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The Impact of Smartphones and Fixed Phones on Financial Development: A Case Study on Jordan During the Period 2008-2021

D.R. Ateyah Mohammad Alawneh

Tafila Technical University- Business College, Jordan

Email: ateayh1@yahoo.com

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Abstract

This study aims to analyze the impact of smartphones and fixed phones on the financial development of Jordan, and the independent variables (smartphones and fixed phones). The current study relied on data provided by the Department of Statistics. Indicators of financial development were sourced from the CBJ data. Statistical analysis was performed using electronic opinion software. Results showed a statistically significant positive relationship between individuals' smartphones and fixed phones and the financial development index (i.e., ratio of money supply to GDP). Moreover, there was a statistically significant positive relationship between smartphones and the financial development index (i.e., deposits to GDP), but fixed phones have no effect on the financial development index (i.e., deposits to GDP). Individuals owning smartphones have a strong positive impact on financial development. The reasons include the high-tech nature of mobile phones and their general wide use in financial applications and financial technologies One of the key recommendations of the study is that financial and economic authorities should collaborate with the Ministry of Digital Economy to enhance the use of smartphones in the banking system, improve digital infrastructure, and provide comprehensive coverage for smartphones and the Internet.

Keywords: Smart Mobile Phones, Fixed Phones, Communications And Information, Financial Technology, Financial Development.

Introduction

Smartphones and fixed phones are important tools for telecommunications companies, through which various financial technology processes, such as electronic payments and various financial applications, are implemented by financial and monetary institutions and the banking system in general. Monetary and economic authorities, as well as policymakers, have placed significant emphasis on the use of financial technology and various applications through mobile devices

These technologies impact performance improvement, cost reduction, price reduction, and customer selection. The use of mobile phones results in transaction automation, which enhances operational efficiency (Rubini, 2018).

Studies have indicated that the dissemination of technology and communication leads to development and increase in productivity, competitiveness, economic growth, and human well-being Kehal H . S and Singh V. P. (2005) Many studies have also indicated the effectiveness of modern technologies, especially smartphones, which indirectly affect financial institutions and their financial development. This research examines how smartphones and fixed phones affect financial development through the use of the money supply(M2) /GDP and ratio of gross deposits(TD)/GDP as a representative of financial development in Jordan.

This research also studies the evolution of the use of phones and financial development in Jordan during the study years and analyzes which of them has the greatest impact on financial development in the country through statistical analysis. Literature points to the important role played by these various applications using phones in fostering development across all sectors of the economy. Literature indicates the significant role that these various applications using phones play in fostering development across all sectors of the economy.

The study consists of the following sections: The first is the introduction. The second section provides a literature review on smart and fixed cellular communications. The data and methodology are presented in the third section, while the statistical analysis is presented in the fourth section. Finally, the fifth section discusses the results and provides recommendations.

Literature Review

Smartphones play a crucial role in addressing challenges related to banking services and driving financial development by improving services and reducing costs, allowing customers to access them seamlessly and immediately. However, there have been only a limited number of studies conducted on the impact of owning smartphones and fixed phones onfinancial development . Bayar et al. (2021) The study examined the influence of smartphone and Internet subscriptions on financial institutions and financial markets. The findings revealed a positive correlation between owning mobile phones and access to financial institutions and financial markets. This indicates that the possession of smartphones and Internet connectivity has a beneficial impact on individuals' ability to engage with financial services and participate in financial markets. Sultan et al. (2021) Researchers explored the influence of information and communication technology (ICT) on financial development on Syria’s financial sector from 2005 to 2017. They used the multiple regression model in their analysis, in which mobile phone was utilized as an indicator of ICT. Their analysis demonstrated a substantial positive influence linked to the level of mobile phone usage. . subscribers on financial development. They concluded that digital transformation has an impact on the Syrian financial sector, especially when accompanied by more investments in ICT infrastructure. Owolabi et al.
(2023) studied the impact of the variables of technology, information and communications, fixed line, Internet, mobile, and financial development on economic diversification in 37 sub-Saharan African countries in 2000–2019. They performed regression analysis and found that fixed telephone and communication technology reduced economic diversification. Meanwhile, mobile phone, Internet, and financial development did not affect economic diversification owing to poor ICT infrastructure in the sample countries.

