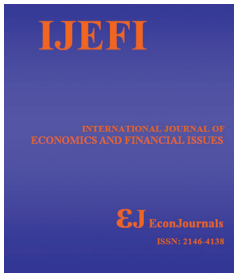


International Journal of Economics and Financial Issues

ISSN: 2146-4138

available at http: www.econjournals.com

International Journal of Economics and Financial Issues, 2023, 13(6), 148-154.

Impact of Financial Inclusion on Economic Growth during the Period 2011–2021: A Cross-sectional Study of Lower-Middle-Income Countries

Suleiman Daood Alosheibat*, Hmood H. Banikhalid, Ateyah Alawneh

College of Business, Tafila Technical University, Jordan. *Email: drslaimana@gmail.com

Received: 02 September 2023 **Accepted:** 03 November 2023 **DOI:** https://doi.org/10.32479/ijefi.15324

ABSTRACT

This study explores the impact of financial inclusion in lower- and middle-income countries on the gross domestic product as a representative of economic growth for the period of 2011–2021 using the autoregressive distributed lag (ARDL) method. The results indicate a negative effect between the percentage of adults (over 15 years old) who own a bank card, whether credit or debit cards (F2), and economic growth in the long run. The results also indicate a positive effect among the percentage of adults (over 15 years) who have deposit accounts in financial institutions (F1), the percentage of adults (over 15 years) who have obtained loans from financial institutions (F3), and economic growth in the long run. The coefficient of determination (R2) reached 74% and the corrected coefficient of determination reached 72%, indicating that the independent variables used in the model largely explain the economic growth in countries with below-average defects. In addition to a long-term equilibrium relationship between the study variables, the speed of adjustment in the short term to the long term takes place within 0.28877 per year.

Keywords: Financial Inclusion Indicators, Economic Growth, ARDL Method
JEL Classifications: E44, F43, O47

1. INTRODUCTION

All societies set their sights on the paradise of economic well-being, which is the desired goal that societies seek in the material aspect of life. This great goal can only be achieved through economic efficiency, distributive justice, economic stability, and economic growth. These objectives are measurable and easy to manage and can be used as indicators toimprove the welfare of society.

Economic growth depends on various factors, the most prominent of which are the availability, proportionality, suitability and efficient use of production factors and facilitating factors, such as the political, economic and social environment suitable for growth. There is also a factor that is no less important than the previous ones, which is the efficiency of financial intermediation and its ability to mobilize financial resources and direct them to the most efficient destination for use.

Financial inclusion, represented by the expansion of financial services and their access to all members of society, is an essential cornerstone for increasing the effectiveness of financial intermediation in society: borrowing and insurance.

The World Bank group defined financial inclusion in its fourth report as follows:

“Financial inclusion is a cornerstone of development. The global index database has been published every 3 years since 2011 and has become an indispensable tool for policymakers, researchers, practitioners, the media and the development community. This event represents an opportunity to raise global awareness on

progress in universal access to digital financial services and their use across all regions of developing economies, identify remaining gaps, particularly between women and poor adults, and promote the importance of financial inclusion as a critical investment to build inclusive and resilient economies"(World Bank 2021).

This definition raises several questions on the impact of financial inclusion on the economic aspects. In light of what was mentioned in the introduction, the study raises the following question:

How did financial inclusion indicators impact economic growth in lower- and middle-income countries from 2011–2021.

The study has particular importance for several reasons. Economic growth is a primary objective for enhancing the economic welfare of society. Low-income countries face challenges in achieving economic growth because of the low levels of economic welfare. In these countries, economic policymakers must consider all factors to improve the economic conditions. This contributes by exploring financial inclusion, which is a relatively recent term that has gained increasing attention in recent decades as an engine of economic growth and a pillar of development. It is important for scientific research to determine the impact of financial inclusion according to solid scientific bases.

