International Journal of Studies in Business Management, Economics and Strategies
Volume 3, Issue 12, December - 2024
ISSN (E): 2949-883X
Scholarsdigest.org

THE IMPACT OF GOVERNMENT SPENDING ON MONEY SUPPLY AND GDP GROWTH IN THE IRAQI ECONOMY FOR THE PERIOD 2003-2023

Hayder H. Al-Bujabir 1
AL-Muthanna University The College of Administration and economics,
Iraqhayder.aljabry@mu.edu.iq

Qahtan Lafta Attia Al-Rubaie 2
College of Business Economics, Nahrain University, Baghdad,
Iraqqahtan@nahrainuniv.edu.iq

Mohammed Shihab Ahmed 3
Senior research chief/ Ministry ofplanning
ms.ms6820@yahoo.com

Abstract
Government spending is one of the macro variables that play an important and vital role in influencing various economic activities in general, and the money supply and economic growth in particular, as government spending has recently taken noticeable increases resulting from increased responsibility and burden on governments, which leads to a rise in the government role in economic activity, in order to reach the goal of research, which is to know the impact of government spending on both the money supply and economic growth in GDP. Overall, a standard model was built based on the EViews 12 program, two models of joint integration were built using the slow-gap autoregressive model (ARDL), the first is related to the relationship between government spending as a monetary variable and GDP as a real variable as well as government spending and money supply as two monetary variables. It was found that the existence of a relationship of mutual integration between variables as well as the dependence of GDP and money supply at a very high rate on government spending, so the most important recommendation in the research is The need to reduce state interference in economic activity and give an opportunity to the private sector to take its role in increasing the contribution to GDP.

Introduction

Information, as a funder and generator of decision-making, is an important element of power

Research Objective:

The research aims to shed light on the extent to which government spending as a monetary variable affects two variables, namely the money supply as a monetary variable, and economic growth as a real variable.

Research problem: The research problem is to answer the following question:

1. The extent to which government spending, which is a financial phenomenon, affects the money supply, which represents a monetary phenomenon.
2. The extent to which government spending affects GDP.

Research hypothesis:

The hypothesis of the research proceeds from the following:

1- There is a complementary relationship between government spending and the money supply.

2- Money supply is a dependent factor of government spending, not an independent variable.

3- There is a complementary relationship between government spending and GDP.

The first topic: theoretical concepts of government spending, money supply and GDP

1- Government spending:

Public expenditures are defined as the fact that carrying out any spending requires the availability of three conditions, namely the presence of money, a person who spends and a goal to be achieved, and these conditions are available in the public spending carried out by the state, in order to meet its obligations, public expenditures are cash amounts approved by the legislative authority for a public person to spend in providing an amount of public goods and services and achieving economic and social goals. (Khalil and Lozi, 2002: 89)

In this sense, it has three main elements: (Mashkour, Helou, 2016: 27)

1-1 Public expenditure is an amount of money (money) The main element of public expenditure is the use of money (Money), which represents a price for the state's needs of basic goods and services to secure the requirements of the functioning of public utilities, and it also represents a price for productive capital to implement investment projects that take over its implementation and money is the state's means of tunnels, just like individuals.

2-1 Public expenditure is issued by the state or one of its public bodies: the only body that undertakes the process of public spending is the state through its various organs within the laws in force and approved by the legislative authority, and the question arises whether the donation of a specific person amounts to build a school or hospital, for example, is a public expenditure, and the answer to that is not considered this public spending, but falls within private spending.

3-1 Public expenditure aims to achieve a public benefit that public expenditures aim mainly to satisfy public needs and achieve public benefit, which is in this sense, the alimony is not a public expenditure that does not satisfy a public need and the reason for this is that since individuals are equal in bearing public burdens (taxes), they must be equal in benefiting from public expenditures.

Government spending, as is known in individual spending, is divided into two parts, namely consumer government spending and government investment spending, as follows: (Hammadi, 2023: 228-229)

4-1 Government consumer spending: It is the expenditure made by the state to run its administrations and obtain its needs of goods and services to satisfy its current public needs

during a certain period of time, this spending is represented by wages, salaries, subsidies, expenses of goods and services, salaries of retirees and social security.

5-1 Government investment spending: It is the one that contributes to the formation of fixed national capital adopted by the state, such as spending on the purchase of machinery, equipment, land and construction for spending on infrastructure and infrastructure such as roads, bridges, buildings, as well as schools, hospitals, airports, etc. during a certain period of time.