Asif et al. (2023) examined the impact of financial technology and digital financial services on financial inclusion in India. They conducted regression analysis of secondary data collected from RBI and showed that financial technology helped reach financial inclusion, especially for the middle class.

Alshubiri et al. (2019) discussed the impact of ICT on the financial development index for six Gulf Cooperation Council in 2000– 2016. They used fixed broadband and Internet users as proxies for ICT. Moreover, the aforementioned study adopted the ratios of money supply to GDP and domestic credit to GDP as indicators of financial development. Statistical analysis showed a positive effect of the dependent variable (i.e., information technology) on the dependent variable (i.e., financial development index).

Alawneh (2019) estimated the financial development indicators and their impact on the financial indicators of the main sectors in the Amman financial market from 2000 to2016. Statistical analysis was performed using E- views, which showed no relationships among the indicators of private credit on GDP, the indicator of total deposits on GDP, and the main sector indices (i.e., insurance, service, banking, and industry sector indices, and the general index of the Amman financial market. Their analysis also showed a negative relationship between the total monetary index (m2/GDP) and the indicators of the main sectors in the Amman financial market. It was one of the most important recommendations of the study. Working on directing bank deposits to real investment and finding a financial market for Islamic financial instruments in the Jordanian financial market to activate the market

Srivastava (2005) used the descriptive analysis method to show the impact of mobile phones on the development of social behavior. The aforementioned study indicated that mobile phones are an important technological tool, given that mobile phone ownership in Japan has reached nearly 100% of the population. This finding indicates the many uses of mobile phones in all areas of life, thereby helping socioeconomic growth and development.

Simplice A et al (2018) studied the determinants of owning mobile phones in 49 countries in sub-Saharan Africa in 2000–2012. They performed statistical analysis ordinary Least Squares (OLS), which showed the positive effects of independent variables, such as foreign investment, quality of organization, human development, education, population density, and the Internet, on owning mobile phones.

Alampay et al. (2017) performed descriptive analysis on the impact of mobile phones on mobile financial services in low- and middle-income countries in Africa. They found that the use of mobile phones benefits the poor, especially those who do not deal with banks. They also determined that the use of mobile phones at work has an impact on cash transfers, the development of consumer habits, and increase in productivity and income, especially in the agricultural sector.

Seng (2019) analyzed the impact of mobile phones on financial inclusion in Cambodia. In particular, he focused on the impact of mobile phones on the absorption of small loans by families in Cambodia. The survey he conducted in 2014 indicated that mobile phones urges families in Cambodia to accept the credit offered by microfinance institutions, especially non-agricultural investments.

Chinoda and Akande (2019) clarified the concept of financial inclusion and its impact on economic growth in 32 African countries through the use of mobile phones in 2004–2016. They used structural equation modeling in their analysis, and the results showed that financial inclusion affects economic growth through mobile phones.

Asongu and Nwachukwu (2016) r assessed the role of mobile phones in banking services in 52 African countries. Their results indicated the impact of mobile phones on banking services, given that these devices alleviate poverty through the redistribution of income.

Erlandsson (2014) examined the impact of mobile phone penetration on the economic growth of 44 African countries in 2000–2011. Their results showed that mobile phones have

an unambiguous beneficial effect, namely, financial inclusion, on the economic growth of the aforementioned countries.

Alawneh (2021) The study investigated the impact of the expansion of the ICT and education sectors on the growth of the industrial sector for (ASE) from 2005 to 2019. The statistical analysis indicated a positive influence on both the short-term and long-term growth of the ICT, education, and industrial sectors. Furthermore, the regression analysis established a positive relationship between the growth of the ICT and education sectors and the growth of the industrial sector.

Methodology and data.

