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Measuring the impact of e-banking services in the banking reform process in Iraq Comparative study during the period 2012-2017

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Abstrac

The research problem was to identify the impact of the use of electronic banking services on the banking reform processes in Iraq and try to measure this effect. The study aimed to measure the impact of the use of electronic banking services on banking reform in Iraq during the period 2012-2017.

The study has reached a set of results, namely, the impact of electronic banking services on banking reform in both Iraq and Egypt. The most e-banking services affecting banking reform in both countries was the value of electronic financial transfers. Egyptian banking services on banking reform is due to the use of electronic banking services recently in the State of Iraq

The study recommended the need to work on the development of Iraqi banks and provide the necessary technological means and requirements to provide electronic banking services, and to provide appropriate training programs for employees, and update the educational programs offered to students specialized in the field of banking.

Keywords: banking reform - electronic banking services - Iraqi banks

Medición del impacto de los servicios de banca electrónica en el proceso de reforma bancaria en Iraq Estudio comparativo durante el período 2012-2017

Resumen

El problema de la investigación fue identificar el impacto del uso de los servicios de banca electrónica en los procesos de reforma bancaria en Iraq y tratar de medir este efecto. El estudio tuvo como objetivo medir el impacto del uso de los servicios de banca electrónica en la reforma bancaria en Irak durante el período 2012-2017.

El estudio ha alcanzado un conjunto de resultados, a saber, el impacto de los servicios de banca electrónica en la reforma bancaria tanto en Irak como en Egipto. La mayor parte de los servicios de banca electrónica que afectaron la reforma bancaria en ambos países fue el valor de las transferencias financieras electrónicas. Los servicios bancarios egipcios en la reforma bancaria se deben al uso de servicios bancarios electrónicos recientemente en el Estado de Iraq

El estudio recomendó la necesidad de trabajar en el desarrollo de los bancos iraquíes y proporcionar los medios y requisitos tecnológicos necesarios para proporcionar servicios de banca electrónica, y proporcionar programas de capacitación apropiados para los empleados, y actualizar los programas educativos ofrecidos a estudiantes especializados en el campo de la banca .

Palabras clave: reforma bancaria - servicios de banca electrónica - bancos iraquíes

Introduction:

The world witnessed a real banking revolution in the form of a huge expansion in the field of banking technology. This expansion resulted in the spread of electronic banking services, which are modern, compared to the traditional services provided by banks, leading to many advantages for the individuals dealing with these banks.

The technological progress is an important factor in the development of information and communication technologies to ensure the smooth flow of banking services and improve the utilization of electronic technology is one of the factors of the modern banking system to cope with the challenges of the day.

The electronic banking business goes beyond the conventional functions and aims to develop the means of providing banking services and raise the efficiency of its performance in line with modern technology and on this basis developed countries have sought to reduce the cost of banking operations through electronic channels to strengthen relations and increase customer

engagement with this bank, In the context of electronic business, and even banks play their role in providing e-banking services effectively it must work to control the communication technologies, protect the Internet from fraud, ensure the confidentiality of all Banking operations, securing more protection by creating a specialized professional technical framework, a transparent regulatory framework in banking and maintaining strict control over such transactions so that individuals can benefit from these services in a secure manner.

The Iraqi banking sector is waiting for many transformations that make it an effective and vital element in the collection of financial resources and financing the Iraqi economy to help bring about the process of sustainable development that the Iraqi government seeks to achieve as the Iraqi banking sector suffers from many of the problems that led to the need for structural and institutional reform The most important of these problems are the discrimination in the provision of loans, the long deadlines for responding to requests for funding, the inefficiency of the banking system, and the need for banking reform and the means to modernize it to create and provide a suitable environment for banking reform.

The research will be divided into four axes: the first is the research methodology, which includes the research problem, the importance of the research, the research objectives and the data sources. The second axis is the theoretical framework, which includes the terms and the research concepts. The third axis is the practical framework, which includes analysis of the study data and the fourth axis include the conciliations and recommendations.

The first axis: Methodology of Research

First: the research problem

Today, our world is experiencing a cognitive revolution whose impact on the global economy has affected the greatest industrial revolutions that mankind has experienced in the past centuries. Humanity has moved from the age of production-based economy to the age of knowledge-based economy such as electronics, communications and software, which in turn led to new, Knowledge and information technology replaced capital.

The banking and financial aspect witnessed remarkable developments especially in the field of providing banking services, as a result of the use of the Internet, which facilitated and accelerated the delivery of services. The establishment of the Internet is an official guide to the revolution of progress and knowledge and evidence of this; the intangible economy which is the main outlet of this revolution.

The rapid development of IT technology is a key factor behind changing

business patterns in financial and banking institutions. The increasing demand from these and other high-speed and multi-functional information systems has prompted technology vendors to design various types of technical solutions that are compatible with Many of the practical requirements. The widespread spread of Internet technology and modern programming languages has helped to provide many benefits to institutions and individuals.

However, this development creates great and varied challenges and risks for these institutions. The development of information technology has led to a large increase in the volume of data and information available and has doubled the speed of processing and monitoring. It has also led to the transition from paperwork to electronic work. From the possibility of separation of tasks and increased the complexity of operations and control and control.

