

The Impact of Financial Inclusion on GDP Growth in Egypt

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Abstract

FI's multidimensional aspect is crucial to a country's economic and financial growth. This study aimed to examine FI's impact on Egypt's growth in GDP and to focus significantly on FI indicators such as the Number of ATMs and the deposits in various financial institutions. The researcher used secondary data to help with the analysis of the correlation between GDP and other independent variables. The authors analyzed the data by using multiple regression models, and the model was statistically significant. The results of the study found a positive correlation between GDP and the number of ATMs and the negative relationships between GDP and total deposits.

Keywords: Financial Inclusion (FI); GDP growth; Egypt; Banking Sector; ATMs; Microfinance institutions; Multiple Regression Models; Financial Services; Mobile Banking; Bank Branches.

Introduction

Financial Inclusion (FI) is an important tool that the State uses in order to boost the economy because of the need to improve the efficient allocation of productive capital and, consequently, to reduce capital costs.

FI is one of the essential concepts that, in recent times, has attracted generally the attention of international organizations and central banks. Similarly, during the last few years, Egypt has made FI its top priority . Egypt is a country of around 98 million people, which is spread across 27 governorates, and there are around 233 cities, 184 villages and 91 districts (<https://www.unfpa.org/data/EG>). A vast majority of the population, more especially in rural areas, are excluded from easy access to financial services. In 2014, 14% of Egyptians had an account at a formal financial institution, 10% had a debit card, 6% borrowed from a financial institution, 4% had formal savings accounts, 3% used an account to receive wages, 1% had a credit card. Also, since the launch of mobile payment services in Egypt in 2013(https://globalindex.worldbank.org/#data_sec_focus), 1% have mobile accounts.

Egypt's MFIs comprise of 818 licensed Non-Governmental Organizations Microfinance Institutions, and its 1,558 branches cover all the Egyptian governorates. At the end of the third quarter of 2017, the value of Microfinance was 6 billion L.E, provided to 2 million citizens of which 70% were women (the Authority harvest of the year 2017).

The CBE is leading the country's FI policy process. It joined the Alliance for Financial Inclusion (AFI) in mid-2013. President Decree no. 89 (which was issued on 14/2/2017) established the

national council for payments. The council is tasked with reducing the use of banknotes outside the banking system; developing the national payment systems; achieving financial inclusion; and increasing the tax proceeds (<http://microfinance-mena.org/category/countries/egypt/>).

A single product or technological innovation cannot address FI financial and, therefore, in pursuit of increased financial access for more impoverished populations, policymakers need to focus on a set of solutions best suited to their national contexts (<http://microfinance-mena.org/category/countries/egypt/>).

FI can stimulate economic growth and can reduce income inequality. FI benefits growth through a variety of channels that: support business expansion and facilitate investments that improve productivity; enable individuals to save; and to lessen the impact of financial shocks on households and firms' financial shocks. The access to financial institutions, through the availability of banks branches or ATMs, is found to have a positive effect on economic growth. There is, also, a positive correlation between FI and reductions in income inequality. In this respect, this study suggests that households should have increased access to borrowing lowers inequality (as measured by the ratio of the income share at the bottom 40% of the population to that of the middle 40% of the population) (Sahay, Ratna et.al, 2015).

In this context, FI is one of the most critical drivers of economic growth and in ensuring that the banking sector remains a strong pillar of the economy.

Literature Review

FI is essential for GDP growth and in reducing inequality and poverty in the country. Well-functioning financial systems are vital to an economy's growth because they can motivate individuals both economically and socially; enable them to integrate properly into their countries' economies; relate systematically to their development; and defend themselves from economic downturns. It facilitates, also, the country's inclusive economic growth. This is a complex term and one of its main

entrance halls to FI. In this regard, creative thinking is needed for sustainable and encompassing development in order to maintain proper financial services and instruments for the benefit of poor people and other disadvantaged groups.

Demirguc-Kunt et al. (2017) illustrate the relationship between FI # and growth. They emphasize that, while the SDGs are not aimed primarily towards FI, broader access to financial services is a significant facilitator for many of them. It is recognized that individuals, who have access to financial services, have more security and privacy over their money. Official savings accounts allow people to save more and, also, earn more through bank deposits.