The main objective of this study is to examine the impact of financial inclusion on economic growth in lower- and middle-income countries. The study further aims to address the following sub-objectives:

1. Study financial inclusion in lower- and middle-income countries and determine the extent of Improvement that can be attributed to this indicator.
2. Explore economic growth in lower- and middle-income countries and determine the extent ofImprovement that can be attributed to this indicator.
3. Identify the effect of financial inclusion in lower- and middle-income countries on their economic growth, its strength, and its direction.

Spatial boundaries: The study was conducted in lower- and middle-income countries and included two categories (World Bank 2021). The first category includes low-income countries based on the classification of the World Bank, that is, countries whose average per capita income is <1085 dollars. The total number of lower-income countries in this study is 28. The second category includes 54 countries with lower-middle incomes according to the classification of the World Bank. These countries have an average per capita income rangingfrom 1086 dollars to 4255 dollars.

- Objective limits: The study only dealt with the impact of financial inclusion without considering other factors affecting economic growth.

2. LITERATURE REVIEW

Economic growth is the continuous increase in the average per capita income or purchasing power (Hudson, 2014); it is a goal of different societies for several reasons, including the aspiration of all societies for economic prosperity. The goal can only be achieved through continuous economic growth. Most societies are characterized by positive population growth, which requires parallel economic growth to maintain levels of well-being.

When adopting economic growth as an indicator of economic well-being, several considerations considered. First, achieving economic growth loses much of its significance and importance if it is not associated with distributive justice. Second, the inflation factor must be excluded when calculating economic growth, in addition to adopting per capita output as an indicator for growth and excluding the effect of the population (Albiman and Bakar 2021).

Financial inclusion facilitates access to financial services to all segments of society, and this concept corresponds to financial exclusion. Financial inclusion is generally based on the availability of financial services, which is the supply side, and the demand side, represented by the use of these services (Balele, 2019).

Attention to the importance of the inclusion of financial services began with the advent of microcredit, such as the experience of local savings banks in Germany in the nineteenth century, and in Egypt in the 1960s and Grameen Bank in Bangladesh in 1967. The focus later expanded to include financial services. The use of the term "financial inclusion" in 1999, and international attention increased after the global financial crisis in 2008 (Balele, 2019).

Financial inclusion is of great importance because it enhances the economic well-being of the members of society, contributes to achieving economic efficiency and promoting economic growth through the exploitation of financial resources and enhances the effectiveness of financial intermediation institutions (Habib, 2004).

Many measures can be used to indicate the level of financial inclusion in society. In this study, three indicators are adopted including the following:

1. The percentage of adults (over 15 years old) who own deposit accounts in financial institutions.
2. The percentage of adults (over 15 years old) who own a bank card, whether credit or debit cards.
3. The percentage of adults (over 15 years old) who have obtained loans from financial institutions.

Because of the role played by financial inclusion and economic growth in advancing economic development and the economy, it is necessary to clarify their relationship. The relationship between economic growth and financial inclusion appears through the impact of the policies that activate financial inclusion on the variables that lead to the increase in economic growth rate. Studies conducted by the World Bank have shown a direct relationship between the levels of financial inclusion and economic growth, and the depth of the spread and use of financial services is linked to levels of social justice in addition to the positive impact on the labour market (Butbeneh 2018).

Experience has shown that improving the quality of financial services and expanding the access of individuals and institutions

contributes to the pursuit of the same goal and benefiting from the potential inherent in the economy. It provides them with the ability to implement their small investments and raise income and productivity, which in turn increases consumption and helps open a current account that helps provide the financial services they face, and invest in education, health and business projects. Therefore, financial inclusion has gained increasing importance in recent years, especially developing countries. It has had apositive impact on improving growth opportunities and economic stability and has contributed to achieving social justice and combating poverty (Dai-Won, et al., 2017).