The approach to reform and modernize the Iraqi banking system is an irreplaceable approach in the light of financial and banking globalization, the multiplicity of the needs of the society, which is in need of more new and more diversified banking services, and investment tools that generate an appropriate financial return. To the modernization of banking services provided by the Iraqi banking sector, including the need for financial openness and integration and linking domestic financial markets to the outside world, and liberalization of trade, which led to rapid growth in the value and volume of international business operations, and the existence of new methods of financing, Information and modern communications.

E-banking helps to deal with the growing and growing number of bank customers' accounts, as well as reducing the real cost of the payment process and clearing checks between these checks, freeing customers from time and space constraints, and enabling banks to provide services to their customers that were not known Before, the harmonization of banking and in removing obstacles to customers.

The problem of the study is to identify the impact of the use of electronic banking services on the banking reform processes in Iraq and try to measure this impact, which helps in the development of reforms and increase rates.

Second: The importance of research

In light of the changes that have taken place in the international financial environment, banks have to keep pace with the services offered by technology as one of the renewed elements of the bank's competitive capabilities in the local and foreign markets in the context of financial globalization, which means the interaction of the money equation with the modern means of communication.

Therefore, when reforming the banking system, it is necessary to adapt the mechanisms of this reform to the requirements of financial globalization by providing an appropriate legal, industrial and political environment, as well as providing the necessary financial and human resources by keeping abreast with the latest

technological developments in banking, Employees and their ability to absorb developments in the banking sector in order to improve the level of banking service and achieve the best use of human resources, and the development of banking marketing, and the design of a mix of banking services to meet the needs and desires of customers.

As well as the need to monitor and monitor the banking market and to identify the impressions of customers on the mix of banking services provided to them, strengthening the media and communication, creating the legislative climate to fit with the changes in the international banking arena, especially in the light of globalization and economic liberalization, and the development of supervisory and supervisory role of the Central Bank on banks To adapt to the many risks that banks are exposed to using modern technology and to adopt systems of expertise in decision making by creating a cell dedicated to what is known as economic intelligence. The goal is to collect information internally and externally, Processed in order to clarify and advise decision makers in banks.

The importance of the research is that it tries to identify the impact of electronic banking services in the process of banking reform in Iraq and measure this effect, especially as the use of electronic banking services in Iraq is relatively recent with a comparative study with the Egyptian banking system as it is one of the leading banking systems in the field of Use of e-banking services.

Third: Research Objectives

The research aims to achieve the main objective of measuring the impact of the use of electronic banking services on banking reform operations in Iraq during the period 2012-2017. This is achieved through achieving a set of sub-objectives:

- 1 - identify the problems experienced by the Iraqi banking system.
- 2 - Identify the steps taken by the Iraqi banking system in the banking reform processes.
- 3- Studying the electronic banking services offered by Iraqi banks in terms of their forms and types.
- 4 - A comparative study between a group of Iraqi government banks and a group of Egyptian banks in terms of the size, forms and types of electronic banking services provided to customers.

Fourth: Research hypotheses

The research assumes a set of hypotheses in order to achieve the objectives of the study as follows:

- 1 - There is a positive impact of a significant level of electronic banking services on banking reform in the Iraqi economy during the period 2012-2017.

2 - There is a difference between the impact of electronic banking services on banking reform between the Republic of Iraq and the Arab Republic of Egypt during the period 2012-2017.

Fifth: Research methodology

The study will use a set of curricula to suit the objectives of the study and achieve its purpose. The study will use descriptive approach to the subject of the study. The course will describe the phenomenon to be studied. The analytical method will also be used. Study data to reach conclusions and recommendations.

Sixth: Data Sources

The study will depend on the data and information that will be obtained through periodic reports and reports issued by the authorities responsible for banking and banking services in Egypt and Iraq, as well as previous studies and research conducted on the subject of the study.

Axis II: Theoretical Framework

First: banking reform

1- The concept of banking reform

Banking reform can be defined as the process that leads to a radical change in the laws, legislations and policies related to banking in different types and forms so as to improve performance and adapt to the changes taking place in the world (Hosni, 2012: 71)

Bank reform can also be defined as a set of measures that address the increasing role of market forces in determining interest rates, allocating credit and determining the overall direction of financial intermediation in order to improve the efficiency and stability of the banking system (International, 2007: 31)

2. The objectives of banking reform

1) Mobilize domestic savings and increase the role of financial intermediation between savers and investors.

2) Improving the efficiency of the use and distribution of capital resources in the local economy.

3) Documenting and strengthening regional and international trade, productive and investment partnerships.

4) Raise the effectiveness of financial markets to be able to compete internationally and enable them to open sources of borrowing and foreign financing and create new investment opportunities. (Kanaan, 2005: 5-7)

- 5) Edit foreign conversions such as foreign exchange conversion and capital movement.
- 6) Create new relationships in domestic and foreign financial markets in order to bring funds to finance investments.
- 7) Restructuring of banks, abolishing banking specialization and moving from specialized bank to comprehensive bank, which carries out the most banking activities. It can distribute loans sectorally and regionally to reduce the risk of investment banking and ensure wide spread of branches. (Burke, 2014: 177-179)
- 8) Train and train employees with the requirements of the new global banking industry to become more efficient and productive.
- 9) Development of operations systems to include new mechanisms and scientific foundations for the granting of loans and the introduction of all banking services operated by international banks. (Sugar, 2009: 3-5).

