
THE IMPACT OF FINANCIAL DEEPENING ON ECONOMIC GROWTH IN IRAQ: ECONOMETRIC STUDY (2000-2022)

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Abstract

This study aimed to investigate the impact of financial deepening on economic growth in Iraq during the time period (2000-2022). To demonstrate this effect, the study relied on a standard multivariate model based on the autoregressive model for distributed slowing periods, and cointegration analysis through the use of the test. The boundaries between the variables of the study.

The study also used the Phillips-Peron test in order to test the dormancy of the time series of the variables of the study.

The study concluded that there is a positive impact of financial deepening on the Iraqi economic growth through: the money supply index in the broad sense as a percentage of the gross domestic product While the study showed a negative effect of financial deepening: represented by bank assets, net interest rate margin index, bank credit granted to the private sector and bank assets.

Accordingly, the study recommended the need to raise the banking sector's contribution to the productive process and raise economic growth rates by increasing the money supply ratio, and reducing the interest rate on loans, which leads to encouraging investment owners to obtain bank credit in order to obtain the necessary financing. For local or foreign investment, in addition to the need to direct bank credit to the productive sectors.

Keywords: financial deepening, economic growth, bank credit, Iraqi economy.

Introduction

Economic growth is considered one of the most important goals that countries seek and people aspire to achieve in order to achieve a decent standard of living that meets all the requirements of life. Economic growth is defined as the process of increasing the real national

income of the prevailing economic system in a country during a certain period of time. In order to achieve economic growth, a set of elements must be available, the most important of which is a developed financial sector, which in turn works to mobilize and provide local and foreign sources of financing necessary to implement development plans and direct them to medium and long-term investment channels, reduce the cost of transactions and information, reduce trading risks, diversify and cover them, and allow the exchange of goods and financial services. The development of this sector and the increase in the degree of financial depth in all its institutions and markets, such as the financial market and its banking systems, lead to achieving economic convergence from a developing economy to an advanced economy. It affects the economies of countries, especially the developing ones. Jordan seeks to enter the global markets, and this is evident through the efforts made in the financial liberalization program, which aims to develop the financial sector and increase the degree of financial deepening, and the economic reform program, which aims to raise economic growth rates.

Study problem

Different points of view have emerged on the relationship between financial deepening and economic growth over the years. For example, the supply-leading hypothesis sees that financial deepening contributes to economic growth, which in turn leads to an increase in demand for financial resources and services. (Demetriades and Hussien, 2016), and the study (Patrick, 2018), which believes that economic growth leads to an increase in the degree of financial deepening. And because Iraq suffers from many economic problems such as poverty, unemployment, the increasing deficit in the public budget, and an urgent need to increase economic growth rates in addition to a lack of Economic resources and low productivity sectors

The economic components of the Iraqi economy, with the exception of the financial sector, whose contribution to the gross domestic product reached about 10% in 2022. This study appeared in order to investigate the impact of financial deepening in the process of stimulating Iraqi economic growth during the period (2000-2022).

The importance of studying

The importance of the study appears in terms of its handling of a contemporary topic under study, and as long as it has been the subject of controversy and discussion by many researchers and those interested, and the importance of the study comes through identifying the role that financial deepening plays in Iraqi economic growth. The importance of the study can be summarized in the following points:

1. Shedding light on the role of the financial sector and the extent of its contribution to the Iraqi gross domestic product
2. Identifying the extent of the development of the banking sector's assets, bank credit granted to the private sector, the net interest rate margin, and the money supply ratio in the broad sense as a percentage of GDP during the study period.
3. Highlighting the role of the Iraqi capital market in the Iraqi economy.

4. Determine the impact of the banking sector assets, bank credit granted to the private sector, net interest rate margin, money supply ratio in the broad sense as a percentage of GDP, stock turnover rate, and trading volume in the Iraqi capital market on Iraqi economic growth.

5. Identify the role of foreign financial flows such as workers' remittances, direct foreign investment, and foreign aid in the Iraqi economy.

The aim of the study

This study mainly aims to investigate the impact of financial deepening on economic growth in Iraq during the time period (2000-2022) using annual data.

The study hypothesis

This study focused on the following main hypothesis:

- Financial deepening has a positive effect on economic growth in Iraq.