2- Money Supply:

Money supply is one of the tools of monetary policy to influence the overall variables of the national economy, and for the purpose of identifying the money supply, it has been defined as "a set of means of payment available to society during a certain period of time that are in the possession of different people and projects." (Abdullah, Wood, 2023: 81), and there are three concepts for the presentation of criticism: (Al-Thalabi, Al-Sari, 2013: 5-6)

(a) Money supply in the narrow sense: It means the sum of the means of payment in circulation used by members of society during a certain period of time, and is called in the economy (M1) and includes in this definition paper currencies and coins used by individuals in their daily transactions, i.e. money in circulation and symbolized by the symbol (CR) and is also added to the volume of money held in banks in the form of current accounts or demand deposits and symbolized by the symbol (DDThus, the money supply equation (M1) is expressed as follows:

M1 = DD + CR ... (1)

(b) Money supply in the broad sense: This concept is broader than the previous concept of money and is adopted by financial andmonetary institutions such as the International Monetary Fund and falls within the scope of this definition or this volume of money equation (1) above in addition to accounts or term deposits and symbolized by the symbol (TD) as well as savings accounts in banks and symbolized by the symbol (S) and expresses the equation of money supply in its broad sense (M2) as follows:

M2 = M1 + TD + S ... (2)

(c) Cash supply in the broadest sense M3

This concept gives a more comprehensive meaning to the money supply, and this concept is used in developed countries because of the great development witnessed in the monetary and financial field, so the financial markets have evolved and expanded significantly and invented new and diverse types of financial derivatives, so some types of deposits have been added that are long-term within the components of the money supply in the broader sense Ms and these deposits are deposited with intermediary financial institutions other than commercial banks whose terms exceed two years for savings and lending banks and crosses About the M3 broadest monetary offer as follows:

M3 = M2 + QD

Whereas,

QD: Other quasi-cash deposits of resident deposits in foreign currencies, as well as deposits against documentary credits, deposits against collateral and existing transformations It is worth noting that the use of the money supply in the broad sense M2 and in the broader sense

M3 is not appropriate in developing countries due to the backwardness of financial and monetary markets as well as the backwardness of banking habits and banking awareness among individuals, unlike developed countries where the use of money supply in the broad sense M2 and in the broader sense.

3- Economic growth:

Economic growth is usually measured as the annual rate of increase in a country's GDP.(Aghion, Howitt, 2009: 20)

Economic growth - and economic development - are more than economic by nature. The word economic describes only one criterion for results that can be measured and expressed by pure economic criteria, which are economic amounts, such as national income, per capita income rate, and what affects one person from the national capital, etc .The growth process itself is the outcome of many economic, social and political factors, many of which cannot be subjected to economic measurement or even to social control and control. Social tendencies, customs, practices, and historical factors, as well as the economic variables themselves, all constitute a basis that cannot simply be identified as purely economic. The economic factor, despite its great importance that should not be overlooked in explaining the process of economic growth and development itself, is only one factor among other factors. Numerous, perhaps have the same importance as the economic factor itself and the emphasis in some economic writings on pure economic factors compared to non-economic factors in determining economic change and its events generally led to two schools of thought, one of which, represented by Karl Marx, considers the economic factor the first decision absolute consideration of the situation in its entirety, emphasizing the mutual interaction between the social factors of the social structure and its various political super-institutions, and the second takes into account the different economic, political, cultural and historical that do not adapt Society has developed not only economically but also all its other super-institutions. Most contemporary economists emphasize the multiple determinants of economic development in recognition of the complex nature of this development, and the intertwining of factors that lead to it or affect its movement in the long term.

Economic growth is the process of change in certain economic amounts over a relatively long period of time. This definition emphasizes three characteristics that characterize this growth process:

1 - It is a process, that is, it is characterized by continuity over a relatively long period of time.

2. It involves a change in certain economic amounts.

- It occurs through (time) and contains the element (time), and therefore it is characterized by kinetic or dynamic in nature because it has two properties of movement: change and time , so the analysis of balance in the short term of the type of Marshall analysis, can not fit a process that has such a dynamic nature changing in the long term . Economic growth is a long-term phenomenon closely related to political and economic factors that are supposed to remain constant (Al-Sayed, 1984: 371-372).

4- The theoretical relationship between the three research variables

Government spending is one of the most important tools of fiscal policy to affect macroeconomic activity, and in an economy such as the Iraqi economy, which is a rentier economy that depends mainly on the production and export of one material, which is crude, which is the commodity of oil, in such an economy the state is the owner of the wealth and through the government spending channel will have an impact on all economic variables.