3. Problems suffered by the Iraqi banking sector

There are many problems experienced by the banking sector in Iraq, which reduces the ability to keep pace with the banking systems Arab and global, and these problems:

- 1) Absence of effective banking strategies and annual plans of most banks.
- 2) The absence of institutions that support the banking system, such as insurance companies on deposits, insurance on large loans and others.
- 3) The decline in the number of banking services provided by Iraqi banks and their inability to meet the economic requirements and needs of Iraq. (Al-Shamari, 2008: 123-125)
- 4) The administrative structure slows in many banks, especially in government banks.
- 5) The policy of discrimination in dealing with private banks, which is to prevent the ministries of state and public sector companies from depositing their money in those banks.
- 6) Delay the re-circulation of shares of private banks in the current trading sessions in the Iraqi market for securities, causing damage and losses to shareholders and investors alike.
- 7) The delay of the government banks and some private banks in the acquisition of comprehensive banking systems and the failure to take appropriate procedures for the application of electronic banking, including electronic instruments. (Mashhadani, 2008: 63-64)
- 8) The availability of high liquidity at banks approaching 60%, which reflects the inability of the sector to operate and invest its assets and deposits to serve the national economy on the one hand and adversely affect the profitability of

banks on the other hand wasting investment opportunities available.

9) Administrative and financial corruption and bureaucratic behavior in the administrative hierarchy of governmental and non-governmental banking institutions.

10) The lack of a vision for the future of the reform of the banking system by the Ministry of Finance and the Central Bank (Al-Fadl, 2010: 183-185).

4. Banking reform procedures in Iraq

The most important procedures for banking reform, according to the program adopted by the International Monetary Fund in the recipe for economic reform, which the Iraqi government implemented during the past period:

1) The policy of reducing the budget deficit of the state, which leads to a reduction in the volume of public spending.

2) Edit interest rates to match (inflation, growth rate, profitability and growth rate of output).

3) Policy of price liberalization, cost liberalization and reduction of the support provided to some sectors so that domestic prices converge from international prices. (Kassem, 2007: 29-30)

4) to liberalize wages so that they are close to the levels of social costs and to pay government institutions to put wages in line with competencies and expertise.

5) Reduce the role of the state in the ownership of public companies and towards the sale of some institutions or put them for investment.

6) These actions constitute, in aggregate, the recipe for banking reform that can not be separated and separated from one another. (Metwally, 2003: 215-219).

Second: Electronic banking services

Electronic banking has evolved with the spread of e-commerce, the electronic toolkit and remittances issued by banks and institutions (Ragheb, 2014: 285). The Iraqi government has started providing e-banking services since 2008 on a small scale, All Iraqi banks, especially since 2012, are bank cards, electronic money, electronic checks, and smart cards.

1. Bank cards: or plastic cards, which is a magnetic card that the holder can use to purchase most of his needs or performance for his services without the need to carry large amounts that may be exposed to the risk of theft, loss or destruction. (James, 2012: 36-37)

2. Electronic Money: After the appearance of bank cards, "electronic money" or "digital money" appeared, which is an intangible money taking the image of electronic units stored in a safe place on the hard disk of the client's computer

known as the electronic wallet, and the customer can use these Wallet in making sales, purchase or transfer. Abu Frouh, 2009: 25-26)

3. Electronic checks: It is like a traditional check The idea of an electronic check depends on the presence of a broker to complete the clearance process, which is represented by the clearing house (bank), which the seller and the buyer shares by opening a current account with their balance with the identification of the electronic signature of each and registration in the database Electronic Bank, one of the banks that adopts the idea of electronic checks Boston Bank, Citibank.

4. Smart Cards: In line with the technological developments, Smart Cards, which is a plastic card containing an electronic cell, store all the data of the holder such as name, address, issuing bank, method of disbursement, amount and history, . (Ahmed, 2014: 49-50).

Axis III: The practical framework

In order to achieve the objectives of the research, the development of the use of electronic banking services in the Iraqi banking system has been studied. The development of bank cards, electronic checks and the value of electronic remittances has also been studied as an example of electronic banking services. (The Rafidain Bank, the Rasheed Bank, the Iraqi Bank for Trade) as an example of the Iraqi banking system and a group of Egyptian government banks (National Bank of Egypt, Miser Bank, Cairo Bank) as an example of the Egyptian banking system during For the period 2012-2017.

First: The impact of the use of electronic banking services on banking reform in the Iraqi banking system

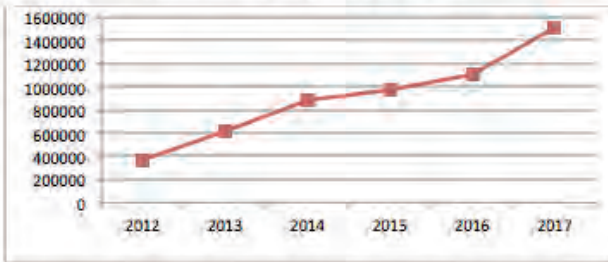
The study showed that the number of bank cards traded in the Iraqi banking system during the period (2012-2017) ranged between a minimum of 366288 cards in 2012 and a maximum of 1502454 in 2017 with an average of Around (910990) cards during the study.