The theoretical framework and the previous studies

First: the theoretical framework

Financial deepening affects economic growth through several channels that can be summarized through hypotheses next:

Supply-Leading Hypothesis

This hypothesis states that financial deepening leads to economic growth through a developed financial system capable of mobilizing financial resources and savings, reducing the cost of financial operations and information, managing risks, increasing the volume of investments, enhancing the efficiency of capital accumulation, and transferring financial resources from Slow-growing traditional sectors to fast-growing modern sectors and encourage capital owners to invest in such modern sectors. (Mckinnon, 2013) considers that the relationship between financial deepening and economic growth depends mainly on the integration between physical capital, which is expressed by (the quantity of commodities or the volume of economic activities) and money (money), and that investment can only be achieved through mobilization Savings in the form of bank deposits. As for (Shaw, 2014), which explained the importance and role of commercial banks and the expansion of their activities as financial intermediaries working to increase investment rates by increasing savings rates. My studies are also considered by both (Mckinnon, 2013; Shaw, 2014). (One of the first studies that was interested in explaining the relationship between financial deepening and economic growth, where they found that any distortion or restrictions imposed by the government on the banking sector through restricted interest rates or the volume of high legal reserves or bias to some credit programs, for example, leads to restriction The quantity and productivity of investments, which leads to restricting economic growth (Schumpeter 2011; Mckinnon 2013; Shaw 2014; Fry 2018; Greenwood & Jovanovic, 2010). And because of the measures that the government practices on the banking sector, which may lead to a shortage in the amount of savings, which will negatively affect economic growth. (Spellman, 2012) considers the presence of an advanced financial system and advanced intermediary financial tools facilities, leading to direct effects on the real sectors of the economy reflected in the shift of the production possibilities curve to the right due to the change in the volume of total resources or the improvement in the exploitation of those resources.

Demand-Following Hypothesis

The demand dependency hypothesis states that the development of financial markets is just a delayed reaction to economic growth. Economic growth leads to an increase in demand for financial services, and this in turn leads to the introduction of new financial institutions and the emergence of financial markets to meet this increased demand for financial services. This hypothesis explains the secondary role Which financial deepening plays in the process of economic growth that leads to financial deepening and not the other way around (Robinson 2012; Patrick 2016; Demetriades and Hussien 2016).

Bidirectional causality hypothesis

This hypothesis states that financial deepening and economic growth are linked to a common relationship between them.

Financial deepening leads to economic growth, and economic growth leads to financial deepening, that is, there is a two-way causal relationship, which is a hypothesis based on unifying both the supply leadership hypothesis and the demand dependency hypothesis in one hypothesis. Goldsmith 2015; Greenwood & Jovanovic 2010; Saint, 2012).

The Independent Hypothesis

This hypothesis assumes that both financial deepening and economic growth are causally independent, and (Lucas, 2008) showed that at best, financial deepening plays a secondary role in economic growth, and (Stern, 2019) ignored the role of financial development in the process of economic growth. This hypothesis provided a final explanation for analyzing the relationship between financial deepening and economic growth that both financial deepening and economic growth are independent of each other.

Second: previous studies

The contributions of Goldsmith (2019), McKinnon (2013), and Shaw (2014) are among the most important.

Pioneering contributions in the study of the relationship between financial deepening and economic growth, which prompted many researchers in economics to pay attention to this relationship. There are also many studies that examined the impact of financial deepening on economic growth, the results of which differed in terms of the direction of the causal relationship. (Schumpeter, 2014; Goldsmith, 2009; McKinnon, 2013; Shaw, 2014; King and Levine, 2010) that finance is a vital component of economic growth. While (Robinson, 2009; Lucas, 2008) see that finance is a secondary factor for economic growth.

The study (Choong et al., 2005) came with the aim of investigating the relationship between financial development and economic growth.

Economic in Malaysia during the time period (1978-2000). The study relied on the Autoregressive Distributed Lag (ARDL) model, and the limits test for cointegration. The study concluded that there is a statistically significant positive relationship between the development of the stock market volume and economic growth at the level of 1%, and a statistically significant positive relationship between the volume of liquidity in the stock market and economic growth at the 5% level.

. The results of the study also indicated the existence of a strong and positive relationship with statistical significance between the financial indicator (discount rate) and economic growth in the long term. In the study (Mihalca, 2007), which aimed to investigate the

relationship between the development of the financial sector and economic growth in Romania during The time period (1990-2006). The study relied on a linear regression model to link the study variables. The data were analyzed based on two different time series. Financial development and growth

The economist. As for the time period (1995-2006), the results of the test concluded that there is an inverse relationship between financial development and economic growth. As for the study (Ang, 2007), it aimed at research

In the relationship between financial deepening and economic development in Malaysia for the time period (1960-2003). By using the autoregressive model for distributed lag periods using the Autoregressive Distributed Lag (ARDL) method, and the error correction model (ECM). The study concluded that there is a statistically significant positive relationship between financial deepening and economic growth in the long term, and there is no effect of financial deepening on economic growth in the long term.