Many studies have explained the relationship between financial inclusion and economic growth using various methods and reporting different results. The most important of these studies are (Dai-Won (2017)). Financial inclusion and Economic growth in the organization of Islamic cooperation countries by This study tested the relationship between financial inclusion and economic growth in 55 countries of the organization of Islamic cooperation and used estimates of the dynamic panel data through the moment of method generalized model and self-regression of the panel data (var panel). The functions-response-impulse and the test causality granger pan were also employed. The study concluded that financial inclusion has a positive effect on economic growth. While Balele (2019). Show the impact of financial inclusion on economic growth in North African countries an analytical standard study for 2004–2009 by the main result reported in this study was the existence of a long-term positive relationship between financial inclusion and economic growth in the countries under study. Sub-Saharan countries increase economic growth by promoting financial inclusion.

Financial inclusion and Economic growth, a Study on selected sections of African countries by Makina and Walle (2019). The study included 42 countries during the period 2004–2014, and highlighted that the number of bank branches (financial inclusion index) has a significant positive impact on the rate of economic growth. The study further stressed the need to promote financial inclusion to foster comprehensive growth and Noha and Ayah (2019).

Investigated the role of governance in selected countries of the Middle East and North Africa (MENA) from 1960–2015 by Noha and Ayah (2019). The study concluded that a positive and statistically significant effect existed between the financial inclusion index and the rate of economic growth in the studied sample.

Study of Kusuma (2020) showed the impact of financial inclusion on economic growth, poverty, income inequality and financial stability in Asia for ten countries in 2009–2018. The study reported that financial inclusion index has a positive impact oneconomic growth, poverty alleviation, income inequality reduction, and financial stability in Asia.

Menyelim et al. (2021). Identified the importance of financial inclusion in achieving sustainable Economic growth in Sub-Saharan African countries from 1995–2017. The study reported the existence of an integrated relationship between the degree of financial inclusion and economic progress in Sub-Saharan Africa.

Albiman and Bakar (2021) show the role of financial inclusion in achieving Economic growth in Sub-Saharan Africa. The study sample consisted of data from 45 countries for a specific period between 2004 and 2017. They found a positive relationship between financial inclusion and economic growth rate and concluded that financial inclusion enhances economic growth in the countries of the region.

Bader Shehdeh and Majid (2018) measured the impact of financial inclusion on economic development in Palestine during the period 1995–2015 and found a strong positive relationship between financial inclusion and economic development in Palestine. While Hassan (2020) measured the impact of financial inclusion on economic growth in Egypt from 1995 to 2018 and found a long-term equilibrium relationship between financial inclusion and economic development in Egypt and Dardour and Harakat (2020) measured the impact of financial inclusion on economic growth in Algeria from 1980 to 2017 and reported a long-term equilibrium relationship andashort-term relationship between the variables of financial inclusion and economic growth, with a positive relationship between bank branches and loans and economic growth.

Abdullah and Abdel (2021) identified the role of digital financial awareness in achieving financial inclusion in light of the Pandemic (COVID-19). The study highlighted the importance of digital financial awareness on financial inclusion, and concluded that digital financial awareness contributes to enhancing Great financial inclusion.

Study of Al-Hasnawi and Mahdi (2020) showed the role of financial inclusion in promoting the growth of the Iraqi Economy, an empirical study of a sample of banks listed in the Iraq stock exchange. The study reached several results; most notably that economic growth does not affect financial inclusion.

Shanabi and Bin Lakhdir (2018). The study aims to presenting concepts of financial inclusion, its importance, its objectives and its role in development, with the tremendous development of technology, and the emergence of many innovative services which have contributed to the organization and management of the operations of the financial sectors and facilitate the access to the financial services and use them.

This study indicates that financial inclusion provides advanced and affordable financial services and products such as transactions, savings, payments, insurance, credit and other financial services in a sustainable and responsible manner

3. DATA AND ESTIMATION TECHNIQUES

3.1. Methodology

A. Theoretical side: In preparing the theoretical framework and clarifying concepts, the researchers used a descriptive approach to collecting information from books and research,

whether in Arabic or English.

