement of the 2016 G20 Summit in Hangzhou echoes the importance of financial inclusion in non-G20 countries. It reflects the fact that for many developing countries promoting financial inclusion has moved to the top of the policy agenda reflected establishment of financial inclusion units in Central Bank and Ministries of Finance and specific financial inclusion targets (Thorsten Beck et al. 2018).

Accompanying the attention on financial inclusion, International organizations started to research and document the process of financial inclusion. AsliDemirgüç-Kunt et al. (2017) elaborates the what way adults save, borrow, make payments, and cope risk. Through the data survey collected covering more than 140 economies around the world. The preliminary assessment round was surveyed by a second one in 2014 and by a third in 2017. It has extra data on the use of financial technology (or fin-tech), through the use of cell phones and the internet to do financial transactions through which it recommends to enlarge access to financial services to those people who do not have bank account and unaccounted too as well as to endorse greater use of digital financial services among those who do have an account. In addition to being widely mentioned by scholars and development specialists this database received support globally to promote financial inclusion. Different studies have provided a solid ground in promoting financial inclusion universally for financial access by 2020 and in line with the United Nations SDGs 2030. Goran Amidžić et al. 2014 constructed a new multiple index of financial inclusion aiming at reflecting the acknowledgement among policy makers that financial inclusion plays a major role in sustaining employment, economic growth, and financial stability. Secondly, studies on the impacts of Fin-Tech are on the rise. For example, Jonas Feller, et al. (2017) discussed how the Fin-Tech sector as rising globally, describing its arrival to the Middle East and North Africa (MENA) through the number of startups offering business services in the region that increased to 105 in 2015 from 46 in 2013. Their study discussed the MENA's fin-tech startups that deliver a varied range of services to different institutional partners including private, corporate and governmental one. The most mature sector that sprung up as well was payment service providers (PSP) incorporating a variety of services into a platform, includes startups offering bill payment, cellular and online solutions payment as well as wallets. The report attempts to highlight the key difficulties faced by these startups, and the potential of Fin-Tech for the region, and then settles with policy suggestions for overcoming key contests and for recognizing the Fin-Tech chances by 2020.

Egypt is one of the transitional and developing countries that need essential reform for the financial sector. It has a long history of bureaucratic system as Ancient Egypt introduced the centralization model. However, it is a developing country that still continues to suffer from unsatisfactory and often improper governance systems including inappropriate resources allocation, revenue systems management inefficiently, leading to financial sector fragility. Such governance leads to unwelcome and poor outcomes for access to public services especially by the poor people. According to a report by the Egyptian Ministry of Communications and Information Technology, the number of mobile users in Egypt was 96.22 million in the third quarter (Q3) of 2016. Two-thirds of Egyptians are millennial under the age of 29 and they are very comfortable with making online purchases, using the internet, and opening bank accounts (Bank of Alexandria 2015). Consequently, the Egyptian fin-tech scene is growing fast, with start-ups occupying the space in digital payments, saving, investing and mobile money. Recent statistics said that 84 % of the Egyptian are unbanked, the Central Bank of Egypt recognizes that the rapid development and extension of digital platforms can reach financially excluded and underserved populations quickly, securely, transparently and cost efficiently, with a

range of financial services suited to their needs by focusing on two main pillars: 1) a thorough and strong banking infrastructure supported by an appropriate regulatory framework and operative measures, and 2) enabling new technologies to enlarge the Bank's footprint and provide innovative electronic provision networks.

Egypt is ranked the second in MENA region in the number of Fin-tech startups. The policy makes aims to proactively promoting the development of Fin-Tech. CBE is planning to establish a one-billion-pound (EGP) innovation fund to finance "innovative ideas and projects". The CBE Fund will focus on investing in financial technology companies, from venture banking to funding companies that are growing and in mature stages of development. In February 2017, after H.E. Abdel El-Fattah El-Sisi issued the Presidential Decree no. 89, the National Payment Council was established and in 2019 the president adopted non-cash financial transactions law. Its main function is to reduce the use of banknotes outside the banking sector, and support and stimulate the use of digital financial services as a primary payment method (CBE report 2018).

Egypt is seeking a strategy aim to advance financial inclusion in Egypt in several other areas as well. One is providing a way to attract unbanked customers to use DFS, as accepted by banked merchants by leading them to earn the benefits. Interoperability achievement is also crucial among different mobile payment service providers/ schemes by providing a service registration contract between banks and consumers as one of the main customer protection measures (Central Bank of Egypt 2018).

II. Literature on Fintech, Financial Inclusion and their impact on Economic Development

Literature on Fintech

Kunt et al. (2012) emphasizes without financial systems that can include poor people, they will definitely rely on their limited savings to cover their daily life needs from health, education, etc... or invest in small business through which they can earn small revenues to catch promising opportunities. Lacking such financial system will probably lead to slower economic growth and increase income inequality.

Earlier in the 70s McKinnon (1973) & Shaw (1973) founding fathers of the Financial Liberalization School ensured that financial system development is the "heart of the economic development process".

Recent statistics showed that 1.7 billion adults living in the developing states still unbanked and are financially excluded due to the following reasons Kunt et al. (2017):

1. First high costs when reaching branches or even ATMs outside the city.
2. Second documentation requirements and high charges in opening bank account.
3. Third due to high charges for financial products offered by commercial banks different segments of low income groups prefers use of informal services rather than formal one.
4. Fourth financial literacy as no one will use a product or service which he/she does not understand even perceiving the advantage of using formal financial services.

However, in every problem there is an opportunity as mobile phone and internet is widely used globally there could be big opportunities to bank the unbanked and including those who financially excluded Maurer (2012), using digital platforms which is increasing from day to day due to the digital revolution by fintech startups nowadays Kunt et al. (2017).

(GSMA 2018) recently spot the wide use of innovative DFS in at least 90 countries including three quarters in low and lower middle income countries with more than 276 DFS providers and 690 million registered accounts in which 6.8% are in the MENA region.

According to this Manyika et al. (2016) refer to the role of DFS in providing access to finance for more than 1.6 billion in emerging countries and can generate more than 95 million new employment opportunities and boosting GDP by 3.7 trillion USD by 2025.

Black (2003) defined financial innovation as changes in financial institutions, financial instruments or business practices in the financial sector. He mentioned that financial innovation has come through advances over time in financial instruments and payment systems used in the lending and borrowing of funds. These changes – which include updates in technology, risk transfer, and credit and equity generation – have increased available credit for borrowers and given banks new and less costly ways to raise equity capital.

Tom (2016) defined Fin Tech or fintech (abbreviation of financial technology) as an innovation method that competing with traditional financial services to improve activities of finance as an industry in the economic system. Examples of these technologies are the use of smartphones for mobile banking, cryptocurrencies, investing and borrowing services (Sanicola et al. 2017).