short. The study also indicated that improving the financial system contributes to increasing economic growth.

the study (Okereke & Nzotta, 2009) was to investigate the relationship between financial deepening and economic growth in Nigeria for the time period (1986-2007). It relied on a linear model

It shows the relationship between the variables of the study through the Ordinary Least Square (OLS) method. The results of the study indicated that the level of financial deepening in Nigeria is weak and low, and it also indicated that the rate of inflation and the level of credit granted to the private sector is insufficient. sufficient to increase economic growth in Nigeria. In the study (Karahana & Yilgor, 2011), which aimed to investigate the relationship between financial deepening and economic growth in Turkey during the time period (1980-2010), the vector autoregression (VAR) model was relied upon. As a methodology for the study, the study found, through standard analysis, that there is a causal relationship between the development of the financial sector and economic growth.

In the study (Onwumere et al., 2012), which aimed to investigate the impact of financial deepening on economic growth in Nigeria for the time period (1992-2008). A linear regression model was built linking the variables of the study. Du Ran rate of money supply and the proportion of shares traded in the stock market on the one hand and economic growth on the other hand, she indicated

The results of the study also indicate that each of the ratio of demand deposits to GDP, the ratio of credit granted to the private sector to GDP, and the value of shares listed in the stock market did not provide a clear explanation for the impact on economic growth. As for the study (Bakang, 2015), it aimed to investigate the relationship between financial deepening and economic growth in Kenya for the time period (2000-2013). The data was analyzed using the Error Correction Model (ECM). The study concluded that the banking sector in Kenya plays an important role in economic growth, and the results of the standard analysis indicated that there is a statistically significant positive relationship between financial deepening and economic growth. There is also a study (Ghildiyal et al., 2015) that aimed to investigate the impact of financial deepening on economic growth in India for the time period (1990-2013). The study used an autoregressive model for distributed lag periods and a bounds test for

cointegration) (Autoregressive Distributed Lag (ARDL) and Error Correction Model (ECM)) in order to analyze the data. The study concluded that there is a balanced relationship between financial deepening and economic growth in the long term, and it also concluded that financial deepening causes economic growth in the short term and long term.

As for the study (Yao et al., 2015), which aimed to identify the impact of financial deepening and rising prices on economic growth in China for the time period (1994-2011). The study relied on the Generalized Method of Moments. (GMM) in order to analyze the data. The results of the study indicated that there is a regular and reciprocal interaction between financial deepening and economic growth in the short term, and there is no effect of financial deepening on economic growth in the long term.

As for the study (Ganic et al., 2016), it aimed to investigate the relationship between financial deepening and economic growth.

economy in Bosnia and Herzegovina for the time period (2006-2014). The study relied on an autoregressive model for distributed lag periods using the Autoregressive Distributed Lag (ARDL) method. The results of the study indicated that there was no statistically significant positive relationship between financial deepening. Through the following indicators (the ratio of credit granted to the private sector, and the ratio of total bank deposits to GDP) and economic growth, the results of the study also indicated that there is a statistically significant negative relationship between foreign aid as a percentage of GDP and economic growth, as it showed. The results of the study also showed that there was a statistically significant positive relationship between financial deepening through the Expanded Money Supply Index (M2) to GDP.

aggregate and economic growth. And in the study (Osei-Fosu et al., 2017), which aimed to study the impact of financial deepening and financial liberalization on economic growth in Ghana for the time period (1970-2014),

Where the study relied on the Dynamic Ordinary Least Square (DOLS) method in order to measure the impact of financial deepening and financial liberalization on domestic investment in Ghana. The results of the study indicated that bank credit granted to the private sector as a percentage of GDP negatively affects domestic saving in the long term, and the results of the study also indicated that there is no statistically significant relationship between money supply in the broad sense on saving.

Arabic studies:

As for the Arab studies that examined this subject, a study came (Al-Qadeer, 2004), whose aim was to study the relationship between financial development and economic growth in the Kingdom of Saudi Arabia for the time period 1970-2001). On the Error Correction Model (ECM). The results of the study indicated the existence of a long-term equilibrium relationship between financial development and economic growth, and the results also indicated the existence of a two-way causal relationship between financial development and economic growth in the long term and the short.