Methodology

The following models were estimated to study the effects of the independent variables on financial development. The first model aims to estimate the impact of the independent variables (i.e., smartphone and fixed phone) on the financial development index (money supply (M2)/GDP):

DF1= α + β1smp +β2FD+ E .

where: DF1 refers to the financial development index, which can be measured by the M2/GDP ratio. This indicator was used by Alshubiri.F et al. (2019) .

The second model aims to estimate the impact of the independent variables (i.e., smartphone and fixed phone) on the financial development index (i.e., deposits with the banking system/GDP):

DF2= α + β1smp +β2FD+ E.

where: DF2 refers to the financial development index, which can be measured by the ratio ((total deposits in the banking system (TD)/GDP). This indicator was used by Alawneh .A.M (2019)

α: denotes the constant in the regression equation; β is the slope coefficient of the variables and the regression parameter to be estimated; smp: the independent variable, the percentage of smartphone ownership in the community during the study period, and obtained from the various statistical bulletins of the General Department of Statistics; FD : is the independent variable and the proportion of fixed phone ownership in the community during the study period obtained from the various statistical publications of the Department of Statistics; and E is the random error.

Numerous studies, such as Alshubiri.F et al. (2019), which were conducted in Arab Gulf countries indicated a positive relationship between the use of smartphones and financial development. Therefore, this study expects a positive indication of the impact of smart mobile phones and fixed-line phones on the indicators of financial development in Jordan. The experimental side also showed that the greater impact of smart mobile phones on financial development indicators than that of fixed-line phones. The reasons include the availability of advanced technologies in smartphones and the possibility of using them in various applications that facilitate banking services. These applications could be peer-to-peer or remittances, payments, and other financial applications, which were developed and discussed in Srivastava (2005) , Bayar et al. (2021) and Sultan et al. (2021 According to Rubini (2018), the theoretical aspect suggests that the utilization of technology entails automating transactions, enabling customers to make payments using their mobile phones and tablets. Consequently, the role of bank employees has shifted towards providing advisory services rather than solely executing transactions. Fintech companies also offer digital features that enhance operations. For instance, advanced decision-making engines like those developed by

Cabbage facilitate quick credit approval. Platforms such as Earthport enable real-time settlement of international payments, while Ripple promotes instant international payments, leading to significant cost reduction. Mobile wallets primarily serve the purpose of facilitating payments and can store credit, debit, and prepaid card details. To utilize this functionality, customers need to download an app containing their card information, and then the wallet can be used for in-store payments using proximity payment technology like near-field communication (NFC). This technology requires users to place their phones near a reading terminal. E-wallets have various uses in banking, including storing cash, paying bills, depositing and withdrawing funds from banks and merchants, making transfers to bank accounts and mobile phone numbers, as well as accessing banking and investment services digitally.

Data

Data on the independent variables SMP and FP were obtained from the Department of Statistics through its annual statistical surveys on the population and published in the *Jordan Booklet in Numbers*. Data before 2008 were not available in the department, and surveys were not conducted before this year.

For the dependent variables, the indicators of financial development FD1 and FD2 were obtained from the statistical database of CBJ (Central Bank of Jordan) (through its website). In particular, the percentage of money supply over the GDP as an indicator of financial development reached FD1. These data are available in the statistical database on CBJ website. The index of the ratio of total deposits with banks to GDP as the financial development index FD2 and the data are likewise available on the CBJ website.

Two indicators of financial development were utilized owing to the availability of data on the CBJ's website during the study years.

Table 1:

Summarized Stats.

Vars.	Descriptions	Average	Std Dev (Standard Deviation)	Min	Max	Jarque-Bera(JB tes)	Probability	Observations
DF1	Financial development index (M2/GDP)	95%	5%	87%	1.04	0.4	0.81	14
DF2	Financial development index (TD/GDP)	88%	5%	78%	95%	0.8	0.67	14
SMP	Smartphone	95%	2.7%	98%	92%	2.22	0.32	14
FP	Fixed phone	19.2%	7.8%	12.2%	33.4%	3.86	0.15	14

Source: Author's computation (E-VIEWS 10).