B. Practical aspect: The researchers conducted an applied study on a sample of middle-income countries.

C. Data collection method: The raw data wereobtained from websites. Financial inclusion data were obtained from the financial inclusion database (The Global Findex Database), which is published on the World Bank website while the economic growth data were obtained from the data bank and published on the same website.

3.2. Hypotheses

To answer the study'squestion and achieve its objectives, the researchers tested the following hypotheses:

A. First hypothesis: The level of financial inclusion in low-middle-income countries represented by the percentage of adults (over 15 years old) that have deposit accounts in financial institutions has a positive and statistically significant effect on the economic growth rate.

B. Second hypothesis: The level of financial inclusion in low-income countries represented by the percentage of adults (over 15 years old) who own a bank card, whether credit or debit cards, has a positive and statistically significant effect on the economic growth rate.

C. Third hypothesis: The level of financial inclusion in lower- and middle-income countries, represented by the percentage of adults (over 15 years old) who have obtained loans from financial institutions, has a positive and statistically significant effect on the economic growth rate.

3.3. Variables

A. Measurement of independent variables

The researchers adopted three independent variables to indicate financial inclusion. They cover the main aspects of financial inclusion (saving, borrowing, and the use of financial technology) as follows:

1. Percentage of adults (over 15 years old) who own deposit accounts in financial institutions.
2. Percentage of adults (over 15 years old) who own a bank card, whether credit or debit cards.
3. Percentage of adults (over 15 years old) who have obtained loans from financial institutions.

These variables were modified to suit the study methodology by calculating the percentage change in each indicator in 2021 compared to 2011 to reflect the changes in the levels of financial inclusion.

B. Measurement of the dependent variable

The dependent variable is economic growth, and growth rate in the average per capita GDP in 2021 compared to 2011 was used as an indicator of economic growth, and to comply with the independent variables and with the methodology of the study. This amendment will monitor the change in economic growth corresponding to the change level of financial inclusion.

3.4. Population and Sample

- The study population consists of all countries with below-middle-income according to the classifications of the World Bank. The population consists of 82 countries and include two categories (22). The first category includes 28 low-income countries with average per capita income of is <1085 dollars. The second category includes 54 countries with lower-middle-incomes with an average per capita income rangingfrom 1086 dollars to 4255 dollars.
- The study sample consists of 50 countries, a purposive sample that includes all countries for which adequate data has been published. The sample represents 61%, which is an acceptable percentage from a statistical point of view.

3.5. Model Specification

The standard approach was used to test the static of the time series, and conduct the co-integration and diagnostic tests for the variables of the study using the methodology of autoregressive distributed delay periods (ARDL), which was presented by Pesaran et al., as the main model for the study. The independent variables I(0) or I(1) can be applied if the sample size is small. The study form is as follows:

$$EG = f\left(Financial\ Inclusion\right)$$

$$EG = f\left(FI1, FI2, FI3\right)$$

$$EG = \alpha + \beta_1 FI1 + \beta_2 FI2 + \beta_3 FI3 + \mu$$

Where

EG: Economic growth

F1: Percentage of adults (over 15 years old) who own deposit accounts in financial institutions.

F2: Percentage of adults (over 15 years old) who own a bank card, whether credit or debit cards

F3: Percentage of adults (over 15 years old) who have obtained loans from financial institutions

-The concept of autoregressive distributed lag methodology:

The ARDL methodology is a modern methodology through which it can determine the complementary relationship of the dependent variable with the independent variables in the short and long term in the same model, in addition to determining the effect of all the independent variables on the dependent variable (Pesaran et al., 2001).

The ARDL methodology is distinguished by several advantages at the level of series stability, standard problems facing the economic researcher, and the most important characteristics are:

1. It works on estimating the model by determining the complementary relationship of the dependent variable and the independent variables in the short and long term in the same equation, in addition to estimating the independent parameters in the short and long term
2. It removes the problems related to autocorrelation, and thus the results obtained are efficient and unbiased from model estimation (Siddiki, 2000).