Table (1) Development of bank cards, electronic checks, value of financial electronic transfers and value of bank deposits in the Iraqi banking system during the period 2012-2017

Years	Bank cards	electronic checks	value of financial electronic transfers (Trillion Iraqi Dinar)	of value of bank deposits (Trillion Iraqi Dinar)
2012	366288	655005	1.199	76.269
2013	617617	967019	3.700	81.265
2014	890049	1114271	6.799	85.129
2015	979925	1232469	5.324	62.268
2016	1109607	1329127	5.915	69.268
2017	1502454	1768262	8.376	83.269
Average	910990	1177692	5.219	76.270

Iraqi Central Bank, Banks and Deposits Reports , Different v. unpublished data

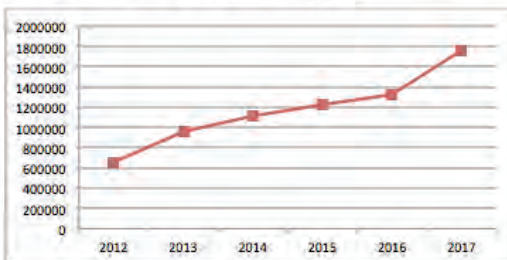
Figure (1) Evolution of the number of bank cards traded in the Iraqi banking system during the period 2012-2017



Source: Prepared by the researcher

It was found that the number of electronic checks issued in the Iraqi banking system during the period (2012-2017) ranged from a minimum of (655005) electronic check in 2012 to a maximum of (1768262) electronic check in 2017 with an average of about (1177692) electronic check During the study.

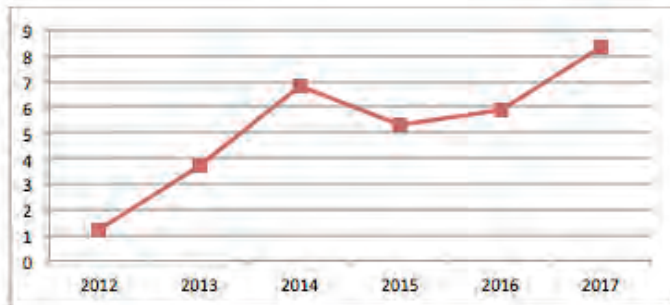
Figure (2) Evolution of the number of electronic checks issued in the Iraqi banking system during the period 2012-2017



Source: Prepared by the researcher

The value of electronic remittances carried out in the Iraqi banking system during the period (2012-2017) ranged between a minimum of JD1.199 trillion in 2012 and a maximum of 8.376 trillion dinars in 2017 with an average of about 5.219 trillion Dinars during the study period.

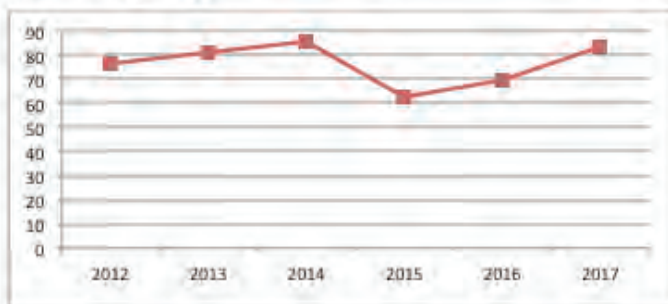
Figure (3) Evolution of the value of electronic financial transfers in the Iraqi banking system during the period 2012-2017



Source: Prepared by the researcher

It was found that the value of bank deposits in the Iraqi banking system during the period (2012-2017) ranged from a minimum of JD (76.269) trillion in 2012 to a maximum of 83.269 trillion dinars in 2017 with an average of about (76.260) trillion dinars during the period of study.

Figure (4) Evolution of the value of bank deposits in the Iraqi banking system during the period 2012-2017



Source: Prepared by the researcher

In order to study and analyze the relationship between the impact of electronic banking services (value of electronic financial transfers) and banking reform in the Iraqi economy (the value of bank deposits), a number of standard tests related to time series were used, where the extended Dicky-Fuller test was used and Granger causality tests were applied. And the test of joint integration to test the relationship between variables and to know the direction of the causal relationship between the variables and the use of error correction model to know the type of relationship between variables in the long and short term using the program E -Views.

Second: The standard model of the relationship between the value of electronic financial transfers and the value of bank deposits in the Iraqi banking system:

1- Testing the root of the unit

In order to measure the stability of the model variables, the ADF (Dickey D. and Fuller (1979), 427-43) was used. The stability of the value chain of electronic financial transfers (A) The series becomes a second class, and the stability of the bank deposit series (B) is stable and the stability is achieved after the second difference is taken. The series becomes a second class. Because the two series are integrated at the same level, the integration test can be carried out.