Descriptive Statistics

Table 1. presents the summary statistics of the specified variables. Moreover, Table 1 presents the Average, Std Dev, Max, and min to provide insights into the distribution of the stated variables. The mean value shows FD1 at 95%; FD2, 88%; SMP, 95%; and FP, 19.2%. The results indicate a decrease in the use of fixed phones compared with an increase in the use of

smartphones owing to the advanced applications of the latter. The dependent variables FD1 and FD2 have the highest values at 1.04% and 95%, respectively, and the lowest values at 87% and 78%, respectively. Meanwhile, the two independent variables smp1 and FP have the highest values at 98% and 33%, respectively, and the lowest values at 92% and 12.2, respectively.

The standard deviation indicates a slight variation in the data set. A higher standard deviation can be seen in the case of FP. This result indicates a decrease in the percentage of fixed-line phone ownership in the community in large varying proportions and a lack of interest in it compared with smartphones. The result is reflected in the strongest effect of smartphones, the standard deviation of which was only 2.7%, indicating that it is owned by a large percentage of people in the community and there is no A difference between society in owning or using a phone among all segments of society in general, as indicated by the test The JB test indicates that the study variables obeys a normal distribution.

Regression analysis

The effect of the percentage of owning a smart mobile phone (SMP) and the percentage of fixed phone (FP) on financial development (DF1) is the percentage of money supply in the broad sense (M2) on GDP (M2/GDP), as shown in Appendix No. (1). The results of the model were improved by deleting the constant, which is non-significant, and the results are shown in Appendix No. (2).

This study also analyzed the impact of the two independent variables (i.e., SMP and FP) on DF2, the indicator measuring the level of financial development., which is the ratio of deposits to GDP, as shown in Appendix No. (3). The current study also analyzed the impact of SMP and FP on DF2, which is the ratio of deposits to GDP (TD/GDP), as shown in Appendix No. (4) The analysis results are presented in Table(2) .

Table No. (2)

Result of Regression analysis

Variables	DF1(-2)			DF2(-2)		
	Coef.	t-Statistic	Prob.	Coef	t-Statistic	Prob.
SMP (-2)	0.008982	35.60717	0.0000	0.008865	24.97783	0.0000
FP (-2)	0.003924	3.453692	0.0062	0.001403	0.878074	0.4005

Source: Author's computation (E-VIEWS 10).

Table No. (2) shows a statistically significant positive relationship between owning a smartphone and df1 and df2. That is, owning smartphones leads to increased financial development in the Jordanian banking system. This finding is in line with those of previous studies Bayar Y et al (2021) , Sultan R et al. (2021) . , Srivastava. L(2005) , and F Alshubiri.F et al. (2019) .

Table (3) also shows that owning a fixed telephone has a positive statistical significance on df1 but does not affect df2.Through statistical significance (Prob), smartphones have been shown to have a stronger impact on financial indicators in Jordan. This result is due to the increased use of smartphones in banking financial services through financial applications and electronic platforms for payments, transfers, and other financial services. This result is consistent with those of previous studies, indicating the strong impact of the mobile phone on financial development and banking financial services. The strong impact of smartphones on financial development in Jordan owing to the increase in the percentage of smart mobile

phone ownership and the use of various applications in financial banking services through mobile phones leads to an increase in financial development in the country. The current study supports and agrees with recent studies on the positive impact of smartphones on financial development as a result of increasing speed, convenience, and security in various uses of smart mobile applications. This study also conducted various tests for the study models. The results were as shown in Table No. (3)

Table No. (3)
Summary of tests result

Test	Results
Residual sample	
p-value of JB test > 0.05	Data are normally distributed
Heteroskedasticity test	
p-value of F-statistic and chi-square > 0.05	Models are stable
Serial correlation LM test	
p-value of F-statistic > 0.05	There is no issue of serial correlation in the data.
Ramsey RESET	
p-value of t-statistic > 0.05	The models are appropriately specified.