4. EMPIRICAL RESULTS

4.1. Unit Root Test for Time Series

The time series quiescent test is important for estimating standard models because determining the degree of integration of the

time series is important to reach sound results and to avoid false regression, the unit in the time series, by comparing the calculated value (T) with the tabular (critical) value or through the probability of testing. The time series is static if its value is <5%. The following table summarizes the expanded Dickey-Fuller test.

Table 1 shows that the probability of testing for all variables is significant at <5% and that the time series of the dependent variable EG and the independent variables are stable at level (1) I. Therefore, the results of the Dickey-Fuller test confirm that the ARDL methodology can be applied to this study.

4.2. Test Co-integration using Boundary Tests

After the stability of the time series has been confirmed, this test shows whether a co-integration between the model variables exists. This test depends on the F statistic, and the decision is as follows.

If the F-Sat is greater than the upper limit of the critical values, we reject the null hypothesis that there is no co-integration relationship. However, if the F-stat is less than the minimum of the critical values, we accept the null hypothesis that there is no co-integration. If it is between the upper limit and the lower limit, we cannot decide.

Table 2 shows that the value of the co-integration statistic is F = 3.954. The limits of critical values at various degrees of moral freedom proposed by Pesaran et al. (2001) are shown in Table 2.

The above table shows that the critical value of F stat is less than the upper limit of the critical value at the 5% significance level. Therefore, we accept the null hypothesis that there is no co-integration relationship.

After confirming the absence of a long-term relationship between the study's variables, the parameters of this relationship were estimated based on the AIC criterion by determining slowing periods. The best model was determined to be (7, 0, 0, 1). Table 3 shows the results in the long and short term.

Table 1: Extended Dickey-Fuller test (ADF) on model variables

The series after making the first difference			
Variables	**Sign**	**t-value**	**Prob.**
EG	5%	−3.44756	0.000
F1	5%	−3.44247	0.000
F2	5%	−3.44247	0.000
F3	5%	−3.44247	0.000

Source: Prepared by the researchers based on the outputs of the E views program

Table 2: Bounds F-test for co-integration

F=1.82037		
Value		
Sign	**LB (I0)**	**UB (I1)**
10%	2.37	3.2
5%	2.79	3.67
2.50%	3.15	4.08
1%	3.65	4.66

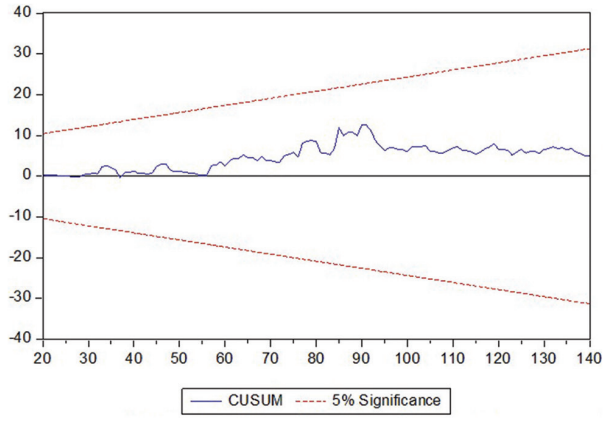
Source: Prepared by the researchers based on the outputs of the E views program

After estimating the model using the ARDL method, the table above shows that the model estimation parameters are all significant at 5%. The assessment results indicate the negative effect of F2 on the dependent variable in the long run and the positive effect of F1 and F3 on the dependent variable in the long run. The coefficient of determination R2 reached 74%, and the coefficient of the corrected determination of R2 was 72%, indicating that the independent variables explain the dependent variable.

The error correction coefficient is negative and significant, which implies the existence of a long-term equilibrium relationship between the dependent (EG) and the independent variables (F1, F2, F3) and that the imbalances in the short-term were corrected by 0.2887 per year.