It emerges originally from startups and technological companies that presented new ideas to replace the existing financial institutions due to the new business model they introduce through exploiting promising opportunities in retail, investment and commerce.

Literature on Financial Inclusion

Abdullah et al. (2016) referred that the term financial inclusion (reverse exclusion) was first introduced in Leyshon and Thrift study 1993 on financial services in South East England, by evaluating the impact of the closure of a bank branch on the actual access of residents of the region to banking services.

In 1999, the term financial inclusion was first used more broadly to describe the determinants of individual access to available financial services.

The definition and measures of financial inclusion have evolved from a simple classification of individuals and institutions as covered or not, AFI the Alliance for Financial Inclusion provide multi-dimensional definitions and metrics. The G20 defined as “actions taken by regulatory bodies to promote the access and use of all segments of society, including the marginalized groups”.

Financial inclusion according to “INFE” the International Network for Financial Education and the Organization for Economic Cooperation and Development “OECD” are the financial services and products provided in a reasonable and sufficient time and cost, and to expand the use of these services and products by the community through innovative approaches, including financial education and awareness, with the aim of promoting financial well-being and social and economic integration.

Giovanna Prialé Reyes et al. (2012) defined financial inclusion as those big number of population that has wide access to different types of financial services including personal loans, pensions, money payment, insurance in addition to financial education and other measures for customer protection. They assured that financial inclusion requires creating or improving market incentives to be more promoted and develop the mechanisms to provide financial services and products for populations who are in low levels of access and usage of different financial services. They referred to the importance of supporting financial users with the necessary instruments to better recognize the financial services and products provided by different channels needed to implement their client rights. They ensured that establishing mechanisms and developing disclosure of information will allow for more access to different services provided by different financial institutions and increase the literacy about the features of the services and products offered by banks, microfinance institutions and insurance firms and thus enhancing economic development.

They denoted that financial inclusion is measured in three dimensions: (i) Access to financial services, (ii) Usage of financial services; and (iii) Quality of the services and the products delivered.

Financial inclusion is defined by CGAP the Consulting Group (2015) for assisting poor people as the access and effective use by households and firms of financial services responsibly and sustainably delivered in a well-regulated environment.

Through the different definitions, it is possible to observe several basic axes on which financial inclusion is based:

- Access to financial products and services: availability of formal and structured financial services, proximity, and affordability.
- Financial ability: effectively manage funds, plan ahead and deal with financial distress.
- Use of financial products and services: regularity, frequency and duration of use.
- Quality of financial services and products: services according to customer needs, and segmentation of services in order to develop them for all segments of society.
- Effective regulation and oversight to ensure the delivery of financial products and services in an environment of financial stability.

Literature on Fintech and Financial Inclusion Impact on Economic Development

Economic literature shows that improving financial services promotes growth and development at three levels: household, business and the economy as a whole. There are 8 of the 17 Sustainable Development Goals (SDGs) of the United Nations which can be achieved by financial inclusion as follows (MENA Report 2020):

- Poverty alleviation (SDG 1): The inclusion of disadvantaged people in the financial system would undoubtedly increase the overall quality of living of low-income households. In offering the requisite financial services, citizens can take charge of their economic lives better and have access to savings resources and credit facilities for handling unforeseen expenditures. Increasing a country's net savings leads to more investment in production, consumption and active lending that ultimately reduces poverty and income inequality.
- Enhancing Quality Education (SDG 4): Globally, the production of human capital and education has been closely associated with economic growth. In order to achieve quality education, significant investment in learning opportunities is required. Financial resources such as saving tools, loans and household / international transfers will help households handle education expenses. In addition, a high level of literacy is equivalent to individuals who make more informed choices about their finances-thus leading to better and better use of financial services.

- Gender Equality (SDG 5): It is projected that in the MENA region the gender gap in financial inclusion is causing a women 's income deficit of around 27%. Raise household revenues and funds would be spent on need, including food, education and healthcare by giving women more power over their funds through financial inclusion. For example, saving accounts can assist women in building credit history and provide investment opportunities that help them achieve gender equality and claim their economic power. Such initiatives would reduce the gender gap in financial exclusivity in the long term.
- Enhancing Sustainable Economic Growth (SDG 8): Increases in savings and liquidity are increased with individuals and companies gaining access to more financial services and increasing economic growth as successful investments increase. For return, this economic growth produces more profits and employment.
- Promoting sustainable industrialization and innovation (SDG 9): The unmet financial needs of micro, small and medium-sized enterprises (MSMEs) amount to \$5.2 trillion every year. Through creative frameworks that make flexible loans and investment possibilities available, for example digitized payments, to keep businesses up to date with outflow of funds and reduce the risk of fraud significantly.
- Reducing Inequality (SDG 10): The UN Development Program has stressed in the sense of developing countries that income inequality has increased by 11 percent. Major differences also remain in access to education, health and finance between rich and poor. Models of financial inclusion will reduce this disparity by reducing access barriers. The benefits of financial inclusion extend to more efficient capital allocation through easy loans and cheaper services to the vulnerable, who typically lack collateral, credit history, and ties. Access to markets can also allow low-income families to absorb financial shocks, build up assets and reduce consumption.

While economy is advancing towards digital financial innovation and virtual currencies, a bank account has become a crucial resource for forming an inclusive financial structures, as it has been planned to minimize or remove inefficiencies in the conduct and increase financial inclusion of different types of financial transactions. In fact, in most developing countries, access to banking is treated as a fundamental prerequisite. Throughout the domestic economic growth cycle, financial services and instruments play a significant role. Although some scientists have been concentrating on the relationship of large or small firms, households are the key users of financial goods, because of their impact on finance's scale and asset mix. (Victoria Rusu2017)

Encouraging the exposure of decision-makers to financial services in developed countries has become a major concern. Widespread exposure to financial products is related to economic and social growth. (World Bank 2008).

The financial system established is essential to achieve economic growth and alleviate poverty (Beck et al., 2000; Beck et al . , 2004; Honohan, 2004a; OECD, 2012). Sarma (2008) and Aghion (2008) argue here that growth is achieved through finance, as it drives 'creative destruction' by more efficient distribution of resources. This means that new entrants are being "improved and freed from the drawbacks of their inherited wealth and the absence of ties to the network of well-off holders" by broader access to financial services (Rajan et al. 2003). (Rajan et al., 2004).

The number of people using a broad variety of financial services and goods has risen significantly since the 1980s, both globally and domestically.⁷ This rise was primarily related to structural modifications in the financial sector, the payment of salaries through automatic credit transfer and the expansion of ownership of households (Kempson and al . 1999; Sinclair 2001). The "financialization" of social relationships has slowly increased the importance of banking services (Gloukoviezzoff 2006). Therefore, most developed-country customers already have a bank account. However, a majority of the population tends to be excluded from financial services and banking, which in turn means they are excluded financially.