As for the study (Al-Qasrawi, 2009), the aim of which was to study the relationship between the financial development of during the development of the Amman financial market and economic growth in Jordan for the time period (1978-2007). Using the multiple linear regression estimation model, the results of the study indicated that the trading volume of

stocks has a statistically significant negative effect on economic growth. Also, there is no statistically significant relationship between market value and economic growth in Jordan, as the results showed

The study has a one-way causal relationship from trading volume to money supply, a two-way causal relationship between money supply and economic growth, and a one-way causal relationship from the size of the market value to total capital formation, and a two-way causal relationship between total capital formation and growth The economist.

In the study (Al-Hamshari, 2011), which aimed to investigate the impact of financial development and direct foreign investment on economic growth in Jordan during the period (2000-2010). The data of the study were analyzed based on the Ordinary Least Square method. (OLS). The results of the study indicated that there is a positive impact of each of the credit granted to the private sector and government spending on economic growth in Iraq. The results of the study also indicated that there is an impact of economic correction and financial liberalization on economic growth in Iraq.

There is also a study (Youssef, 2016) that aimed to investigate the relationship between financial development and economic growth.

The economic variables in Iraq during the time period (2000-2010). The study variables were represented by the dependent variable, the rate of growth in real per capita income as an indicator of economic growth, while the independent variables were represented by the ratio of money supply to GDP, and the ratio of deposits to GDP. The data was analyzed by using the Error Correction Model (ECM).The results of the study indicated that there is a two-way causal relationship between financial development and economic growth in Iraq.

As for the study (Kenza and Salah El-Din, 2020), which aimed to test the impact of development in the financial sector on

Economic growth by highlighting the role of financial intermediation in economic activity in (11) countries of the Middle East and North Africa during the period (2000-2019), the study relied on 3 variables to measure the extent of the development of the financial sector in these countries represented by directed loans To the private sector, it presented money in the broad sense as a percentage of the gross domestic product, and The total assets of private banks to the total assets of private banks and the assets of the central bank, and used the real GDP growth rate as a representative of economic growth. The study relied on a dynamic panel model based on the error correction model using the combined group mean method, the group mean, and the dynamic static effect in estimation. The results of the study indicated that financial intermediation has a negative impact in the short and long term on the economies of the Middle East and North countries Africa.

Applied side:

Time series analysis is of great importance because it provides Data on its main distinguishing components the condition over Time. When looking at the general developments over the period of time, it is expected that they will be updated in the near future, and it also helps us identify the various factors affecting it. For this reason, we prepared the standard model for analyzing and predicting the academic period the variables and Various influences on economic aspects.

Study variables

dependent variable

Real Gross Domestic Product (RDGP): It is the sum of monetary values at base year prices for final goods and services produced within a country during a specific period of time, usually a year. It is considered an important economic indicator that measures the economic level (economic growth) of a country. Real GDP= Nominal GDP/ GDP Deflator;

The independent variables

□ Monetization Ratio (MTR): The ratio of money supply in the broad sense (the amount of money at constant prices (million Iraqi dinars) circulating in the economy, whether it is current cash in circulation, current accounts, demand deposits, savings accounts and time deposits) to output GDP at current prices. $MTR=M2/RGDP$;

Credit to Private Sector (CPS): The ratio of credit to the private sector by the banking sector, excluding credit to government and independent government institutions, to GDP at current prices. Credit to Private Sector= $CPS/RGDP$;

□ Banking assets: It is the total assets of private banks to the total assets of private banks and the assets of the central bank. $CBAS=CBA/(CBA+CeBA)$

□ Interest Rate Spread (IRS): The difference between the interest rate

Obtained by the financial sector on loans granted to customers and the interest rate paid by the financial sector to depositors (demand deposits and time deposits). $IRS = \text{lending rate} - \text{deposit rate}$;

□ Volume of Trade (VOT): Defined as the value of stocks that are traded on the market floor at fixed prices (million Jordanian dinars) during a certain period to the gross domestic product, and this indicator reflects the strength of the financial market in a country. $VOT=VOT/ GDP$;

□ Turnover Ratio: It is the number of traded shares divided by the number of issued shares during a certain period (time).

□ Foreign Direct Investment (FDI): It is the market value at constant prices (million dinars) of net foreign capital flows directed to owning productive assets in the local economy.

Foreign Aid: The value of financial aid flowing from abroad into a country's economy.