The economies of developing countries, including Iraq, depend on oil revenues, so the importance of government spending increases because the government disburses oil revenues in various aspects of spending and because oil prices are not stable because they fluctuate from time to time and because there is no developed tax system in most developing countries, including Iraq, so these revenues are subject to fluctuation significantly, which makes the government sometimes forced to spend more than its revenues, so the volume of government spending affects the money supply With regard to the issuance of currency, as it affects the volume of money supply through currency issuance operations to finance the volume of public expenditures of the state, government revenues are the main source of financing government expenditures within the framework of the general budget of the state, and the movement of the general budget is subject to a basic factor that is not only the level of domestic revenues that source tax and non-tax revenues, but also depend on the level of external revenues of the Iraqi economy, which in turn depends on the extent of increasing the volume of exports and the consequent increase in In the volume of foreign currency entering the country and in the direction that creates the basic ground for the issuance of legal money by the Central Bank as the sole monopoly of the power to issue and hand it over to the government to finance the expansion of its public expenditures. (Thalabi, Sari, 2013: 13)

The spending policy plays an important role in the growth process and highlights its importance through the impact it exerts on the volume of investment as one of the determinants of economic growth, so investment spending is defined as the amounts allocated by the government to obtain the necessary equipment to increase national production of goods and services and includes government spending used in the purchase of equipment and machinery to carry out production or establish infrastructure such as roads, bridges, airports, safes and dams The effects of investment spending on GDP can be determined by focusing largely on the effects of capital accumulation in expanding productive capacity in the economy, and then reflecting on increasing income and high rates of economic growth, as countries resort to using spending policy to cause capital accumulation by investing in infrastructure according to the principle of precedence in directing resources to stimulate economic growth through the formation of a flexible and diversified production structure using rational economic policies. To create a multiplier with a positive impact on the economy and an active accelerator to sustain growth simultaneously with an effective tax system and political and economic stability in order to reach the highest possible level of output, infrastructure projects stimulate the growth of total output by raising the returns on investments in direct activities of production, especially productive projects that adopt advanced technology in the production process through their positive effects on the inputs of industrial projects represented by economic savings of all kinds that help reduce production costs to a minimum. Levels. (Ministry of Planning, 2021: 6)

The second topic: the analytical framework for both government spending, money supply and GDP

1- Government spending: Through Table 1, which refers to government expenditures in both current and investment parts, public expenditures are constantly increasing during the time series in question, as we note that the total public expenditures recorded 92322 million dinars in 2003, as current expenditures amounted to 7362300 million dinars and investment expenditures 1869900 million dinars, public expenditures rose in the following year and recorded 31521427 million dinars with a growth rate of 241%, it can be said that most of the increase in public expenditures came through The increase in investment expenditures because there is a great desire to carry out a comprehensive reconstruction process in the country, we note that most of the increases in public expenditures come through the increase in current expenditures and the rate of change of investment expenditures is decreasing, through Figure 1 and through the general trend line for each type of expenditure that there is a continuous increase in public expenditures in general, but the increase in current expenditures comes from the increase in current expenditures at the expense of investment expenditures, as the coefficient of R2 determination that 5% goes investment expenditure 95% goes current expenses, which is absolutely incorrect as it expresses high consumption behavior in directing those expenditures

Million dinars

Table 1 Public expenditures in Iraq for the period 2003-2023 based on the Ministry of Planning, Economic Models Division for the period 2003-2020, and the last three years, based on reports issued by the Central Bank of Iraq.

Annual rate of change %	Overhead	Annual rate of change %	Investment Expenditures	Annual rate of change %	Current expenditure	Years
	92,322		1,869,900		7,362,300	2003
241	31,521,427	858	17,912,480	85	13,608,947	2004
-2	30,831,142	-10	16,147,752	8	14,683,390	2005
26	38,806,679	-63	6,027,680	123	32,778,999	2006
1	39,308,348	9	6,588,511	0	32,719,837	2007
2	40,277,197	127	14,976,016	-23	25,301,181	2008
38	55,589,721	-36	9,648,658	82	45,941,063	2009
26	70,134,201	61	15,553,341	19	54,580,860	2010
12	78,757,666	15	17,832,113	12	60,925,554	2011
33	105,139,576	65	29,350,952	24	75,788,624	2012
13	119,127,556	38	40,380,750	4	78,746,806	2013
-6	112,192,125	-12	35,450,453	-3	76,741,673	2014
-26	82,813,611	-23	27,431,819	-28	55,381,792	2015
-11	73,570,823	-33	18,408,055	0	55,162,768	2016
3	75,490,115	-11	16,464,461	7	59,025,654	2017
7	80,873,189	-16	13,820,333	14	67,052,856	2018
38	111,723,523	77	24,422,590	30	87,300,933	2019
-32	76,082,443	-87	3,208,905	-17	72,873,538	2020
35	102,849,700	315	13,322,700	23	89,526,700	2021
14	117,000,000	-10	12,018,500	17	104,981,500	2022
22	142,400,000	101	24,192,900	13	118,242,800	2023