Why is exclusion from financial services perceived to be a big issue? One way to answer this question is to look at the ever more 'financialized' daily life. Entry to a banking, credit and insurance account is generally regarded as "important financial management and transaction support for personal and financial management" in modern companies (Speak et al . , 1999). Grahama describes several essential private services (Fisher et al , 1999) which "can today be seen as necessary if real economic and social involvement in modern society is to be sustained." Speak and Graham describe several necessary private services. Societal groups that cannot access financial services can also struggle to gain other social benefits, and financial exclusion can also intensify other forms of social exclusion. Increasingly, poorer members of society suffer from financial exclusion; a large number of low-income individuals have been excluded from financial services covering a variety of basic items like lending, insurance, bill-payment services and depositary accounts.

One less commonly debated consideration when attempting to achieve financial inclusion through microfinance is that borrowers have to bear a great deal of expense through means of it, which means that "they have to perform inspection, surveillance or penalization, which is usually considered the responsibility for the lenders, directly or indirectly" (Ghosh, 2013).

Ozili (2018) and Manyika et al. (2016) refer to the positive effects of fintech on macroeconomic situation related to economic growth as follows:

1. Reduction of informal economy and integration in formal economic activities of the government in compliance with local labour laws.
2. Automating government payment and collection transactions by avoiding risks of tax collection like fraud and manual money transfer by improving less cash methods of different payment transactions cash or cheque.
3. Improving financial innovation like savings and e-payments including Peer 2 Peer lending, e-commerce and introducing new credit scoring instruments.
4. Allows government to reduce spending by improving and providing subsidies to the right target poor groups in lower transactions and minimum administrative costs.
5. Supporting and enhancing financial inclusion by facilitating those who are living in remote areas i.e. rural areas to access to finance rather than travelling outside the village and connecting them to urban areas.
6. Providing affordability of saving money and executing basic transactions like bill payments i.e. electricity and money transfers (remittances).
7. Decreasing operational costs when lending, transfer or paying small sums which are almost impossible with traditional ways when using banks.

Ozili (2018) pointed out some advantages to digital finance. For example, digital finance will lead, as almost 50 % of the people in developing nations already own mobile telephones (World Bank 2014), to greater financial inclusion, extension of financial services into non-financial sectors and extending basic services into individuals. Secondly, digital financing is likely to give poor people in developing countries (CGAP) an affordable, easy and safe banking service.

Three, digital financing aims to improve the digitalized economies' Gross Domestic Product (GDP) by offering convenient access for individuals, small, medium and big companies and a variety of financial products and services (and credit facilities) which could raise aggregate spending, increasing the GDP level. Digital finance may also result in greater economic prosperity and financial intermediation, for both consumers and the company in which they and their families live.

Bank performance effects. The effect of adoption of SWIFT, a network based technology infrastructure, and a set of global interbank telecommunications standards on Bank performance was examined by Scott, Van Reenen and Zachariadis (2017). In 29 countries in Europe and the United States, 6848 banks are investigated. They consider SWIFT adoption (i) to be of great long-term benefit; (ii) to be more competitive to Small banks than to big banks; and (iii) to have a major network impact on efficiency.

Fifth is the advantage of digital finance to the governments by providing a platform to help increase aggregate expenditure that then generates more tax income from increased financial transaction volume (Manyika et al . , 2016). six, the financial and monetary regulators benefit from digital financing, since the full-scale introduction of digital finance will dramatically reduce the circulation of bad (or counterfeit) money etc. Additional customer benefits of digital finance include improved customer access, fast financial decision-making and ability to make and collect payments within seconds.

In conclusion, the welfare of persons and companies having official bank accounts and funds in their bank accounts for carrying out multiple financial transactions would boost digital finance. Nevertheless, digital finance can only achieve its intended benefits entirely if the expense of providing digital finance services is negligible or zero. (Ozili 2018)

III. Fintech and Financial Inclusion in Egypt

Egypt is taken as the case study of the research since the Government of Egypt considers it a priority to enhance and support financial inclusion in Egypt as one of the most strategic aims in parallel with the main objective of ensuring a steady and healthy financial system. (CBE report 2018) By committing to Maya Declaration 2012, CBE became a principal member of the AFI in July 2013. In 2015 financial inclusion became a national priority in the Egyptian Sustainable Development for 2030 (Egypt SDS 2015) especially due to the increase of those working in the informal sector by more than 10 million, besides women that are almost excluded and youth that represent two-thirds of the Egyptian society.

Robert Poldermans (2011) introduced an analysis based on informal interview discussions with leading banks in Egypt and international experience important suggestions was “a culture change and more openness to the role of IT in SME banking and loan officers should have a business background” and “to be able to cater for start-ups – this is an important category of the market”; and “the need to move clients from the informal to the formal sector by giving them incentives to register and formalize their businesses”

Abousenna&Becheikh (2012) contributed to advance knowledge on service innovation in developing countries, by exploring the determinants of technological innovations developed by Egyptian SMEs in the financial and hotel services sectors. More specifically, three categories of determinants were examined: 1) firm's openness and receptiveness to the global technological sphere, 2) absorptive capacity of firms, and 3) financial and market barriers to innovation. Using data from the 2009 Egyptian National Innovation Survey, they

estimated a binary Logit Regression model to identify the factors explaining the firm's propensity to innovate. Results show that the adoption of advanced knowledge management systems (a variable used to measure absorptive capacity), exporting (a variable used in measuring the knowledge acquisition determinant), firm size, the firm's sector of activity, as well as market barriers have all positive significant impact on the firm's propensity to innovate. Nevertheless, the impact of financial barriers and percentage of employees holding a university degree (another proxy to absorptive capacity), and being part of a larger group (also another proxy to knowledge acquisition) proved to be non-significant to firm's innovation potential. This paper concluded with recommendations to researchers, managers and policy makers concerned with promoting and boosting service innovations in developing countries. Although Faisal Al-Khalidi et al. (2015) in their report that geographically covered Egypt, Lebanon, Jordan, Kuwait, Saudi Arabia and UAE gave an important result on the current world of payments, e-commerce and innovation in the Arab World. With data from the consumer and merchant side this report provides actionable insight that can help in creating a more successful, profitable and consumer friendly business and a desire to increase understanding of the consumer's behavior and to share that information with the growing ecommerce community in the Arab World, and also introduced a much fuller picture by taking in the opinions of hundreds of merchants who interact with consumers on a day-to-day basis. The report is divided into five sections: Airlines, Travel and Tourism, Ecommerce, Marketplace Services and Demographics. Indeed, Jonas Feller et al. (2017), discussed the fin-tech (financial technology) sector as rising globally, and its arrival to the Middle East and North Africa (MENA) through startups offering financial services in the region that doubled from 46 to 105 in the last three years (2013-15). The reports try to find the main difficulties these startups are facing, and what is the scope of fin-tech for the region? What needs to be done to release this potential? The report concluded with key challenges to overcome and recommendations to recognize the opportunities of fin tech by 2020.