Table (2) the results of the Extended Deke-Fuller (ADF) test for the relationship between the value of electronic financial transfers and the value of bank deposits

Stability test									
Variables	Level			1 Difference			2 Difference		
	ADF	Sig	Result	ADF	Sig	Result	ADF	Sig	Result
A	0.875	0.43	No stationary	-1.145	0.132	No stationary	-	0.045	Stationary
B	0.066	0.65	No stationary	-1.877	0.066	No stationary	-	0.042	Stationary

Source: Results for Eviews 10 program accounts

2. Causality Test

We can use causality test for Gourieroux (Gourieroux C, 1990,442-446) to determine the direction of the relationship between variables. Is it a one-way or two-way relationship? Table 3 shows two-way reciprocal relations between the value of electronic remittances and the value of bank deposits where The single-direction causal relationship results from the value of electronic remittances to the value of bank deposits at a significant level of 1%.

Table (3) Results of the causal test of the relationship between the value of electronic remittances and the value of bank deposits

Table (3) Results of the causal test of the relationship between the value of electronic remittances and the value of bank deposits

Null Hypothesis	Observations	F- statistic	probability
A does not Granger Cause B	6	7.126	0.006
B does not Granger Cause A	6	1.219	0.236

Results of program accounts Eviews10

3. Select the number of deceleration times

In order to select the optimal number of deceleration periods, the Akaike Information Criterion (AIC) & Schwartz Information Criterion (SIC) criteria are used. Table 4 shows that the optimal number of periods of deceleration is two time periods.

Table (4): Test periods of total slowdown period

Lag	Log L	LR	FPE	AIC	SC	HQ
0	-112.3653	NA	52.32698	9.223569	10.23659	9.232659
1	-101.2369	21.23698	25.23659	9.023569	9.523692	9.112458
2	-98.2369	14.25329	14.23599	8.923698	9.123598	8.832698

Results of program accounts Eviews10

4. Test the joint integration of the value chains of electronic financial transfers and the value of bank deposits.

We can make the joint integration between two series depending on Johansson-Jeselius test, the results of test are indicated from 5 schedule according to the Trace test, the calculated value of the maximum possible rate is 33.26, which is greater than the critical value of 12.02 at a significant level of 5%. That is means that we reject the null hypothesis that there is no vector of common integration ($r = 0$) and accept the alternative assumption that there are more

than one co integration vector greater than zero ($r = 1$)
 The test of the effect shows that there is no possibility of more than one vector of common integration. The maximum value of the maximum possible is 1.36, which is less than the critical value of 2.52 at a significant level of 5%. Therefore, we accept the null hypothesis and reject the alternative hypothesis, that is, Only for the common integration between the value of electronic remittances and the value of bank deposits. This is demonstrated by the results of the Max test. The calculated value of the maximum possible rate is 31.25, which is greater than the critical value of 11.20 at a significant level of 5%. This means that we reject the null hypothesis ($R = 0$) and accept the alternative assumption that there are more than one co integration vector greater than zero ($r = 1$)
 The subsequent high value test also indicates that the calculated value is less than the tabular value, that is, there is only one vector for the combined integration of the value of electronic remittances and the value of bank deposits.
 Table (5): Testing the joint integration of the value of electronic financial transfers and the value of bank deposits

Unrestricted Co integration rank test (Trace)				
Hypothesized No of CE(s)	Eigen value	Trace Statistic	0.05 Critical Value	Prob
None *	0.5236592	33.26593	12.02658	0.0000
At most 1	0.1426598	1.362659	2.526598	0.3126

Trace test indicates 1 cointegrating eqn(s) at the 0.05 levels

*Denotes rejection of the hypothesis at the 0.05 level

**Mackinnon - haug - Michelis (1999) - values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob**
None *	0.5236592	31.25698	11.20365	0.0000
At most 1	0.1426598	1.362659	2.526598	0.3126

Max- eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level.

*Denotes rejection of the hypothesis at the 0.05 level.

** Mackinnon-Haug-Michelis (1999) p-values

Results of program accounts Eviews10

5. Vecm vector model for the relationship between the value of electronic financial transfer and the value of bank deposits in the long and short term In order to determine the value of long-term and short-term relationship parameters, it is necessary to estimate error correction vectors. Table (6) The long-term elasticity of GDP growth parameter (-3.26) is significant because the calculated t value (-9.23) t table at a significant level of 1%.

As for the short-term correction, the error correction rate for electronic remittance was 0.54. In other words, 54% of the long-term imbalance in electronic remittance value is corrected per year, while the error correction rate for the value of deposits (0.74). In other words, 74% of the long-term imbalance in the value of bank deposits is corrected in the year

Table 6: Results of the VECM test for the value of electronic remittances and the value of bank deposits.

Co integrating E q:	CoIntEq1	
A (-1)	1.000000	
B (-1)	-3.26398 (0.21659) [-9.23569]	
C	2.016598	
Error Correction:	D (A)	D (B)
CoIntEq1	0.542369 (0.52369) [1.52369]	0.742639 (0.41326) [4.21639]

Results of program accounts Eviews10

6. Regression equation

To determine the impact of e-banking services on banking reform in the Iraqi economy during the period 2012-2017, the multiple regression equation was calculated between the preparation of bank cards, electronic checks, the value of electronic transfers (independent variables) and the value of bank deposits (dependent variable). The results were as following:

$$Y = 46.52 + 0.22 X_1 + 0.19 X_2 + 0.29 X_3$$

(6.23)* (4.85)** (3.29)* (3.98)**

F= 7.22** R = 0.70

Where :

- Y = the value of bank deposits
- X1 = Number of bank cards
- X2 = Number of electronic checks
- X3 = Value of Electronic Funds Transfers

From the previous equation, the significance of the model as a whole was significant, where the value of F was significant at level 0.01, and the variables included in the model explain 70% of the changes in the value of the bank deposits while the rest of the changes are due to other factors not included in the model used.