Source: Author's computation (E-VIEWS 10).

Conclusion and Recommendations

Conclusion

This research examined the impact of smart and fixed phones on the financial development of Jordan, in which two indicators of financial development in the country were adopted: (1) money supply ratio to GDP and (2) ratio of deposits to GDP. The two indicators were calculated by the researcher based on the statistical data issued by the central bank, expressing financial development. Smartphones are considered an important independent variable that influences the financial development in Jordan. The results show a strong positive impact of smartphones on the indicators of financial development in Jordan (i.e., money supply-to-GDP and deposit-to-GDP ratios). Moreover, the results showed that the fixed telephone has a positive impact on the financial development index and money supply-to-GDP ratio. Meanwhile, the fixed telephone has no effect on the financial development index and ratio of deposits-to-GDP ratio.

Recommendations

Based on the study's findings, it is possible to propose the following recommendations: should collaborate with the Ministry of Digital Economy to encourage the use of smartphones in the banking system. This will incentivize customers to conduct banking operations through their smartphones, which directly contribute to the country's development, economic growth, and (GDP). It is recommended to bolster the digital infrastructure in Jordan, including establishing a robust telecommunications network and ensuring comprehensive smartphone and internet coverage. Nationwide access to fast and reliable internet is crucial for enabling the effective utilization of financial technology. Monetary authorities should also promote the development of technological applications, such as commercial invoice financing, through

different smartphone platforms. The study's findings support the notion that smartphone usage is a strong indicator of employing financial technology to positively impact Jordan's financial development. Policymakers, particularly those in the digital economy sector, should endorse a variety of financial technology applications to enhance financial services, thereby directly contributing to the country's financial development. Moreover, Islamic finance has a significant presence in Jordan through Islamic banks. To further develop the financial sector, the study suggests enhancing financial technology in Islamic finance by adopting and developing it within the Islamic finance sector. This includes providing Islamic financial services through smartphones and creating Islamic financial apps that facilitate access to various products and services, such as Islamic real estate financing, and Islamic insurance.

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Appendices

Appendix No. (1): **"The first model"**: Regression analysis of the independent variables smartphones (SMP) and fixed phone (FP) on the dependent variable M2/ GDP (FD1)

	Dependent Variable: DF1(-2)	

		Method: Least Squares			
	Date: 07/11/23 Time: 18:52				
		Sample (adjusted): 3 14			
Included observations: 12 after adjustments					
Prob.	t-Statistic	Std. Error	Coefficient	Variable	
0.0996	1.835388	0.004981	0.009141	SMP(-2)	
0.0333	2.510522	0.001576	0.003957	FP(-2)	
0.9751	-0.032117	0.498876	-0.016022	C	
0.941647	Mean dependent var		0.417323	R-squared	
0.040782	SD dependent var		0.287839	Adjusted R-squared	
-3.688271	Akaike info criterion		0.034416	SE of regression	
-3.567045	Schwarz criterion		0.010660	Sum squared resid	
-3.733154	Hannan–Quinn criter.		25.12963	Log-likelihood	
1.836351	Durbin–Watson stat		3.222977	F-statistic	
			0.087988	Prob(F-statistic)	

Source: Author's calculation (E-VIEWS 10)

Appendix No. (2): To improve the results of the model in Appendix No. (1), the constant will be deleted. The results were obtained in Appendix No. (2): Improving the results after deleting the constant

	Dependent Variable: DF1(-2)	
		Method: Least Squares

	Date: 07/11/23 Time: 18:53			
		Sample (adjusted): 3 14		
Included observations: 12 after adjustments				
Prob.	t-Statistic	Std. Error	Coefficient	Variable
0.0000	35.60717	0.000252	0.008982	SMP(-2)
0.0062	3.453692	0.001136	0.003924	FP(-2)
0.941647	Mean dependent var		0.417256	R-squared
0.040782	SD dependent var		0.358982	Adjusted R-squared
-3.854823	Akaike info criterion		0.032652	SE of regression
-3.774006	Schwarz criterion		0.010661	Sum squared resid
-3.884745	Hannan–Quinn criter.		25.12894	Log likelihood
			1.836402	Durbin-Watson stat

Source: Author's calculation (E-VIEWS 10).