Babajide, Adegboye, and Omankhanlem (2015) examined FI's influence on Nigeria's economic growth. Their study aimed to illustrate FI determinants and their effects on economic growth. They used secondary data from indicators of world development, and the Standard Least Squares (SLS) regression model to examine the data. Their results show that FI is a major determinant of the total production factor and capital per worker. Typically, these determine the final output level of the economy.

In his research study on Financial Inclusion and Growth, Gretta (2017) examined FI's impact on economic growth in developing nations such as the Middle East and North Africa (MENA) and the BRICS region. He tried, also, to define the different transmission channels between financial literacy, financial intermediaries and growth. In this research study, he adopted a VAR regression to measure the relationship between FI, financial literacy and development, and to study its effect on economic growth in the MENA region. The results illustrate FI's significance in the MENA and BRICS regions.

Sahu, (2013) examined the relationship between the FI Index and Socio-economic Variables. The results show that together these indicate that the per capita net state domestic product accounts for 34% of the change in the FI Index.

From their research study findings, Beck et al. (2007) assert that the deficiencies in the financial market fail to increase individual opportunities to produce motivational results. These measurements show that lack of access to finance can be the key factor in generating either continued income inequality or deprivation loops, and slow growth. In summary, with regard to the above-mentioned conceptual models, the financial service providers play five main roles which are: lenders information; risk reduction contracts; capital accumulation; enhanced risk management; and a smooth transaction process.

On the other hand, the findings of many other research studies (Sahu, 2013; Onaolapo A. R., 2015; Dudin, 2017; Siddiqui, 2018; Mwaitete and George, 2018;) demonstrate that access to finance is seen to be a critical factor in enabling people to improve and transform their activities in order to exit poverty.

The findings of Tamilarasu's (2014) study show that, in order to stand out on a global platform, the country has to look upon FI and inclusive growth as key factors in achieving inclusive growth. In this regard, FI is aimed at providing banking and financial services to all people in a fair, transparent, and equitable manner and at an affordable cost. Often, low income households lack access to bank accounts and have to spend time and money in making multiple visits to avail themselves of banking services, be it opening a savings bank account or securing a loan. Consequently, these families find it more challenging to save and to plan financially for the future. FI growth is possible only through a proper mechanism that channels all the resources in the direction of the customers; it is an innovative concept that provides alternative techniques to promote the banking habits of rural people.

The findings of Raihanath and Pavithran's (2014) study show that, for the FI initiative to be successful, it is essential to provide disadvantaged and low-income groups with banking services at an affordable cost. In this regard, commercial banks perform a vital role. However, as yet, the road toward 100% FI has to be

completed. Essential FI areas, which are performed by commercial banks, are: financial literacy; credit counseling; BC/BF model; KYC norms; KCC/GCC; No-frill accounts; Branch expansion; Mobile banking; and other measures such as micro-insurance, micro-credit, etc.

From their study's findings, Mala and. Vasanthi (2016) conclude that a nation's economic development depends largely upon a sound banking system which can facilitate mobilization of financial resources and channel them toward productive purposes. These result in a high degree of capital formation. In order to achieve FI, people need to have some basic financial literacy, financial skills, product knowledge and understanding.

From his study's findings Gogia (2017) refers to the issue of FI as being a development policy priority in many countries. The provision of banking services for poor people is a viable option since they represent a huge number of people at the bottom of the pyramid. The use of technology plays a vital role in leveraging banking services to rural areas since it reduces the cost of maintaining a bank account. Besides, there should be convergence between regulators, banks, telecom companies, and software companies. Financial literacy and credit counseling programs can create a critical mass for financial services which, in turn, makes FI a viable proposition. FI has far-reaching consequences which can help many people to come out of conditions of abject poverty. From the findings of their study of FI's role in enhancing the overall growth of African countries from a sample of the growth between 1988 and 2007, Andrianaivo and Kpodar (2011) want to establish the relationship between FI, Information Communication Technology (ICT) and economic growth. The study investigated, also, the ICT's relationship with FI and how ICT contributed to the African banking sector's FI # (Andrianaivo and Kpodar 2011). Eventually, in a particular country, the efficiency and effectiveness of FI leads to GDP growth. In their investigation, Andrianaivo and Kpodar (2011) captured FI by using variables that measured the accessibility of financial

services such as loans per head and the number of deposits. The results confirmed that, in terms of FI, ICT played a significant role in GDP growth amongst African countries (Andrianaivo and Kpodar 2011).