The effect of the development of bank cards in the Iraqi economy on the value of bank deposits in the Iraqi banking system was significant at 0.01 and the effect rate was (22%), meaning that the more the bank cards were changed the correct amount of the bank deposits changed by (0.22) The effect of the number of electronic checks issued in the Iraqi economy on the value of bank deposits in the Iraqi banking system at a significant level 0.05 and the effect rate (19%), ie, the more the number of electronic checks issued by one amount correctly changed the value of bank deposits by (0.19) The impact of the value of electronic financial transfers in the Iraqi economy on the value of bank deposits in the Iraqi banking system was significant at 0.01 and the effect rate was (29%).

The results indicate a significant impact of electronic banking services on Iraqi banking reform, which shows that increasing the use of these services significantly will increase the quality of banking and financial operations in the Iraqi banking system, which leads to an increase in the level of economic activity and commercial operations within the Iraqi economy, which Confirms the validity of the first hypothesis of the study.

Third: The impact of the use of electronic banking services on banking reform in the Egyptian banking system

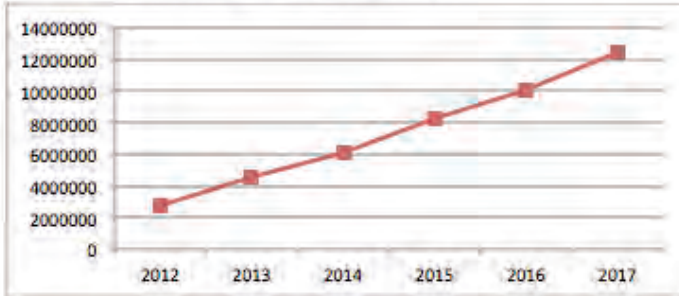
The number of bank cards traded in the Egyptian banking system during the period (2012-2017) has ranged between a minimum of 2696977 cards in 2012 and a maximum of 12433589 in 2017 with an average of About (7346875) cards during the study period.

Table (7): Development of bank cards, electronic checks, value of electronic remittances and value of bank deposits in the Egyptian banking system during the period 2012-2017

Years	Number of bank cards	Number of electronic checks	The value of electronic financial transfers in billion pounds	Value of bank deposits Trillion pounds
2012	2696977	1327549	4.804	2.339
2013	4530692	1959933	8.170	2.532
2014	6041441	3010485	10.793	2.856
2015	8310648	3635955	12.552	3.098
2016	10067906	4323651	15.185	3.129
2017	12433589	5790644	17.169	3.216
Average	7346875	3341369	11.445	2.862

Source: Central Bank of Egypt, Annual Bulletin of the Central Bank of Egypt, Miscellaneous preparation, unpublished data.

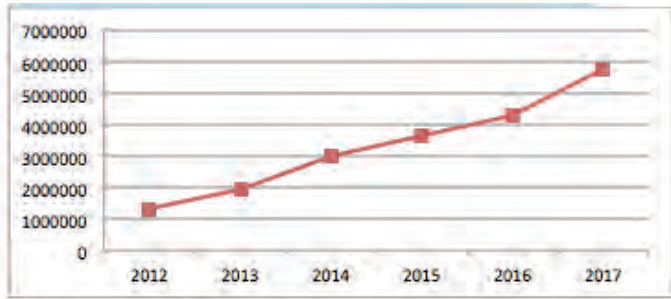
Figure (5) Evolution of the number of bank cards traded in the Egyptian banking system during the period 2012-2017



5. Vecm vector model for the relationship between the value of electronic Source: Prepared by the researcher

The number of electronic checks issued in the Egyptian banking system during the period 2012-2017 ranged between a minimum of 1327549 electronic checks in 2012 and a maximum of 5790644 electronic checks in 2017 with an average of 3341369 electronic checks During the study period.

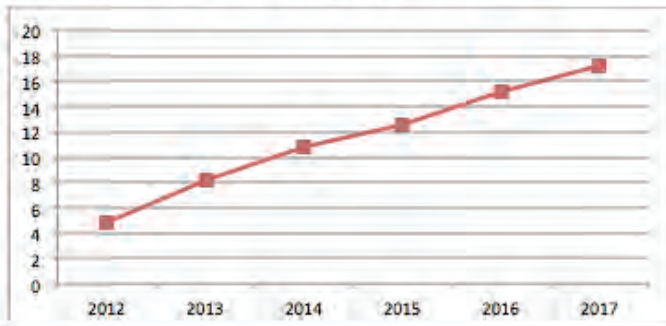
Figure (6) Evolution of the number of electronic checks issued in the Egyptian banking system during the period 2012-2017.



Source: Prepared by the researcher

The value of electronic remittances carried out in the Egyptian banking system during the period 2012-2017 ranged from a minimum of LE 4.804 trillion in 2012 to a maximum of LE 17.169 trillion in 2017 with an average of about 11.445 trillion Pounds during the study period.