By raising the challenges of financial inclusion in Egypt Central Bank of Egypt (2018) started to take its responsibility for promoting and coordinating financial inclusion in Egypt seriously, and considers it a strategic objective that can be pursued alongside its primary objective of ensuring a stable and sound financial system in line with the Government strategy's 2030 through issuing legislations and regulations to organize and to assist any relevant entities (banks, financial institutions, Fin-Tech companies, etc.) to present, test and activate innovative products that most current banking regulations, rules and procedures do not permit. And to provide a safe environment from the routine procedural hurdles that may impede the introduction of new and potentially groundbreaking ideas for banking and financial services, in Egypt but throughout the world. Before that Nasr gave an important recommendation of how developing countries can enhance appropriate access to finance in support of sustained high economic growth and improved income distribution especially in Egypt through detailed evaluations of the key segments of the financial sector are supplemented by a broad discussion that draws out the main interactions, including the linkages to institutional reforms and providing policy recommendations to the Government in that manner.

But, Hafez (2015) went beyond and provide statistical analysis examining the degree to which the Egyptian banks use risk management practices and techniques to eliminate associated risks to their business. His study's results found that the most challenging types of risks facing Islamic and conventional banks in Egypt are credit and liquidity risks. His study concluded that conventional banks are more efficient in risk management and use more sophisticated techniques and practices. Liquidity risk is the most prominent and vital risk for Islamic Banks.

However, Aly (1994) ensured that the banking system should play an important role in the process of economic development especially in a country like Egypt whose Population was centered around the Nile delta and a lot of empty desert areas empty within the framework of a comprehensive resettlement-cum-development process. And how the banks in Egypt can take the lead in providing financial resources and requirements as a promising candidate capable of leading economic activities and the resettlement process i.e. infrastructure projects.

El-Shazly (2001) emphasized the importance of restructuring the banks operating in Egypt, after the Government announced turn to market based economy and towards more liberal systems in 1990 so that the banks can be strengthened enough in supervision and regulations on the basis of accepted international standards to deal with the inherent risks in the new global policy environment. Habbas (1984) gave a broad idea on the impact of the Egyptian government law no.43 to begin the Infitah (Open Door) policy based on a revitalized public sector and a large inflow of foreign capital and technology, how this affected the financial deficit and what shall the government do at the time to make growth depends upon maintaining manageable proportion of deficits.

Recent Statistics said that startups fintech plays a crucial role in boosting e-commerce and forecasted to increase by \$20 billion per market in 2020 (Jonas Feller, et al. 2017). Mobile payments operate through bank-led model and MNOs according to the Central Bank of Egypt report 2018 have the highest market segment with an operation volume 727 million EGP and thirty-two of Egypt's 38 banks offer internet banking services. It

represents 1.4 million accounts registered and transaction volume with EGP 128 million EGP (approximately USD 7 million). So, how far Development of financial technology (fin Tech) can better contribute to financial inclusion?, this will include development of a healthy SME ecosystem especially Egyptian fin tech startups - SMEs lending in Egypt stands at 5%-with strong linkages with large corporate players through methods of payment and capital lending, can be reflected in better financial services provided by the government, besides the problem of huge informal sector and its economic activities which represent 35% from the Egyptian GDP. Technological development has changed vividly the shape of the global economy as well as the economic profile of Egypt (Bank of Alex 2015).

In order to use financial services and to provide access to funding for Micro, Small, and Medium Enterprises (MSMEs) it is crucial to improve financial inclusion among Egyptian people underserved. In its Plan for Sustainable Development Policy: Egypt Vision 2030, the country recognized financial inclusion as a priority.

Recent statistics showed that 18% have access to banking services, 6% to credit, 6% to saving and 13% to digital payments which is very lower in a country that more than 100 million are living there (MENA Report 2020).

Since 2012, the Egyptian Banking Institute (EBI), a national project called Shaping the future has been launched by the Central Bank of Egypt. The emphasis is on improving Egypt's financial literacy policy, providing financial education and knowledge and amicable financial goods. This is representative of a government policy aimed at fostering financial literacy throughout the country. In 2018, the Central Bank of Egypt (CBE), in partnership with the European Union (EU), launched its 'Reinforcement of Financial Coverage, Censorship and Oversight of Egyptian Banks' initiative.

Three-year term to improve further the banking regulatory system of CBE and help efforts to ensure financial inclusion. The Village Savings and Loans Association (VSLA) scheme, first launched in 2014, is being digitalized by the CBE. The scheme focuses on building up savings to be made available as loans to the community members. VSLA has had more than 18,000 participants, 92% of whom are women and 8% men. Under the program, VSLA members received 6,138 loans, 71 percent of which was used for revenue-generating programs. Digitalization of the process will encourage a less cash society and guarantee quality and safety. (Ilan 2019)

Egypt has adopted legislation requiring the bulk of government contracts, including all public and private fees and charges, to be made electronically. The CBE also introduced the Meeza National e-payment card, which allows state payments, enables customers to withdraw money from ATMs, carry out local buys and e-payment transactions. In addition, 7,000 POS terminals have now been built in government departments, universities and registration offices by Egypt's Finance Minister.

Such programs are both intended to reduce cash reliance, increase accountability and encourage the opening of bank accounts by customers.

More collaboration between key players in Egypt's ecosystem helps to promote financial inclusion in the country by providing access to digital payments and the main operating mechanism. In partnership with the National Bank of Egypt (NBE) MasterCard and Etisalat, the global Emirates based telecommunications firm, launched in 2013 "Flous," a mobile payment wallet. This mobile payment network allows transfers, including money transfer between users, possible for Etisalat subscriber-bases in Egypt, to deposit and withdraw cash from branches Etisalat and NBE. Flous also helps users to pay bills and pay for goods and services at different retailers in Egypt (Mastercard Newsroom). Also, there are other mobile wallets offered by other MNOs in Egypt Vodafone Cash offered by Vodafone, Orange Money offered by Orange and WePay offered by WE all of them can be used by transferring, depositing and withdrawing money from ATMs affiliated to banks operating in Egypt using One Time Password "OTP" (Aziza Khalil 2018).

The academic research on role of Fin-Tech development for financial inclusions for countries in transition is very limited, and even less study has focused on Egypt. This paper aims to make contributions in this aspect.

IV. Data and Empirical Strategy

The Global Findex Database "Measuring Financial Inclusion" this database was launched by the World Bank through a survey data collected in cooperation with Gallup covering more than 140 economies around the world to determine how adults make payments, borrow and save, and manage risk. The kick off of the preliminary survey round was in 2011 followed by a second one in 2014 and by a third in 2017 to examine the use of financial technology including the use of cell phones and the internet to conduct financial services revealing opportunities to expand access to financial services among people who are unbanked and don't have an account in addition to promote greater use of digital financial services among those who do have an account. This database has provided a solid ground in promoting financial inclusion universally for financial access by 2020 and in line with the United Nations SDGs 2030.