Dixit and Ghosh's (2013) study about Indian states considered the impact of FI on India's growth. The study concluded that a country would attain equitable distribution of opportunities and benefits through inclusive growth. Further, the study helped to identify FI's role and determined that it was the most crucial opportunity needed to distribute resources for equitable growth. Dixit and Ghosh found out that, in order to bring orderly growth to the Indian states, there was a need to develop inclusive finance within these states. The Indian states of Kerala and Maharashtra had higher rates of FI whereas other states like Assam, Bihar, Manipur, and Madhya, had lower rates of FI. Financial literacy was the main issue which held back the use of financial products and services in these states.

The findings of Kelkar's (2010) study on the relationship between FI and India's economic growth show that FI reduces drastically indebtedness amongst Indian farmers. Indebtedness was the leading cause of farmers' suicides in most Indian states. Therefore, FI helps both large- and small-scale Indian farmers to overcome the crisis of indebtedness. Further, according to this study's findings, FI has led to the more rapid modernization of Indian agriculture through the use of improved seeds, modern inputs, quality fertilizers and modern equipment (Kelkar, 2010). Since the new agriculture requires more working capital and is capital intensive, the incorporation of the role of FI has helped to change drastically the face of Indian agriculture. FI's significant role has helped with the development of farmers' risk management tools and encouraged them to adopt new technologies at a faster rate. These results are equitable and have increased the rate of economic growth rate and, ultimately, has led to higher GDP growth.

Julie (2013) studied the effectiveness of FI on Kenya' MFIs. The study's findings depict a clear picture of how Kenya's MFIs' have contributed to the country's' GDP. The MFIs have adopted various methods of promoting FI in rural parts of Kenya. However, some MFIs exploit their customers by charging high-interest fees that may not be affordable to small scale traders. These high-interest charges have scared away traders and have resulted in some Kenyan areas having lower rates of FI than others. This study's findings show that those, who can easily access the MFIs, achieve critical empowerment in their growth and development. In such circumstances, most individuals and businesses are able to meet a different level of savings and financial needs that can boost their status. Hence, in the same year, individual and business and financial growth has led to an increase in Kenya's GDP.

From the empirical review, it is observable that the existing studies concentrated on the various ways used to promote FI. Other studies have established the relationship between FI and GDP growth in different countries. Consequently, this study seeks to fill the gap by determining the impact that FI may have on GDP growth of the leading populated country in the world, namely, Egypt.

Objectives

This study attempts to discover the current state of FI in Egypt and to assess its role in the economic growth of the Egyptian economy.

This study's objectives are summarized as follows:

- 1- To discover the current status of FI in Egypt.
- 2- To investigate the major factors affecting access to financial services.
- 3- To study the impact of FI indicators on the growth of the Egyptian economy.

Methodology

Major Factors Affecting Access to Financial services

First, we distinguish between “access to” and “use of” financial services. Access to financial services means the availability of a supply of reasonable quality financial services at reasonable costs. Use of financial services means the actual consumption of financial services (Claessens Stijn, 2005). Therefore, we can identify the two categories of barriers affecting the financial inclusion. These are: **Demand Side Barriers** (Complexity, Place of living, limited literacy, preference of informal sector); and **Supply Side Barriers** (Legal identity and outreach issues) (Sanjeev Kumar Gupta, 2011). Therefore, in Egypt, the FI strategy should focus on overcoming these barriers in order to achieve the ease of access and use of financial services by the vast underdeveloped and deprived segments of the population.

Status of Financial Inclusion in Egypt

The CBE is responsible for promoting and coordinating FI in Egypt as a strategic objective of Egypt’s development and growth (SDS Egypt 2030).