Appendix No. (3): "**The second model"**: Regression analysis of the independent variables of smartphone (SMP) and fixed phone (FP) on the dependent variable TD/GDP (FD2)

	Dependent Variable: DF2(-2)	
		Method: Least Squares
	Date: 07/25/23 Time: 23:58	

		Sample (adjusted): 3 14		
Included observations: 12 after adjustments				
Prob.	t-Statistic	Std. Error	Coefficient	Variable
0.1909	1.414355	0.005447	0.007704	SMP(-1)
0.4921	0.716039	0.001782	0.001276	FP(-2)
0.8356	0.213642	0.534380	0.114166	C
0.879841	Mean dependent var		0.190500	R-squared
0.047565	SD dependent var		0.010611	Adjusted R-squared
-3.051770	Akaike info criterion		0.047312	SE of regression
-2.930544	Schwarz criterion		0.020146	Sum squared resid
-3.096653	Hannan–Quinn criter.		21.31062	Log likelihood
1.718960	Durbin–Watson stat		1.058987	F-statistic
			0.386345	Prob(F-statistic)

Source: Author's calculation (E-VIEWS 10).

Appendix No. (4): To improve the results of the model in Appendix No. (3), the constant will be deleted. The results were obtained in Appendix No. (4): Improving the results after deleting the constant

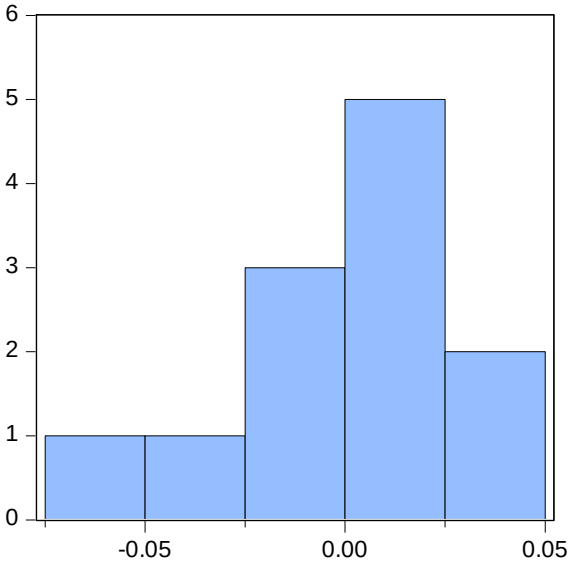
	Dependent Variable: DF2(-2)	
		Method: Least Squares
	Date: 07/25/23 Time: 23:59	
		Sample (adjusted): 3 14

Included observations: 12 after adjustments

Prob.	t-Statistic	Std. Error	Coefficient	Variable
0.0000	24.97783	0.000355	0.008865	SMP(-1)
0.4005	0.878074	0.001598	0.001403	FP(-2)
0.879841	Mean dependent var		0.186395	R-squared
0.047565	SD dependent var		0.105034	Adjusted R-squared
-3.213378	Akaike info criterion		0.044998	SE of regression
-3.132561	Schwarz criterion		0.020248	Sum squared resid
-3.243300	Hannan–Quinn criter.		21.28027	Log likelihood
			1.731216	Durbin–Watson stat

Source: Author's calculation (E-VIEWS 10).

Appendix No. (5): Multiple tests for the first study model



Source: Author's calculation (E-VIEWS 10).

Heteroskedasticity Test: ARCH

0.6553	Prob. F(1,9)	0.213060	F-statistic
0.6140	Prob. Chi-Square(1)	0.254385	Obs*R-squared

Source: Author's calculation (E-VIEWS 10).