Inclusion Criteria:

Dependent variable: financial inclusion= 1 if the respondent has an account at a bank or formal financial and non-financial service institutions.

Independent variables as follows:

- i. Have mobile money account at MNO based model=>1
- ii. Use of mobile account at regular financial transactions=>1
- iii. Use of internet or mobile apps in making financial transactions=>1.

Control variables “Demographic Characteristics” as follows:

- i. Gender as dummy variable male=0 and female=1 % of female who are financially included
- ii. Age=>1 % of age who are financially included
- iii. Income=>1 % of increase in income quantile are financially included
- iv. Level of Education =>1 % of increase in level of education are financially included
- v. Being Employed=>1 % of increase in employment or workforce are financially included
- vi. Country % of financial inclusion in Egypt, keeping other variables constant.

Study Duration: World Bank Data 2017

Sample size: 9083 observation numbers.

Statistical analysis

This data is analyzed using STATA and the following statistical techniques are used:

- a. First: descriptive statistical analysis through this the sample characteristics will be presented.
- b. Second: answering hypothesis and this done using Multiple Logistic Regression: Logistic regression is the appropriate regression analysis to conduct when the dependent variable is dichotomous (binary). Like all regression analyses, the logistic regression is a predictive analysis. Logistic regression is used to describe data and to explain the relationship between one dependent binary variable and one or more nominal, ordinal, interval or ratio-level independent variables (Maddala 1992). To measure the goodness of fit of the model four measures are calculated:
 - i. Sensitivity: percentage of correctly specified from those who say yes (the target category), and it must be greater than 0.5
 - ii. Specificity: percentage of correctly specified from those who say no, and it must be greater than 0.5
 - iii. The overall correctly specified percentage, and it must be greater than 0.5
 - iv. The area under the roc curve (the roc curve represent the relation of sensitivity versus specificity) must be greater than 0.5.

V. Empirical Findings and the Mechanism

Table 1, shows that 55.36% of the samples are males, and 47.19% of the sample their education is secondary, and 72.08% of the sample are in the work force. Also, the mean age is 35.74 with standard deviation = 13.794.

Table 1 Secondary Data Sample Characteristics

Gender	Male N(%)	5092(55.36)
	Female N(%)	4055(44.64)
Education	completed primary or less N(%)	2561(28.19)
	Secondary	4287(47.19)
	completed tertiary or more	2216(24.39)
Employed or not	out of workforce	2536(27.92)
	in workforce	6548 (72.08)
Income	Poorest 20%	1504(16.56)
	Second 20%	1650 (18.16)
	Middle 20%	1757(19.34)
	Fourth 20%	1935(21.3)
	Richest 20%	2238(24.64)
Total	N	9083
	Mean	35.74
	Standard deviation	13.794

Source: Global finindex data 2017

To estimate the above relations, the following are the definition of the variables:

- a) Financial inclusion: represent having an account either bank account or at non-financial services institutions, and this is the dependent variable

Table 2: Percentage of Financial Inclusion in Egypt

Inclusion	Percent
No	66.44
Yes	33.56
Total	100.00

Source: Global index data 2017

From the above, it is clear that 34% of the same have account, while 66% of the sample do not have an account.

- b) Mobile phone subscribers: Represent if the respondent has a mobile phone or not.

Table 3 Percentage of Mobile Phone Subscribers in Egypt

Having Phone	Percent
NO	12.43
Yes	87.57
Total	100.00

Source: Global index data 2017

From the above table and graph, it is clear that 12% of the sample did not own a mobile, while 88% have a mobile.

- c) Using mobile phone to make financial transactions: Represent if the respondent using the mobile phone to make financial transactions or not, and this variable is calculated using fin13, fin31b, fin34b, fin39b, fin43b, fin47b.

Table 4: Percentage of using mobile phones in financial transactions

Using mobile phone to make financial transactions	Percent
No	80.83
Yes	19.17
Total	100.00

Source: Global index data 2017

From the above table, it is clear that 81% of the sample are not using mobile phones to make financial transactions.

- d) The use of internet to make financial transactions: represent if the respondent using the internet to make financial transactions or not, and this variable is calculated using fin14.

Table 5: Percentage of internet use in financial transactions

The use of internet to make financial transactions	Percent
No	72.06
Yes	27.94
Total	100.00

Source: Global index data 2017

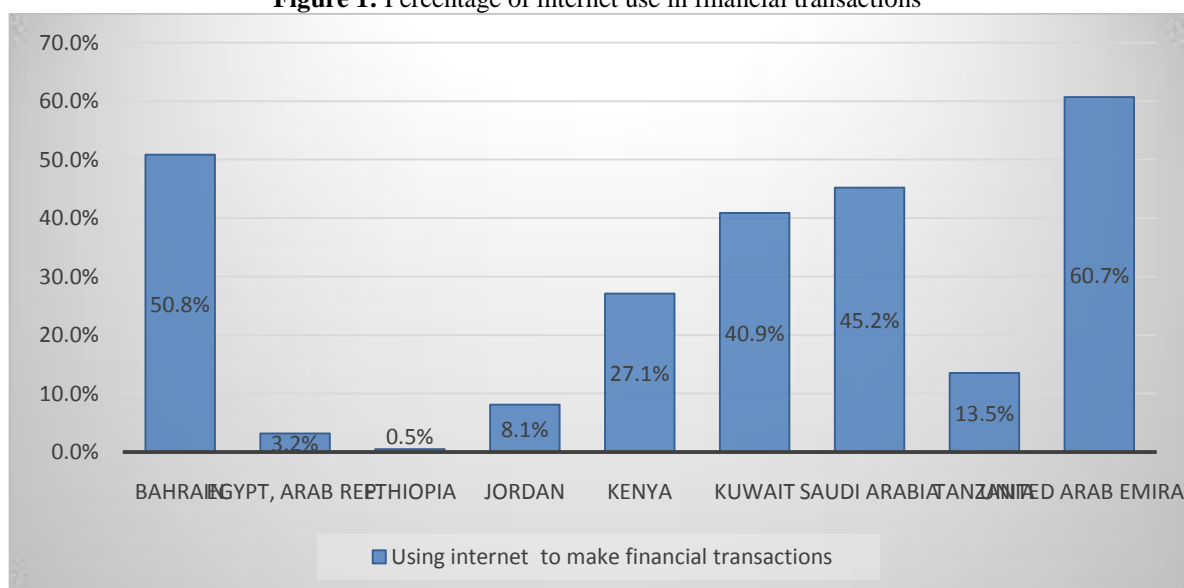
From the above, it is clear that 72% of the sample are not using internet to make financial transactions. Comparison regarding the country according to variables of the study:

Table 6: Percentage of Countries using digital technology in financial transactions