The Egyptian banking sector has been growing steadily from about 91% to 122% of GDP during the period from 2013 to 2016 (CBE, 2017). On the other hand, there has been a substantial reduction in the number of banks due to mergers and acquisitions. At the end of 2017, the banking sector consisted of 38 banks. The three largest banks control more than half of the banking assets. ATM services are offered at all bank branches and at several locations in the country (CBE, 2017). The following table summarizes the growth of the Egyptian banking sector between 2011 and 2017:

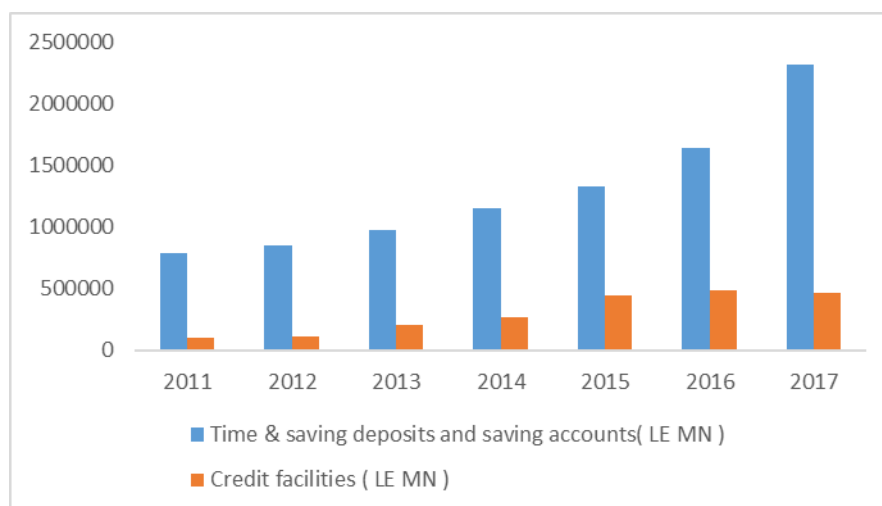
Table 1: The Growth of the Egyptian Banking Sector (2011-2017)

	2011	2012	2013	2014	2015	2016	2017
Total Number of Banks Operating in Egypt	39	40	40	38	38	38	38
Total Number of bank Branches	3573	3610	3651	3710	3766	3882	4039
Total Deposits (LE MN)	957037	1023517	1186985	1429432	1734178	2116117	3027811
Time & Savings Deposits and Savings Accounts(LE MN)	789407	851116	974286	1157976	1330179	1641305	2319072
Total Lending and Discount (LE MN)	474139	506736	549120	587852	717999	942727	1426457
Aggregate Financial Position (Assets = Liabilities (LE MN))	1269690	1366160	1563849	1816873	2198979	2846094	4420860
Credit facilities (LE MN)	98826	111362	201787	264196	446094	489795	462244

Source: Central Bank of Egypt, Annual Reports, Several Years.

Table 1 demonstrates the significant increment in time and savings deposits and savings accounts and credit facilities in line with the expansion in the number of bank branches as shown in Figure 1.

Figure 1: increment in Deposits and Savings Accounts & Credit Facilities



Source: prepared by authors

Table 2 shows the development of FI indicators in Egypt according to figures released by the World Bank in 2011, 2014, and 2017.