3-Testing the structural stability of the model (ARDL-ECM)

The structural stability of the estimated coefficients resulting from the error correction formula of the ARDL model is achieved when the CUSUM graph falls within the critical limits at the 5% significance level. The figure clearly shows that parameters estimated for the ARDL model are structurally stable for the study period.



Cumulative Sum of Recursive Residual

The figure above shows the model is good and reliable for forecasting the coming year.

Table 3: The results of estimating the autoregressive model for the lagging distributed time gaps (7,0,0,1)

Co-integration form				
Variable	**Coefficient**	**SE**	**t. stat**	**Porb.**
F1	94.9287	153.1942	0.6196	0.5366
F2	−58.7144	111.404	−0.5275	0.5991
D (F3)	−212.1444	136.4713	−1.5545	0.1227
Coint Eq (-1)	(−0.28877)	0.10432	−2.7681	0.0065
Long run coefficient				
Variable	**Coefficient**	**SE**	**t. stat**	**Porb.**
F1	328.723	543.279	0.605	0.0352
F2	−203.320	386.576	−0.5259	0.0429
F3	599.183	704.846	0.85	0.03812
C	1490.485	426.252	3.4967	0.0007

Source: Prepared by the researchers based on the outputs of the E views program

Table 4: Result of the diagnostic test of the model

Test type	Value	Prob.
Serial correlation	F-stat: 2.2655 Obs.	F (2,119) Prob.
LM test	R. squared: 4.8784	Chi-square (2): 0.0872
Ramsey rest test	F-stat: 2.5698	Prob. F (2,119): 0.0808

4.3. Diagnosis of Residuals

The Breusch-Godfrey serial correlation LM test and the Ramsey rest test were performed to ensure the quality of the model, and the absence of standard problems. The results are as shown in Table 4.

The results of the diagnostic tests indicate that the probability of both tests is greater than a the 5% significance level. Therefore, the null hypothesis that the model has no standard problems is accepted.

5. CONCLUSION AND RECOMMENDATIONS

This study sought to determine the impact of financial inclusion in lower-and middle-income countries on their economic growth during the period of 2011–2021 using the self-regressive test methodology of lagging distributed time gaps. The results obtained indicated a negative effect between the percentage of adults (over 15 years old) who own a bank card, whether credit or debit cards (F2) andeconomic growth in the long run. The results also indicate that there is a positive effect between each of the percentage of adults (over 15 years) who have deposit accounts in financial institutions (F1) and the percentage of adults (over 15 years) who have obtained loans from financial institutions (F3) and the economic growth in the long term. The coefficient of determination (R2) was 74%, and the corrected coefficient of determination was 72%, which means that the independent variables used in the model largely explain economic growth in lower-middle-income countries.

The study makes the following recommendations based on the findings of the study.

Monetary authorities and decision-makers in middle-income countries should encourage people to apply for credit cards with a zero interest rate. The use of this type of card should be developed through the use of smart credit cards and mobile phones. The banking and financial system in these countries must foster the development of credit cards because cards that store and manage several cards simultaneously may be used. Concerning deposits in financial institutions, the monetary authorities and economic policymakers in these countries must direct these deposits to the pillars of the economy, such as investment in the industrial and agricultural sectors, which represent the core of the real economy. Monetary and financial decision-makers in these countries can also promote collective digital investment (crowd-investing digital) by creating digital platforms that serve these purposes. As to the lending aspect of financial institutions, direct financing methods should be used for economic projects in addition to the use of modern digital financing methods through crowding digital funding by establishing functions that track the direct contribution of economic projects, such as regular shares and supply chain financing. Growth in the economy in these countries could be achieved through modern financing methods such as Islamic financial engineering in financing (e.g., Arbitrage, speculations and participation), which directly and positively affects the gross domestic product in these countries.