Economy	Using internet to make financial transactions %	Using mobile phone to make financial transactions%	Mobile owner%	Financial inclusion %
Bahrain	50.8	16.5	99.2	87.6
Egypt, Arab Rep.	3.2	0.7	82.2	38.1
Ethiopia	0.5	0.2	53.2	43.2
Jordan	8.1	0.6	90.9	41.3
Kenya	27.1	53.9	88.6	84.8
Kuwait	40.9	20.2	99.9	83.9
Saudi Arabia	45.2	26.8	100.0	74.5
Tanzania	13.5	28.2	73.2	53.4
United Arab Emirates	60.7	25.7	100.0	89.9

Source: Global index data 2017

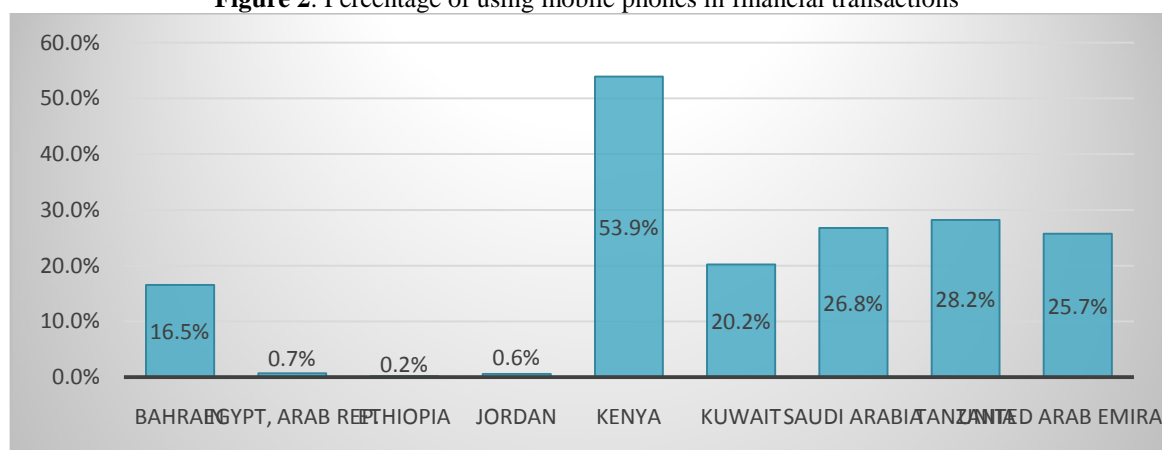
Figure 1: Percentage of internet use in financial transactions



Source: Global index data 2017

From the above figure, it is clear that United Arab of Emirates and Bahrain are the highest countries for using internet to make financial transactions are United Arab Emirates, and Bahrain. While the least countries in using interment to make financial transactions are Ethiopia, Egypt, and Jordan.

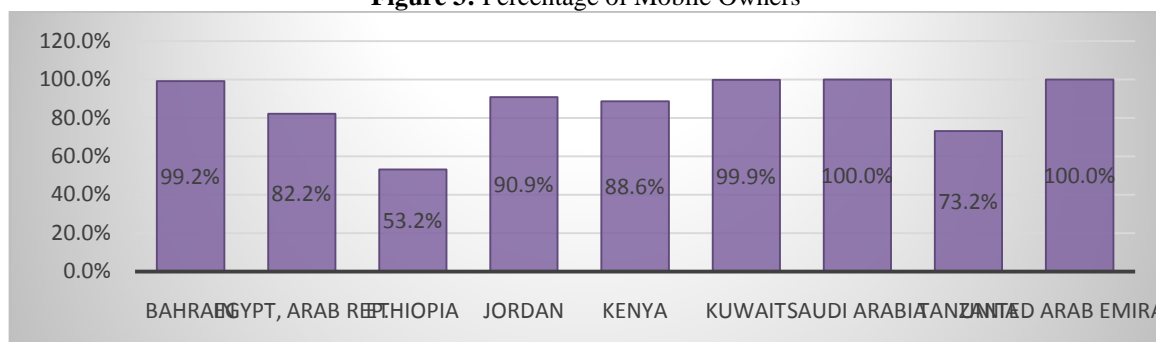
Figure 2: Percentage of using mobile phones in financial transactions



Source: Global index data 2017

From the above figure, it is clear that United Arab of Emirates and Bahrain are the highest countries for using mobile phone to make financial transactions. While the least countries in using mobile phones to make financial transactions are Ethiopia, Egypt, and Jordan.

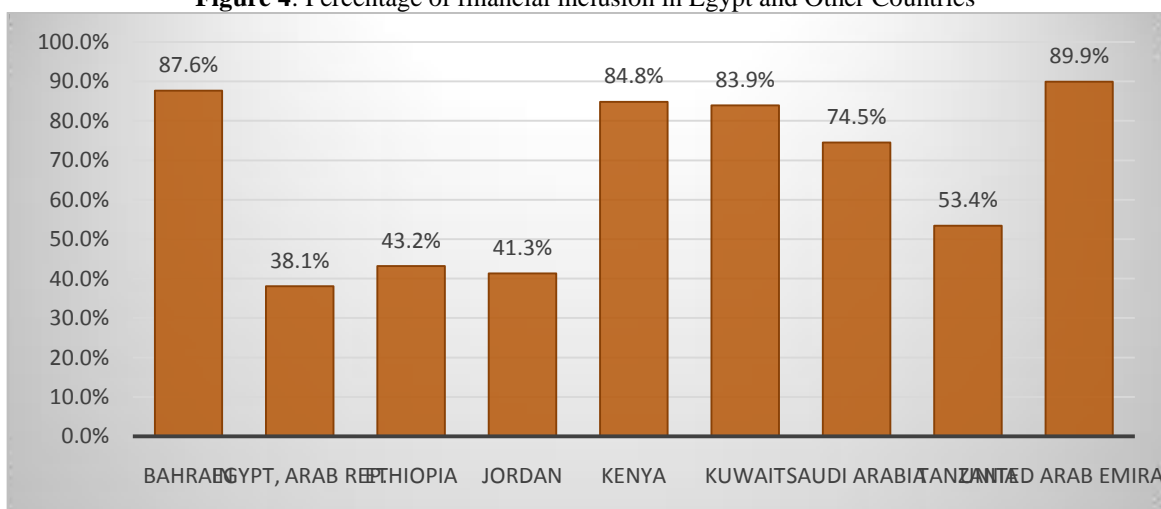
Figure 3: Percentage of Mobile Owners



Source: Global finindex data 2017

From the above figure, it is clear that all the countries almost have the same percentage of having a mobile phone, except for Ethiopia, the percentage of using the mobile phone is only 53.2%.

Figure 4: Percentage of financial inclusion in Egypt and Other Countries



Source: Global finindex data 2017

From the above chart, it is clear that the United Arab of Emirates and Bahrain are the highest countries for financial inclusion (i.e. respondents that having accounts). While the least countries for financial inclusion (i.e. respondents that having accounts) are Egypt, Jordan, and Ethiopia.