Table 2: Development of Egypt's Main Financial Inclusion Indicators

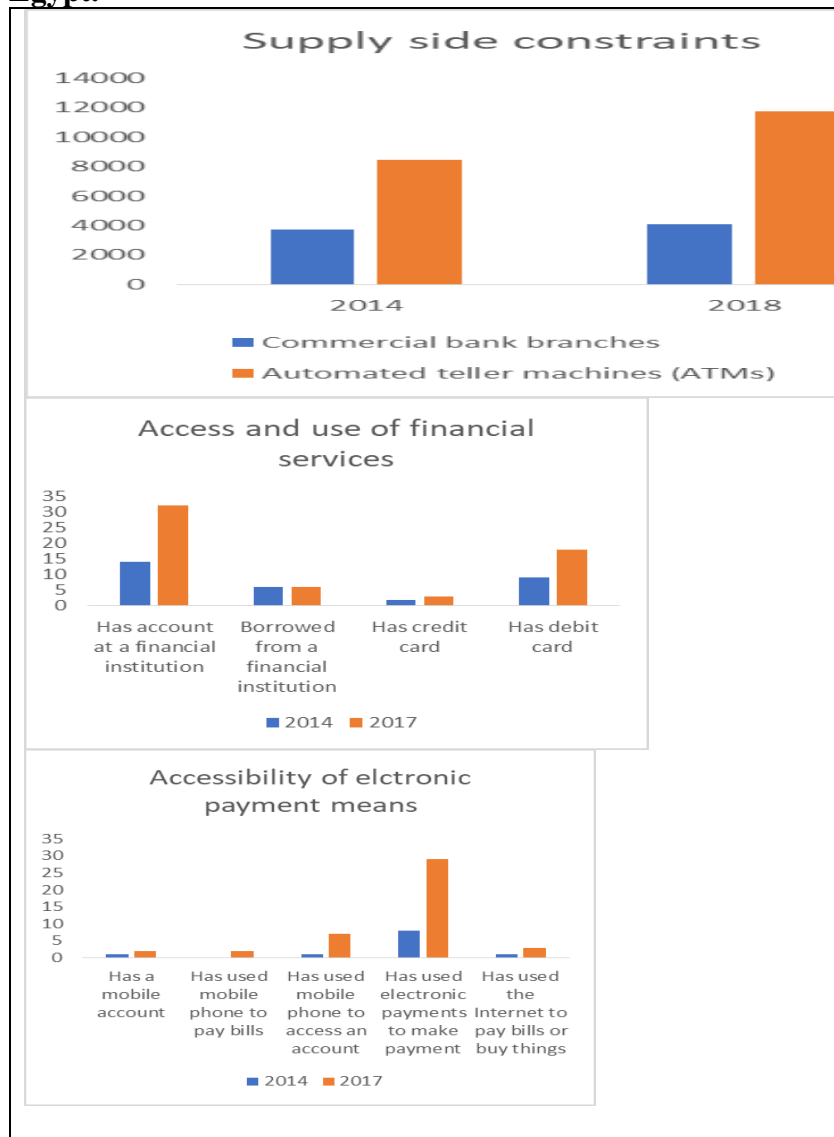
Indicator	2011	2014	2017
Account, in labor force (% age 15+)	12%	21%	38%
Account, out of labor force (% age 15+)	8%	8%	29%
Account, female (% age 15+)	7%	9%	27%
Account, young adults (% ages 15-24)	8%	7%	14%
Account, older adults (% ages 25+)	11%	17%	40%
Account, rural (% age 15+)	6%	10%	29%

Debit card ownership, rural (% age 15+)	3%	7%	23%
Made digital payments in the past year, rural (% age 15+)	--	4%	4%
Received digital payments in the past year, male (% age 15+)	--	6%	26%
Received digital payments in the past year, rural (% age 15+)	--	3%	19%
Mobile money account, rural (% age 15+)	--	1%	1%
Mobile money account (% age 15+)	--	1%	2%

The Global index database 2017: Measuring financial inclusion and the fintech revolution, World Bank: Washington, DC.

Table 2 demonstrates that Egypt has experienced high levels of financial exclusion. However, as shown in Figure 2, the situation is improving.

Figure 2: improvement in financial inclusion indicators in Egypt.



Source: prepared by authors from The Global finindex database 2017
<https://globalfinindex.worldbank.org/>

As demonstrated in Figure 2, the improvement in the FI indicators is driven by the Egyptian authorities' belief in the importance of FI by their adopting various programs¹ to widen the scope of cashless transactions such as introducing electronic systems in several government entities(<http://microfinance-mena.org/category/countries/egypt/>). In parallel, several measures were taken to encourage account accessibility which, in 2017, was recorded as 40% of Egyptian adults. Also, the number of subscribers to the mobile money transfer service has exceeded 5.5 million and attests to the efforts made to enhance FI by making simple banking services available to the disadvantaged segments within the population.