Remittances: Workers' transfers are defined Based on balance of payments data (fifth edition) It is of the calculation of ongoing transfers from a monetary policy point of view, especially since Contains goods and the findings from immigrants and/ It includes workers who are outside the country's borders for a period of one year or more to persons (usually for the purposes of this study, and based on economic theory and previous studies such as (Choong et al., 2005), and the study (Okereke and Nzota, 2009), in addition to the study (Giang et al., 2016) The following standard model was adopted:

$$Y = \alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + \dots + \alpha_n X_n + \varepsilon$$

Where: Y: represents the dependent variable, Xi: the independent variable, α_i : the parameters to be estimated, α_0 : the constant segment, ε : the random error limit. to the real GDP, the net interest rate margin, the ratio of credit granted to the private sector to the real GDP, and the ratio of commercial bank assets to the ratio of commercial bank assets in addition to the assets of the central bank (The value of real GDP has been relied upon as a variable that represents growth economy as a dependent variable.

The following controlling variables were adopted, namely: the rate of rotation speed of the stock, and the value of turnover to output real gross domestic product, the value of remittances of workers abroad, foreign aid, and foreign direct investment).

□ The following standard model was relied upon for the purposes of standard analysis:

$$RGDP = \alpha_0 + \alpha_1 MTR + \alpha_2 IRS + \alpha_3 CPS + \alpha_4 CCBAS + \alpha_5 TOR + \alpha_6 VOT + \alpha_7 REM + \alpha_8 AID + \alpha_9 FDI + ut$$

where :

RGDP	Real Gross Demostic Product
MTR	Monetization Ratio
IRS	Interest rate spread
CPS	Credit to Private Sector
CCBAS	Commercial, Central Bank Assets
VOT	Volume of Trade
TOR	Turnover Ratio
REM	Remittances
AID	Foreign Aid
FDI	Foreign Direct Investment

A model similar to this one was used in the study of (Choong et al., 2005 (and the study of) Okereke and Nazotta, 2009 (and the study of) Ganic et al., 2016), in addition to the study of (Onwumere et al. al., 2012

Where the variables were taken in logarithmic form, with the exception of the foreign direct investment variable because there are values

is negative in its data, and thus the model used is semi-logarithmic (Semi-Log) as follows:

$$\text{LogRGDP} = \alpha_0 + \alpha_1 \log MTR + \alpha_2 \log IRS + \alpha_3 \log CPS + \alpha_4 \log CCBAS + \alpha_5 \log TOR + \alpha_6 \log VOT + \alpha_7 \log REM + \alpha_8 \log AID + \alpha_9 FDI + ut$$

Primary statistical tests

In order to perform When testing, it is necessary to make basic determinations performed that may help in choosing Balanced analytical tool. Among One of the important tests is unit analysis for rest, and nalysis of the periods that separate, in addition to the cointegration test.

Unit test for time series static

The importance of this test lies in ensuring the stability of the time series and the degree of their Supplementation, research has shown that all time periods macroeconomic The elements of the study were distinct instability It includes the origin of the unit, and shows in what period of time means that the mean and determinants of study periods are not constant and that the covariance it is based on the difference in timing. Assuming the rest of the time series that actually contain unit basis analysis models leads to ratios with increasing values each of the values (T, F) and for Difference factors (R2), in addition to the existence of Incorrect coherence between study variables and problems in standard analysis and inference (Al-Qadeer, 2005). of which and widespread of these tests is the Phillips-Perron (PP) test, It

analyzes the zero assumption (H0), which includes the presence of the unit root, i.e. the non-static of the time series.

Co-Integration Test The integration analysis presented by Engel and Granger (1987) supports analyzing the economic hypothesis by determining the correlation between variables within economic statistics. From an economic perspective, some economic variables move in harmony and consistency. over time, although it is characterized by random fluctuation, so cointegration analysis is considered one of the important tools when studying the relationships between variables in the long term, in addition to that, it helps in determining the level of consistency or consistency between non-static data if they are

Taken individually but static as a group. Such a long-term relationship between a group of variables is useful in predicting the values of the dependent variable (response) in terms of a group of independent (explanatory) variables. There are several ways to test the existence of co-integration between variables (i.e. the existence of a long-term relationship between variables), including:

- Engel and Granger test (Engel and Granger, 1987) This test is used in models consisting of two variables only, one of which is dependent and the other is independent.
- Johansen test (1988-1991) and Johansen and Juselius test (1990), where these two tests are used in the case of multivariate models (two or more variables).

CUSUM and CUSUM of Squares for Stability tests

When estimating standard models, there is a need to investigate whether these models show a structural change in their behavior over time or not, and therefore the two tests (CUSUM) and (CUSUM of Squares) for stability are among the most common tests in this field.