VI. Discussion

In order to evaluate the determinants of financial inclusion in the specific countries, we perform logistic regression and use the following regression

$$\text{Log} \left(\frac{P(X_i = 1)}{1 - P(X_i = 1)} \right) = \alpha + \beta_1 * \text{gender} + \beta_2 \text{Age} + \beta_3 \text{Income} + \beta_4 * \text{Education} + \beta_5 * \text{quanileoftheincome} + \beta_6 * \text{mobilephoneowners} + \beta_7 * \text{mobilephoneusers} + \beta_8 * \text{internetusers} + \beta_9 * \text{country} + \epsilon$$

Where X is the financial inclusion variable and irepresents one given individual. The individual characteristics are control variables, in addition to Mobile phone subscribers, use of mobile accounts to make financial transactions, and use of internet to make financial transactions as explanatory variables and Bahrain was a reference category. The following tables present the results of the estimated model. Firstly, the

interpretation for the estimated coefficient is presented, then goodness of fit must be tested using Chi-square test, pseudo R-square, classification table, and Roc Curve.

Interpretation of the estimated coefficients

- From the following table we found that with a 95% confidence level that all the independent variables have significant effect on the financial inclusion as they all have p-value less than the significance level $\alpha = 0.05$.
- In the logistic if the odds ratio greater than 1, means that the higher the value of the variable the higher the odds of being in financial included (i.e. having an account)
- The odds of being financial included (i.e. having an account) for who have a mobile phone is 2.9 times the same odds for those who do not have mobile phone, that is owing a mobile phone increase positively the probability of having an account, this with confident 95%, fixing all other variables.
- The odds of being financial included (i.e. having an account) for internet users are 2.25 times the same odds for those who are not internet users, that is using internet in financial transactions increase positively the probability of having an account, this with confident 95%, fixing all other variables.
- The odds of being financial included (i.e. having an account) for who mobile users is 6.647 times the same odds for those who are not mobile users, that is using mobile in financial transactions increase positively the probability of having an account, this with confident 95%, fixing all other variables.
- The odds of being financial included (i.e. having an account) for females is less than the same odds for males by around 30%, males are tending to have an account than females, this with confident 95%, fixing all other variables.
- As age increases by 1 year, the odds of being financial included (i.e. having an account) increases by 1.03 times, this with confident 95%, fixing all other variables.
- Education has significant effect on financial inclusion, as The odds of being financial included (i.e. having an account) for who are secondary educated is 1.725 times the same odds for those who are primarily educated, while The odds of being financial included (i.e. having an account) for who are completed tertiary or more is 3.24 times the same odds for those who are primarily educated, that is increasing the educational level increase the probability of being financial included, this with confident 95%, fixing all other variables.
- Wealth index has positive effect on financial inclusion, that is increasing the wealth index level increase the probability of being financial included, this with confident 95%, fixing all other variables.
- Being employed increases the odds of being financial included (i.e. having an account) than non-employed by 1.93 times, this with confident 95%, fixing all other variables.
- There is significant difference in the financial inclusion regarding the country, this with confident 95%, fixing all other variables, this difference as follows:
 - The odds of being financial included (i.e. having an account) for citizens in Egypt is less than the same odds for citizens in Bahrain by around 83%, i.e. citizens in Bahrain are tending to have an account than citizens in Egypt, this with confident 95%, fixing all other variables.
 - The odds of being financial included (i.e. having an account) for citizens in Ethiopia is less than the same odds for citizens in Bahrain by around 57%, i.e. citizens in Bahrain are tending to have an account than citizens in Ethiopia, this with confident 95%, fixing all other variables.
 - The odds of being financial included (i.e. having an account) for citizens in Jordan is less than the same odds for citizens in Bahrain by around 79%, i.e. citizens in Bahrain are tending to have an account than citizens in Jordan, this with confident 95%, fixing all other variables.
 - The odds of being financial included (i.e. having an account) for citizens in united Arab of Emirates is higher than the same odds for citizens in Bahrain by around 24%, i.e. citizens in united Arab of Emirates are tends to have an account than citizens in Bahrain, this with confident 95%, fixing all other variables.
 - The odds of being financial included (i.e. having an account) for citizens in Kuwait is less than the same odds for citizens in Bahrain by around 36%, i.e. citizens in Bahrain are tending to have an account than citizens in Kuwait, this with confident 95%, fixing all other variables.
 - The odds of being financial included (i.e. having an account) for citizens in Saudi Arabia is less than the same odds for citizens in Bahrain by around 59%, i.e. citizens in Bahrain are tending to have an account than citizens in Saudi Arabia, this with confident 95%, fixing all other variables.
 - The odds of being financial included (i.e. having an account) for citizens in Tanzania is less than the same odds for citizens in Bahrain by around 68%, i.e. citizens in Bahrain are tending to have an account than citizens in Tanzania, this with confident 95%, fixing all other variables.
 - The odds of being financial included (i.e. having an account) for citizens in Kenya is less than the same odds for citizens in Bahrain by around 16%, i.e. citizens in Bahrain are tending to have an account than citizens in Kenya, this with confident 95%, fixing all other variables.

Table 7: Statistical Results using Secondary Data

β_1 gender (Male)	.7042138 *** (0.0000)							
β_2 Age	1.03141 *** (0.0000)							
β_3 Employ	1.931179 *** (0.0000)							
β_4 Educ.	1.725696 *** (0.0000) Secondary Education	3.242409 *** (0.0000) complete tertiary or more						
β_5 income	1.178009 * (0.07) Second 20%	1.396162 *** (0.0000) Middle 20%	1.8798 27*** (0.0000)) Fourth 20%	2.829751 *** (0.0000) Richest 20%				
β_6 mobow	2.951766 *** (0.0000)							
β_7 mobuse	6.647141 *** (0.0000)							
β_8 int. use1	2.251189 *** (0.0000)							
β_9 count.	.1766871 *** (0.0000) Egypt	.4324088 *** (0.0000) Ethiopia	.21298 11*** (0.0000)) Jordan	1.242641 (0.151) Kenya	.6425491 *** (0.001) Kuwait	.40774 34*** (0.000)) Saudi Arabia	.325511 9*** (0.000) Tanzania	.8460 163 (0.27) 0) UAE
Cons.	.1228509 *** (0.000)							