REFERENCES

Abdullah, K., Abdel, N. (2021), The role of digital financial awareness in achieving financial inclusion in light of the (Covid-19) pandemic. Middle East Journal of Humanities and Cultural Sciences, 1(5), 231-212.

Albiman, M.M., Bakar, H.O. (2021), The role of financial inclusion on economic growth in Sub Saharan African (SSA) region. Athens Journal of Business and Economics, 8, 363-384.

Al-Hasnawi, S., Mahdi, L. (2020), The role of financial inclusion in promoting the Growth of the Iraqi economy an applied study of a sample of banks listed in the Iraq stock exchange. Journal of the Kufa Studies Center, 1(58), 27-50.

Bader Shehdeh, H., Majed, A.D. (2018), The impact of financial inclusion on economic development in Palestine. Journal of Economics and Finance, 4(2), 188-200.

Balele, N.P. (2019), The impact of financial inclusion on economic growth in sub-Saharan Africa. Journal of Applied Economics and Business, 7(4), 51-68.

Butbeneh, H. (2018), Dimensions of financial inclusion and their role in achieving competitive advantage: An exploratory research of the views of a sample of clients of the Algerian commercial Banks. Journal of Accounting and Financial Studies (JAFS), (special issue). Retrieved from https://jpgiafs.uobaghdad.edu.iq/index.php/JAFS/article/view/484

Dai-Won, K., Jung-Suk, Y., Kabir, H.M. (2017), Financial inclusion and economic growth in OIC countries. Research in International Business and Finance, 43, 1-14.

Dardour, A., Harakat, S. (2020), Measuring the impact of financial inclusion on economic growth in Algeria during the period 1980-2017 using the ARDL model. Journal of Strategy and Development, 10, 71-90.

Global Findex (2021), Available from: https://worldbank.org/events [Last accessed on 2022 Aug 13].

Habib, Z. (2004), The Concept of Growth and Economic Development. 1st ed. Alexandria: Dar Al-Etisam. p124.

Hassan, M. (2020), Measuring the impact of financial inclusion on economic growth in Egypt during the period 1995-2018. Scientific Journal of Commercial and Environmental Studies, 11(1), 297-342.

Hudson, E.A. (2014), Economic Growth. Delaware: Vernon Art and Science Inc.

Kusuma, R. (2020), The impact of financial inclusion on economic growth, poverty, income inequality, and financial stability in Asia. Journal of Asian Finance, Economics and Business, 7(10), 73-78.

Maatouk, S.M., Mahmoud, S., Ali, Hassan, E., Sayed, Mahmoud, H. (2021), Financial inclusion. Scientific Journal of Research and Business Studies Helwan, 35(issue specializing in economic sciences), 81-102.

Makina, D., Walle, Y.M. (2019), Financial inclusion and economic growth: Evidence from a panel of selected African countries. In: Extending Financial Inclusion in Africa. Amsterdam: Elsevier. p193-210.

Menyelim, M.C., Abiola, A.B., Alex, A., Segun, K., Oluwatobi, F. (2021), The relevance of financial inclusion on sustainable economic growth in Sub-Saharan African nations. Sustainability, 13, 5581.

Noha, E., Ayah, S. (2019), Financial inclusion and economic growth: The role of governance in selected MENA countries. International

Review of Economics and Finance, 75(4), 34-54.
Pesaran, M., Shin, Y., Smith, R. (2001), Bounds testing approaches to the analysis of level relationships. Journal of Applied Econometrics, 16(3), 289-326.
Shanabi, S., Bin Lakhdir, A.S. (2018), The importance of financial inclusion in achieving development, "promoting financial inclusion in the Arab Republic of Egypt." Journal of Research in Financial and Accounting Sciences, 3(2), 104-129.
Siddiki, J.U. (2000), Demand for money in Bangladesh: A cointegration analysis. Applied Economics, 32, 1977-1984.
World Bank (2021), The Global Findex Database 2021. World Bank, Available at: https://worldbank.org/en/publication/globalfindex/data