The results of the standard analysis:

Unit test for time series rest (Phillips-Perron (PP))

It aims to investigate the stationary variables of the study, where the unit root test (Phillips-Perron) was used, and the results were as follows:

Table (1): Unit test results (Phillips-Byron (PP))

variable	The calculated t-value	Tabular values at the levels of significance			The result
		1%	5%	10%	
log RGDP	-1.90407	-4.243644	-3.544284	-3.204699	The level
	-5.008471	-4.252879	-3.54849	-3.207094	The first difference
log MTR	-2.231833	-4.243644	-3.544284	-3.204699	The level
	-5.008471	-4.252879	-3.54849	-6.970558	The first difference
log IRS	-2.568663	-4.243644	-3.544284	-3.204699	The level
	-3.781511	-4.252879	-3.54849	-3.207094	The first difference
log CPS	-2.555913	-4.243644	-3.544284	-3.204699	The level
	-7.289762	-4.252879	-3.54849	-3.207094	The first difference

CCBAS	-3.510867	-4.243644	-3.544284	-3.204699	The level
	-5.732019	-4.252879	-3.54849	-3.207094	The first difference
FDI	-2.167663	-4.243644	-3.544284	-3.204699	The level
	-5.208742	-4.252879	-3.54849	-3.207094	The first difference
log AID	-3.830008	-4.243644	-3.544284	-3.204699	The level
	-6.838793	-4.252879	-3.54849	-3.207094	The first difference
log REM	-2.426696	-4.243644	-3.544284	-3.204699	The level
	-7.491722	-4.252879	-3.54849	-3.207094	The first difference
log TOR	-2.176227	-4.243644	-3.544284	-3.204699	The level
	-4.901337	-4.252879	-3.54849	-3.207094	The first difference
log VOT	-1.78472	-4.243644	-3.544284	-3.204699	The level
	-5.06673	-4.252879	-3.54849	-3.207094	The first difference

Source: The table was prepared by the researcher based on the results of the Eview methodology

The results of the Phillips-Peyron test shown in Table (1) indicate that all time series are variables, the study is not static in the level, while it became static after taking the first difference and at a significant level of 1%, except for the time series of the net interest rate margin variable, where it became static after taking the first difference and at a significant level of 5%.

The results of the standard model estimation

After the variables showed a co-integration, this means that there is a long-term equilibrium relationship between the variables explained towards the dependent variable used in the model (log(RGDP)), and the long-term elasticities were estimated using the autoregressive model for distributed slowing periods, and the results appeared as follows:

Table (2): Results of long-run elasticities for the real GDP equation

Variables	Co-Efficient	Std-Error	t-Statistic	Prob
LOG(MTR)	1.061643	0.134488	7.893951	0.0014
LOG(IRS)	-0.091817	0.027478	-3.341497	0.0288
LOG(CPS)	-1.190602	0.26265	-4.533035	0.0106
LOG(CCBAS)	-0.633387	0.442094	-1.432698	0.2252
LOG(TOR)	0.726202	0.07149	10.158153	0.0005
LOG(VOT)	-0.708921	0.079495	-8.917762	0.0009
LOG(REM)	0.903335	0.065526	13.785986	0.0002
LOG(AID)	-0.210165	0.102564	-2.04911	0.1098
FDI	0.000276	0.000056	4.909385	0.008
C	2.679324	1.139865	2.350562	0.0785
R-squared	0.999944	Mean Dependent var		3.78219

Adjusted R-squared	0.999539	S.D dependent Var	0.3771
S.E of regression	0.008094	Akaike Info Criterion	-7.1708
Sum Squared Resid	0.000262	Schwarz Criterion	-5.824
Log Likelihood	151.9041	Hannan-Quinn Criter	-6.7115
F-statistics	2470.094		
Prob(F-statistic)	0.00000		

Source: The table was prepared by the researcher based on the results of the Eview methodology

The estimated coefficients for the dependent variables and the segment in the long run appear in Table (2), considering the GDP at constant prices as the dependent variables expressing economic growth and using the AIC criterion to determine the slowdown periods. 9 is (ARDL(1,2,1,2,2,1,1,2,2,2)) (and from Table 2) the equilibrium relationship in the long run can be written as follows:

$$\text{Log (RGDP)} = 2.679324 + 1.061643 \text{ log (MTR)} - 0.091817 \text{ log (IRS)} - 1.190602 \text{ log (CPS)} - 0.633387 \text{ log (CCBAS)} + 0.726202 \text{ log (TOR)} - 0.708921 \text{ log (VOT)} + 0.903335 \text{ log (REM)} - 0.210165 \text{ log (AID)} + 0.000276 \text{ FDI}$$