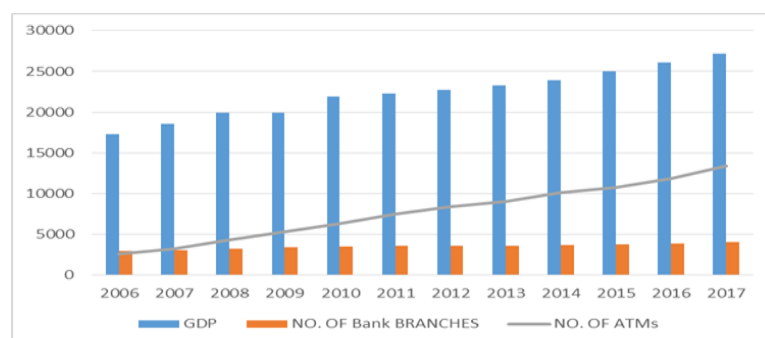
Data Analysis

The achievement of economic development, facilitated through access to a well-functioning financial sector, makes it possible for disadvantaged segments of the population to make their own economic decisions that can provide a path out of poverty. It is argued that FI is an important policy tool which can help to achieve sustainable development goals (Klapper, El-Zoghbi, and Hess, 2016). FI is becoming a new concept of economic growth because it is a significant variable in reducing poverty within Egypt. Consequently, financial institutions are the main pillars of Egypt's economic growth and development (Bhat M. Ahmad and Singh S. Kumar, 2018). Figure 3 demonstrated Egypt's GDP, the number of bank branches and the number of ATMs between 2006 and 2017.

¹ Such as :

- The CBE approved a new version of the regulations for "Mobile Payment Services Regulations" in November 2016.
- Establish the "National Council for Payments" In 2017.

Figure3: GDP, the number of bank branches and the number of ATMs in Egypt between 2006 and 2017.



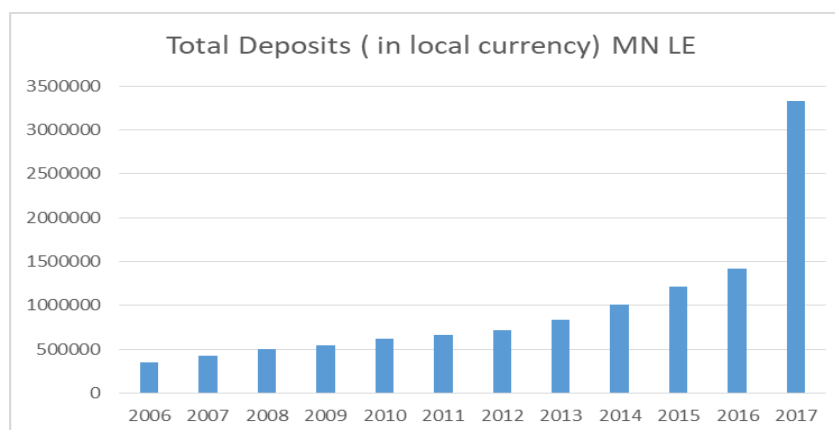
Source: prepared by authors from World Bank national accounts data <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD>, and CBE, Annual Reports, Several Years.

The study covers the increasing number of bank branches between 2006 and 2017. There were 2,944 bank branches in 2006 and this number had increased to 4,093 by 2017. The highest GDP growth of 8% was recorded in 2007 and the lowest GDP growth of 1% was recorded in 2011 and 2012.

With regard to the number of ATMs as an indicator of the growth of FI, as shown in Figure 3, their number increased continuously between 2006 and 2017.

Figure 4 illustrates the credit deposits during the period from 2006 to 2017 and, in particular, its remarkable growth in 2017.

Figure 4: total deposits growth



Source: prepared by the authors from information obtained from the Central Bank of Egypt and Annual Reports over Several Years.