Breusch–Godfrey Serial Correlation LM Test:

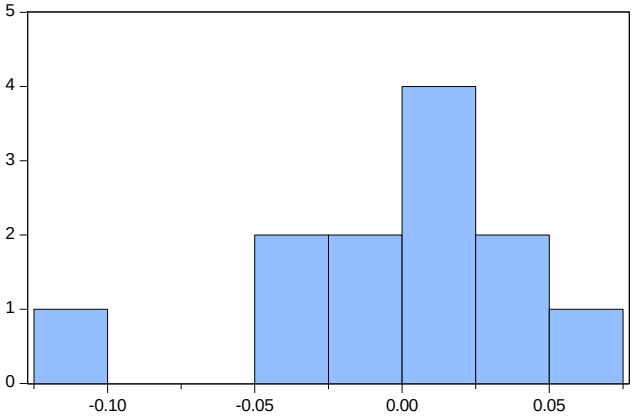
0.3450	Prob. F(2,8)		1.219142	F-statistic
0.2462	Prob. Chi-Square(2)		2.803086	Obs*R-squared

Source: Author's calculation (E-VIEWS 10).

		Ramsey RESET Test		
		Equation: UNTITLED		
Specification: DF1(-2)SMP(-2)FP(-2)				
Omitted Variables: Squares of fitted values				
	Probability	Df	Value	
	0.9738	9	0.033704	t-statistic
	0.9738	(1, 9)	0.001136	F-statistic
	0.9690	1	0.001515	Likelihood ratio

Source: Author's calculation (E-VIEWS 10).

Appendix No. (6): Multiple tests for the second study model



Source: Author's calculation (E-VIEWS 10).

	Heteroskedasticity Test: ARCH			
0.6810	Prob. F(1,9)		0.180362	F-statistic
0.6420	Prob. Chi-Square(1)		0.216111	Obs*R-squared

Source: Author's calculation (E-VIEWS 10).

Breusch–Godfrey Serial Correlation LM Test:				

0.9281	Prob. F(2,8)		0.075355	F-statistic
0.8950	Prob. Chi-Square(2)		0.221886	Obs*R-squared

Source: Author's calculation (E-VIEWS 10).

		Ramsey RESET Test		
		Equation: UNTITLED		
Specification: DF2(-2)SMP(-1)FP(-2)				
Omitted Variables: Squares of fitted values				
	Probability	df	Value	
	0.8436	9	0.203106	t-statistic
	0.8436	(1, 9)	0.041252	F-statistic
	0.8148	1	0.054877	Likelihood ratio

Source: Author's calculation (E-VIEWS 10).

Study data (2008-2021) Appendix No. (7):

Total deposits (TD)*	M2*	GDP*	DF2 (TD/GDP)**	DF1 (M2/GDP)**	FP fixed phone)***)	SMP ***((smartphone	YEARS
13348.4	14978.8	16080.2	0.83	0.93	33.4	93.7	2008

15865.1	17124.1	17421.9	0.91	0.98	33.4	93.7	2009
17617.2	19075.2	19265	0.91	0.99	33.4	93.1	2010
19119.1	20593	20962.1	0.91	0.98	18.5	98.1	2011
17711	19549.5	22460.6	0.79	0.87	14.1	98.2	2012
21003	22728.1	24462.7	0.85	0.92	14.1	98.2	2013
24013.1	24776.9	26161.9	0.92	0.95	12.2	98.1	2014
26014.5	26895.9	27396.8	0.95	0.98	15.9	98.5	2015
25968.2	27457.3	28323.7	0.92	0.97	15.9	98.5	2016
25642.1	27261.1	29542	0.87	0.92	15.9	98.5	2017
25667.5	27191.3	30793.3	0.83	0.88	15.5	92.8	2018
27107.3	28732.1	31597.2	0.86	0.90	15.5	92.8	2019
28233.9	30792.3	30941.8	0.91	0.99	15.5	92.8	2020
30684.6	33180.5	32032.6	0.96	1.03	15.5	92.8	2021

* Source: CBJ - Statistical Database (2008–2021)
* Source: Author's calculation *
***Source: The Jordanian Department of Statistics - Jordan in numbers, different issues (2008–2021).