The results shown in Table (2) indicate a high value of the regression determination coefficient (R²), which reached 0.9999, meaning that the independent variables explain 99.9% of the changes in the real GDP. The results also indicate that all coefficients of the explanatory variables are statistically acceptable except for the The assets of banks and the coefficient of foreign aid are not statistically acceptable at the level of 10%. Since the model relied on the semi-logarithmic formula for the explanatory variables, the estimated coefficients represent the long-term elasticities between the explanatory variables and the dependent variable. The results showed that the elasticity of the liquidity ratio is positive, as the increase in A liquidity ratio of 1% leads to an increase in real GDP by (1.061643%), and this is consistent with the results of the study (Bakang, 2015), and the study of (Ang, 2007). The elasticity of the net interest rate margin is negative, as an increase of 1% in the net interest rate margin leads to a decrease in real GDP by (0.091817%). This is consistent with the results of the study (Abazi and Aliu, 2015). The results also showed that the elasticity of credit granted to the private sector is negative, as an increase in credit granted to the private sector by 1% leads to a decrease in real GDP by (1.190602%).

This can be explained by looking at the value of bank credit granted to the private sector in terms of the nature of the activity. The value of bank credit granted to productive sectors decreased in general, especially the agricultural sector and the industrial and mining sectors. On the other hand, the value of bank credit granted to other sectors such as the construction sector (buying real estate and housing financing) increased. and the general trade sector (vehicle financing).

As for the flexibility of banking assets, its flexibility is also negative, as an increase in its value by 1% leads to a decline.

Real GDP by (0.633387%), and this is consistent with the findings of (King and Levine, 2013) in their study of the impact of financial development on economic growth. They justified this by the weakness of this indicator as an indicator of financial deepening in its

impact on economic growth. The fact that the banking sector is not the only sector that prepares and provides financial functions and financial services. In addition, it is possible for the banking sector to provide bank credit to the government in order to finance government expenditures such as filling the deficit in the government budget, and thus this is not reflected in productive government projects, which does not lead to As for the flexibility of the share turnover rate, it is positive, as an increase in the share turnover rate by 1% leads to an increase in real GDP by (0.726202%), and this is due to the efficiency of buying and selling orders and the adequacy of information and its access to investors regarding prices Buying and selling of shares traded on the Iraq Stock Exchange, in addition to achieving justice among dealers in the Iraqi financial market. As for the elasticity of trading volume, it is negative, as the increase in volume increases

Trading by 1% leads to a decrease in the gross domestic product at constant prices by (0.708921%), and this can be explained by the inefficiency of the Iraq financial market to attract local and foreign companies to invest in the Iraq Stock Exchange, and this can also be explained by the impact of the Iraq Stock Exchange on the local and neighboring Arab conditions This was reflected in the decrease in the number of companies listed on the Iraq Stock Exchange, as well also be explained by the percentage of foreign participation in the value of turnover, which ranged between 45% - 52% during the study period, and this is consistent with the results of the study (Al-Qasrawi, 2009). Also, the flexibility of remittances of workers abroad is positive, so any increase By 1% in workers' remittances, it leads to an increase in the gross domestic product at constant prices by (0.903335%). This can be explained by providing sources of financing for family consumption and increasing savings rates, which leads to an increase in local investment, which would improve the level of income and create job opportunities. and increased productivity, which is reflected positively on economic growth. The results also showed that the elasticity of foreign aid is negative, so any increase in foreign aid by 1% leads to a decrease in real GDP by a value of (0.210165%), and this is consistent with the results of the study (Ganic et al. al., 2016). This negative effect is explained by the failure to optimally exploit and use foreign aid in the process of economic development and the establishment of investment and productive projects that contribute to increasing economic growth. The results also showed that the foreign direct investment coefficient is positive, so any increase in foreign direct investment By 1 Jordanian dinar, it leads to an increase in the real GDP by 0.0276%, and this is due to the increase in the added value of foreign investments in the Iraqi economy, through the creation of job opportunities for Iraqis, and the provision of more foreign currencies for the Iraqi economy, in addition to the possibility of transferring advanced and new technology in The production process, which can be applied to local investments.

The most important (CointEq)-1 is the error correction coefficient () a coefficient in the results of the short-term coefficients in the autoregressive model for distributed slowing periods. Through the results shown in Table (3) for the error correction limit coefficient, it was found that its value is equal to (-0.573006) and is significant 0.0049), which means that the equilibrium in the short run is close to equilibrium in the long run. The absolute value of the error correction limit coefficient indicates the proportion of the imbalance in the previous period that is corrected in the subsequent period after a shock to the explanatory variables

that affects the dependent variable. The results indicate that (57.30%) of the imbalances in the explanatory variables that affect the GDP are real and are corrected over the subsequent time period.