The Model

Table 3: Results of regression analysis: Model summary

Method: Fully Modified Least Squares (FMOLS)

Sample (adjusted): 2007 2018

Included observations: 47 after adjustments

Cointegrating equation deterministic: C

Long-run covariance estimate (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNNATM	1.831946	0.349331	5.244162	0.0000
LNTOTD	-1.223155	0.276419	-4.425005	0.0001
C	13.72490	1.490124	9.210574	0.0000
R-squared	0.715594	Mean dependent var	7.920559	
Adjusted R-squared	0.702666	S.D. dependent var	0.219564	
S.E. of regression	0.119725	Sum squared resid	0.630697	
Long-run variance	0.046441			

Table 3 above is the model summary of multiple regression analysis; this was carried out through using the Fully Modified Least Squares (FMOLS) method with 47 adjusted observations. The model shows the result relating to the value of R; this indicates a significant correlation between the dependent variable (LNGDP) and the independent variables (LNNATM and LNTOTD). R-squared is a measure of Model Performance; $R^2 = 0.715594$ and this is an excellent fit. The value R-squared and adjusted R squared 0.702666 displays the fitness of the model, and from the data, the model is highly suited to measuring Egypt's GDP growth. The S.E of the regression measures the model's Daily Model Error. The regression model has a daily error of 0.119725 .

From Table 3, it is evident that GDP is reliant on the various FI indicators. These include the number of ATMs and the total deposits. Further, the findings show that each of these indicators has either a positive or negative relationship with GDP (Sarma and Pais, 2011). This means that FI impacts on the overall growth of Egypt's GDP.

As shown in Table 3, Egypt's GDP at the probability rate of 0.0000 has a positive relationship of 1.831946 with ATMs. Further, the same independent variable (GDP) with a probability rate of 0.0 has a negative relationship with total deposits of 1.223155 . The increased number of ATMs plays a crucial role in increasing financial products and services to Egyptian citizens. therefore, increases the growth in Egypt's GDP (Swamy, 2012). Increasing in deposits due to increasing in saving, not lead to increasing in investment that is has a negative impact on overall growth of Egypt's GDP.

ARDL Bounds Test showed that F- statistics= 5.780645 , which is greater than the upper limit $I1 = 4.85$, so there is a cointegration between our variables, which means there is a long-run relationship.

The following is the regression equation established from the model:

$$Y = 13.72490 + 1.831946 X1 - 1.223155 X2 + \varepsilon$$

In summary, Egypt has prioritized recently the issue of monetary reform, more precisely the agenda of FI. The Egyptian government's focus is to increase the accessibility of financial products and services to its citizens in order to promote banking sustainability and inclusive economic growth (Chibba, 2009). This focus is in line with the predominant views of several scholars' and researchers' pieces of literature of. Many of them have portrayed FI's significant role in the growth and development of different countries. In Egypt, FI is crucial since it diversifies and develops agriculture; increases the monetary stability of individuals and businesses; and enhances the development of infrastructure and capital-intensive works that lead to Egypt's modernization (Evans, 2016). Based on these findings, there is a strong correlation between FI and Egypt's economic growth. There is a need to establish this relationship and to utilize any available opportunity to make effective FI efforts in order to achieve economic growth. From this study's findings, it is established that there is a strong positive relationship between FI and the growth of Egypt's GDP. Therefore, FI indicators (independent variables) have a huge impact on the growth of Egypt's GDP growth (Sethi, and Acharya, 2018). There is a positive correlation between the strength of Egypt's financial sector and the growth in the country's GDP growth. Therefore, well-functioning MFIs and financial institutions, which can easily deliver products and services, are likely to be predominant in enhancing Egypt's economic growth.

Limitations and Recommendations for Further Research

This research had some limitations since it was conducted in different geographical locations. In some instances, the rural areas of Egyptian towns had severe economic conditions that did not favor the nature of this research study which had insufficient resources to carry out the necessary investigations. FI helps Egypt's underprivileged population Egypt to gain inclusive growth (Iqbal, Badar Alam, and Shaista Sami, 2017). Despite FI's significance in enhancing the growth of Egypt's GDP, there is a gap on how to use the help of information technology to achieve FI in Egyptian towns. This is because the Egyptian Government has not made sufficient efforts to enhance the inclusive financial sector. It will be effective if future researchers and studies examine the role of information technology in enhancing the inclusivity of the country's poor people and the rural areas. Secondly, future research must consider the Egyptian Government's policies and programs that have a direct influence on FI's impact in enhancing Egypt's economic growth.

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