Figure (7) Evolution of the value of electronic financial transfers in the Egyptian banking system during the period 2012-2017.

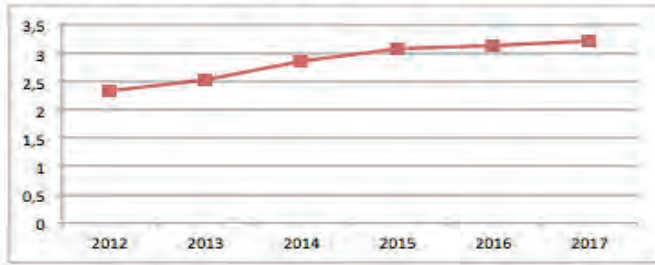


3. Formulation of behavioral objectives:

ISource: Prepared by the researcher

The value of bank deposits in the Egyptian banking system during the period (2012-2017) ranged from a minimum of 2.339 trillion pounds in 2012 to a maximum of 3.216 trillion pounds in 2017, an average of about (2.862) trillion pounds during The study period.

Figure (8) Development of the value of bank deposits in the Egyptian banking system during the period 2012-2017.



Source: Prepared by the researcher

Fourth: The standard model of the relationship between the value of electronic financial transfers and the value of bank deposits in the Egyptian banking system.

1. Root unit testing

In order to measure the stability of the variables of the model, the ADF was used. The stability of the electronic money transfer (A) series was shown to be unstable at the level of the second difference. (B) at the level and stability after taking the second difference so that the series becomes integrated second-class, and because the two series are integrated at the same degree, it can be a test of joint integration between them.

Table (8) The results of the Extended Dekel-Fuller (ADF) test of the relationship between the value of electronic remittances and the value of bank deposits.

Variables	Stability Test								
	Level			1- Difference			2- Difference		
	ADF	Sig.	Result	ADF	Sig.	Result	ADF	Sig.	Result
A	0.495	0.29	No stationary	1.526	0.145	No stationary	-1.632	0.049	Stationary
B	0.148	0.33	No stationary	-1.215	0.139	No stationary	-1.722	0.031	Stationary

Results of program accounts Eviews10

2. Causality Test

It is clear from Table (9) that there are two-way reciprocal relations between the value of electronic remittances and the value of bank deposits as the one-way causal relationship tends to the value of remittances To the value of bank deposits at a significant level of 1%..

Table (9) Results of the causality test The relationship between the value of electronic financial transfers and the value of bank deposits.

Null Hypothesis:	Observations	F-Statistic	Probability
A does not Granger Cause B	6	8.269	0.009
B does not Granger Cause A	6	1.418	0.159

Source: Results for 10 Eviews program accounts

3. Select the number of deceleration times

In order to select the optimum number of deceleration periods, the Akaiké Information Criterion (AIC) and the Schwartz Information Criterion (SIC) were used. It is noted in Table (10) that the optimal number of periods of deceleration is two time periods.

Table 10: Test periods of total slowdown period

Lag	Log L	LR	FPE	AIC	SC	HQ
0	-98.2696	NA	41.23596	8.952659	10.12369	9.124589
1	-91.2659	20.15980	22.12459	8.523692	9.423569	8.74569
2	-88.2659	11.54692*	12.52198*	8.124598*	9.015265*	8.316598*

Results of program accounts Eviews10

Testing the joint integration of the value chains of electronic financial transfers and the value of bank deposits

The results of this test can be carried out in Table 11 according to Trace. The calculated value of the maximum possible rate is 33.26, which is greater than the critical value of 12.02 at a significant level of 5%. Means that we reject the null hypothesis that there is no vector of common integration ($r = 0$) and accept the alternative assumption that there are more than one cointegration vector greater than zero ($r = 1$)

The test of the effect shows that there is no possibility of having more than one vector of common integration. The maximum value of 1.36 is less than the critical value of 2.52 at 5%. Therefore, we accept the null hypothesis and reject

the alternative hypothesis. There is no more than one vector for joint integration. Only for the common integration between the value of electronic remittances and the value of bank deposits, which is proved by the results of the Max test. The calculated value of the maximum possible rate is 31.25, which is greater than the critical value of 11.20 at a significant level of 5%, which means that we reject the null hypothesis ($R = 0$) and accept the alternative assumption that there are more than one cointegration vector greater than zero ($r = 1$)

The subsequent high value test also indicates that the calculated value is less than the tabular value, that is, there is only one vector for the combined integration of the value of electronic remittances and the value of bank deposits.

Table (11): Testing the joint integration of the value of electronic financial transfers and the value of bank deposits

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob**
None *	0.4165923	31.02659	12.02658	0.0000
At most 1	0.1226598	1.223569	2.526598	0.3056
Trace test indicates 1 cointegrating eqn(s) at the 0.05 level				
*denotes rejection of the hypothesis at the 0.05 level				
** Mackinnon-Haug-Michelis (1999) p-values				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob**
None *	0.4165923	29.2369	11.20365	0.0000
At most 1	0.1226598	1.223569	2.526598	0.3056
Max- eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level				
*denotes rejection of the hypothesis at the 0.05 level				
** Mackinnon-Haug-Michelis (1999) p-values				

Source: Results for 10 Eviews program accounts

5- Vecm vector model for the relationship between the value of electronic financial transfers and the value of bank deposits in the long and short term.