Table (3): Error correction coefficient results

Error correction coefficient	Co-Efficient	Std-Error	t-Statistic	Prob
CointEq(-1)	-0.573006	0.101698	-5.634393	0.0049

Source: The table was prepared by the researcher based on the results of the Eview methodology

The results of the CUSUM of Squares Stability Tests Cusum&Cusum of after a test procedure to test the stability of the time series (Squares-2022), for the variables of the study during the time period ((2000-2022)). It is located within the critical limits and at a significant level of 5%, which means that the estimations are stable during the time period used in the study, and therefore the entire time period can be dealt with as one time period without the need to divide it into shorter periods of time.

Results and Recommendations:

After reviewing the theoretical framework of the study, defining financial deepening and showing the most important financial indicators that represent it, reviewing measurement models to investigate the impact of financial deepening on Iraqi economic growth, and testing the study hypotheses, the study concluded the most important results based on the results of statistical analysis. data, and also reached the most important recommendations, based on these results:

Study results:

Based on what was presented in the statistical analysis of the study data and testing its hypotheses, the following results were reached.

- 1 . The results of the co-integration analysis between the liquidity coefficient as an indicator of financial deepening and GDP at constant prices showed that there is a complementary relationship in the short and long terms through the use of the limits test, and that the liquidity coefficient has a positive impact on the real GDP, as any increase in the liquidity coefficient by 1% leads to an increase in real GDP by (1.061643%).
- 2 . The results showed that the net interest rate margin has a negative impact on the real GDP, as any increase in the net interest rate margin by 1% leads to a decrease in the real GDP by (0.091817)%.
- 3 . The results showed that the credit granted to the private sector has a negative impact on the GDP at constant prices, as any increase in the credit granted to the private sector by 1% leads to a decrease in the real GDP by (1.190602)%.
- 4 . The results showed that banking assets have a negative impact on the real GDP, as any increase of 1% leads to a decrease in the real GDP by (0.633387)%.

5 . The results showed that the share turnover rate has a positive impact on the real GDP, as any increase in the share turnover rate by 1% leads to an increase in the real GDP by (0.726202%).

6 . The results showed that the trading volume has a negative impact on the real GDP, as any increase in the trading value by 1% leads to an increase in the real GDP by (0.708921)%.

7 . The results showed that direct foreign investment has a positive impact on the real GDP, as any increase in the value of foreign direct investment by 1 Iraqi dinar leads to an increase in the real GDP by (0.0276%).

8 . The results showed that the remittances of workers from abroad have a positive impact on the real GDP, as any increase by 1% leads to an increase in the real GDP by (0.903335)%.

9 . The results showed that foreign aid has a negative impact on the real GDP, as any increase in the value of foreign aid by 1% leads to a decrease in the real GDP by (0.210165%).

Study recommendations:

Based on the results of the aforementioned study, the study presents a set of recommendations, as follows:

1 . The need to raise the banking sector's contribution to the production process and raise economic growth rates by reducing the interest rate on loans, which leads to encouraging investment owners to obtain bank credit in order to obtain the necessary financing for local or foreign investment.

2 . The need to raise interest rates on deposits in order to encourage those with material surpluses (citizens, institutions, and companies) to increase savings rates in banks. The study also recommends the banking sector to increase and improve the financial services provided, such as reducing the percentage of fees on bank transfers, The process of internal and external bank transfers, and increasing the degree of development of the banking sector by raising the rate of banking penetration represented by (increasing the number of bank branches and the number of automatic teller machines), which leads to an increase in the degree of financial deepening in the economy.

3 . The necessity of directing bank credit to productive sectors such as the industrial and agricultural sectors, and to long-term real investments that lead to increased productivity and an increase in the proportion of what is reflected positively on the real GDP.

4 . The need to increase the degree of development of the Iraq Financial Stock Exchange by working to accelerate and facilitate access to information related to buying and selling prices in the Iraq Stock Exchange, and to ensure access to information related to shares and companies listed with transparency and clarity among all investors. The study also recommends the need to raise the efficiency of the Iraq Stock Exchange In order to attract domestic and foreign investments, which is reflected in the volume of financial circulation, which leads to an increase in real GDP.

5 . The need to manage foreign aid efficiently so as to ensure its employment in the production and development process through the establishment of investment projects that work to increase employment opportunities for the local labor force, which contributes to increasing economic growth rates, whose results are reflected in the real gross domestic product.

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