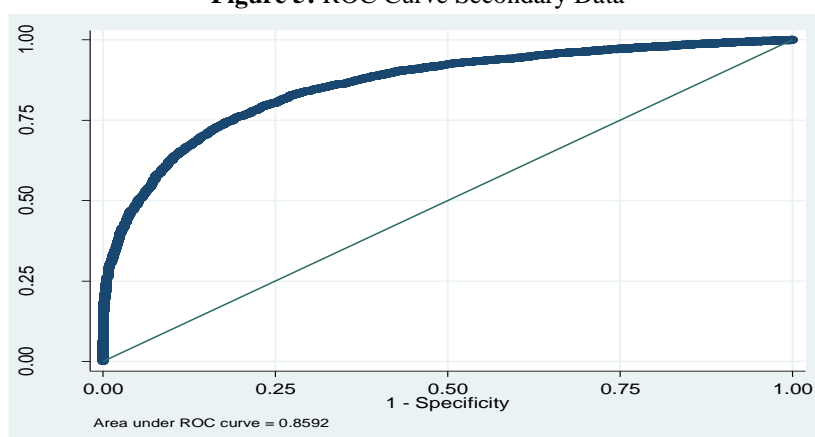
***sig. at 5%, ** sig at 1%, * sig at10%

Goodness of fit of the model

From the following tables we can conclude that

- Pseudo R-square = 0.3149, this means that the estimated model explains 31.5% of the variations in the financial inclusion.
- Sensitivity = 86.98%, which means that the percentage of who are correctly specified by the estimated model as having an account (financial inclusion =1) from who already have an account = 86.98%, and this is an accepted percentage.
- Specificity = 63.82%, which means that the percentage of who are correctly specified by the estimated model as not having an account (financial inclusion =0) from who already do not have an account = 63.82%, and this is an accepted percentage.
- The overall correct classified percentage= 79.21%, that is 79.21% of sample are correctly specified in its category.
- From the ROC curve, it is clear that area under curve = 0.89 which is close to 1(perfect fit).

Figure 5: ROC Curve Secondary Data



Source: Global Findex Report 2017

VII. Conclusion and Policy Recommendations

Conclusion

According to the 2017 Global Findex and research data in Egypt 33% of all adults in a financial institution have transaction accounts lowest among other Arab and African states. Of the 70% from the Egyptian population non-banked, the principal reasons for not opening bank accounts are geographical distance, inadequate documentation and costs of financial services (Global Findex 2017). The Egyptian Government rightly concentrates on enhancing account ownership by digitization of payments from government to individual.

CBE acknowledges the potential to access, rapidly and effectively, financially excluded and under-served communities, with a variety of financial services tailored to their requirements, in simple, safe, clear and cost-effective terms.

With high mobile phones penetration by 111%, pushing innovation in financial digital services that fulfil the needs of the underbanked population is a crucial and viable part of an effective financial inclusion strategy.

Current challenges include Egypt's strong cash culture, expansion and restricted accessibility, and acceptability to DFS, as well as digitalization of payment systems and other financial services. These problems have been the key driver of the digital financial services industry for a less cash society. The following are the most significant legal and regulatory challenges to the DFS in Egypt:

- i. The agent network distribution to Egyptian unbanked and MSMEs of digital financial products: 7washely startup, Digified and Valify are designed to support unbanked open transaction accounts. As a consequence, customer quality is subject to high dormancy of agents, low reliability in technology, long account opening and inconsistent performance of agents. A more streamlined and liberalised regulatory system providing all financial services providers (banks or non-banks) with fair playing ground would stimulate competition in the distribution of financial services that would have a positive effect on final recipients.
- ii. E-KYC Infrastructure: the KYC process is a slow and expensive one-to-one process. While some e-KYC pilots proceed like Valify and Digified new startups in digital identity verification, the feasibility and scalability of the proposed scheme are still doubtful. Utilization and creation of a national ID infrastructure for e-KYC would considerably cut the costs of customers onboarding. The national ID system in Egypt covers almost uniformly and provides accurate identity information. In order to decide the verification of identity online, and how data is exchanged and accepted, Egypt needs an integrated trust system.
- iii. Payment service provider interoperability (PSPs): The digital payment landscape is fragmented. Mobile money instruments are still not commonly accepted (Vodafone Cash, Flous at Etisalat, Wepay, Fawry). Debit card cannot be used by all PSP agents. Interoperable digital payment systems can offer lower-cost transactions, boost payment providers' competitiveness and increase payment efficiencies.
- iv. Financial and consumer literacy: Still cash is the main stream for water, electricity and other public utilities, more than 80% have cell phones and are likely to pay online bills through cell banking, internet banking or mobile money apps. Low financial literacy impedes the adoption and threats of consumer fraud and harassment by official financial services. There is therefore a necessary need for financial education and a better regulation of financial consumer security to create trust in structured financial services, to make consumers' financial behaviour, and to enhance business behaviour on the part of financial services providers.

- v. Internet Connectivity: In order to facilitate the digital transactions, secure motive and internet connection are necessary. Mobile country penetration is 111%, meaning that more than one SIM subscription is available. Of all these subscriptions, surprisingly, just 40 percent have Internet access.

Policy Recommendations

- i. Build a vibrant, more dynamic network of agents for the delivery of digital financial product: the policy and regulatory system of CBE and FRA must simplify and liberalize by opening up the market for those institutions who wish to use financial services agents and allowing financial services providers to choose how best to use and completely take responsibility for the agents.
- ii. Enable e-KYC to easily embark and verify customers: government should develop regulations to enable competent digital ID services providers, leveraging Valify and Digified e-KYC business model to provide stable and cost-effective ID verification and authentication services.
- iii. Render payment systems interoperable and interconnected: CBE and NCP (the National Council of Payments) should further modernize the infrastructure in retail payment systems by improving National Payment system 123 switch for ATM and transactions.
- iv. Financial literacy and Consumer Protection: Inviting all Banks in Egypt to adopt an ambitious strategic vision to improve financial inclusion to support financial literacy and improve access to financial services. Promote and develop the financial literacy by preparing a national strategy aimed at enhancing awareness and financial knowledge among the segments of society, especially young people, women, and SMEs. Increasing efforts to encourage innovation and creativity in designing financial products that are compatible with the needs of excluded groups, for banks in Egypt to play a deeper and more comprehensive role in serving the community in Egypt, and to devise financial tools and services that match the needs of the poor, women and excluded segments.
- v. Stable Internet connection, Cybersecurity and Privacy Protection: In order to carry out high-risk activities (one-to-many payments and pensions), internet connection stability and information security measures must enable Data Security Controls, which take account of user experience by requiring two levels of authentication for the application to be used (OTP, software token or hardware token). The open internet architecture creates fear and misunderstanding about the safety of the data of consumers, particularly when exchanging payment information through the internet. Sufficient data security is necessary to increase the public's confidence in the usage of business websites and the conduct of online transactions. For fintech firms, customers and service providers, hence strong cybersecurity measures are just as critical. The new e-transaction legislation should ensure intellectual property protections for owners of goods without restricting the interests of platforms or suppliers in selling services legitimately because of Intellectual Property Rights restrictions. This regulation should also take account of the interests of users, before making any electronic purchases, to provide as much on-line content as possible.
- vi. Completion of the G2P Payment road map through Meeza Cards: decentralizing the opening of account using meeza as a new payment scheme in Egypt and fostering interoperability of payment schemes and streamlining agent incentives.

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