In order to determine the value of long-term and short-term correlation parameters, it is necessary to estimate error correction vectors. Table 12 The long-term elasticity of GDP growth parameter (-2.95) is significant because the calculated t-value (-8.56) t table at a significant level of 1%.

In terms of short-term correction, the error correction rate for electronic remittances was 0.34. In other words, 34% of the long-term imbalance in e-remittance value is corrected per annum, while the error correction rate for the value of deposits (0.71). In other words, 71% of the long-term imbalance in the value of bank deposits is corrected in the year.

Table (12): Results of the VECM test for the value of electronic remittances and the value of bank deposits.

Co integrating Eq:	CoIntEq1	
A (-1)	1.000000	
B (-1)	-2.9569 (0.32659)	
	[-8.5629]	
C	2.459689	
Error Correction:	D (A)	D (B)
CoIntEq1	0.342659 (0.41265) [1.92659]	0.712359 (0.40226) [3.26592]

6. Regression equation

In order to identify the effect of e-banking services on banking reform in the Egyptian economy during the period 2012-2017, the multiple regression equation was calculated between the preparation of bank cards, electronic checks, the value of electronic transfers (independent variables) and the value of bank deposits (dependent variable).

$$Y = 33.69 + 0.31 X_1 + 0.25 X_2 + 0.38 X_3$$

$$) 7.03)** (5.29)** (4.33)** (7.29)**$$

$$F = 11.26** \quad R = 0.94$$

Where :

Y = the value of bank deposits

X₁ = Number of bank cards

X₂ = Number of electronic checks

X₃ = Value of Electronic Funds Transfers

From the previous equation, the significance of the model as a whole was significant. The value of F was significant at level 0.01 and it was found that the variables included in the model explain 94% of the changes in the value of the bank deposits while the rest of the changes are due to other factors not included in the model used.

The effect of bank cards in the Egyptian economy on the value of bank deposits in the Egyptian banking system was significant at 0.01 and the effect rate was (31%), meaning that the more the number of bank cards changed by one true the value of bank deposits changed by (0.31) The effect of the number of electronic checks issued in the Egyptian economy on the value of bank deposits in the Egyptian banking system at a significant level 0.01 and the effect rate (25%), meaning that the more the number of electronic checks issued by one amount correctly changed the value of bank deposits by (0.25) It became clear moral effect of the value of electronic financial transfers in the Egyptian economy on the value of bank deposits in the Egyptian banking system at the moral level of 0.01 and reached the effect rate (38%) that is, whenever the value of electronic financial transfers changed by one true bank deposits value by changed (0.38).

The results indicate that there is a strong impact of electronic banking on Egyptian banking reform, which shows that increasing the use of these services significantly will increase the quality of banking and financial operations in the Egyptian banking system, thus increasing the level of economic activity and commercial operations within the Egyptian economy.

Comparison of the impact of e-banking services on banking reform in both Iraq and Egypt.

The results of the previous analysis show that e-banking services have a significant impact on banking reform in the Republic of Iraq and the Arab Republic of Egypt, but the degree of impact varies between the two countries. The impact of e-banking services is 70% During the period of study from 2012 to 2017. This may be due to the fact that the electronic banking services are modern in Iraq, leading to a lack of dealing with them, as well as lack of knowledge of the use of these services either by customers or employees in Iraqi banks, unlike banks Which is characterized by a high degree of knowledge of customers and employees in how to deal with electronic banking services since these services have existed for a long time in the Egyptian banking system more than 20 years, which confirms the validity of the second hypothesis of the study.

Axis IV: Conclusions and Recommendations

• Study Conclusions

The study reached a number of conclusions:

1- There is a strong impact of electronic banking services on Iraqi banking reform.

2 - The most electronic banking services impact on banking reform in Iraq is the value of electronic financial transfers followed by the preparation of bank cards traded in the Iraqi economy and then the number of electronic checks exported in the Iraqi economy.

3 - The impact of electronic banking services on the Egyptian banking reform.

4- The most effective electronic banking services on banking reform in Egypt was the value of electronic financial transfers followed by the preparation of bank cards traded in the Egyptian economy and the number of electronic checks issued in the Egyptian economy.

5 - The impact of e-banking services less than the impact of e-banking services on the Egyptian banking reform, because the use of electronic banking services in the State of Iraq.

• Recommendations

1- The necessity of benefiting from the previous experiences in the field of electronic banking services, especially the experiences of the Arab countries so that the Iraqi banking system can achieve the best possible use of electronic banking services.

2 - The need to work on the development of Iraqi banks and provide the possibilities and technological requirements necessary to provide electronic banking services so that these banks can keep abreast of developments in all affairs of the banking system.

3 - Work to provide appropriate training programs for employees in Iraqi banks and banks to raise their competence and skills in dealing with modern electronic banking services.

4 - Updating the educational programs that provide students specialized in the field of banks and banks in how to provide electronic banking services so that they can meet the labor market efficiently and skill

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