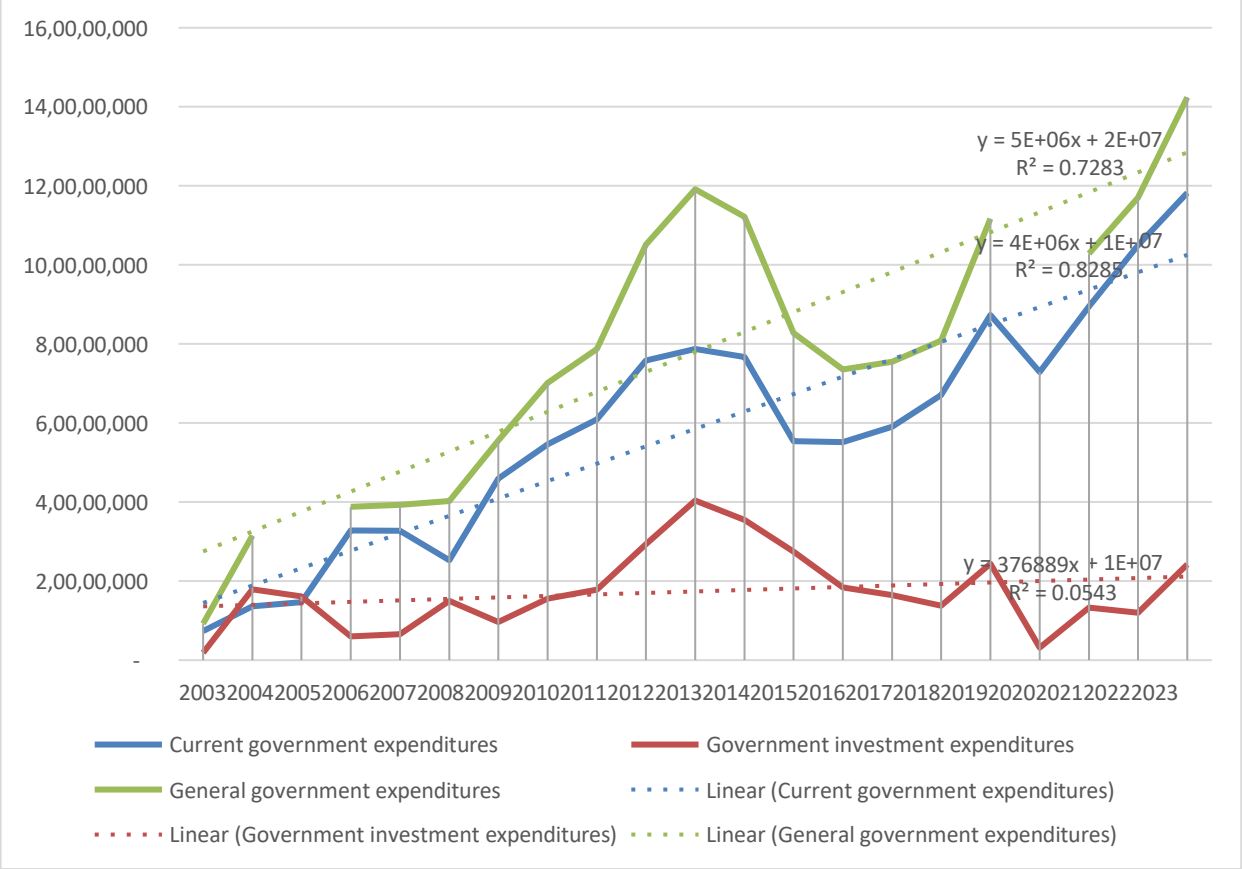

Figure 1 Current, investment and total expenditures for the period 2003-2023.

2- GDP: The GDP is one of the most important economic indicators at the macro level, as it measures the state's ability to produce goods and services, and therefore it is used for comparison purposes between countries, the GDP in 2003 reached (66398231) million dinars a year later it increased to become 101845262.4 and a rate of change of 53% after that it decreased by 2% in 2005, after that the annual rate of change was taken, the highest amount of GDP during the research series is 223,075,020.8 Million dinars in 2019. The highest annual rate of change during the series in question after 2004 in 2012 and 2016 with an annual rate of change of 14%, Figure 2 indicates that GDP is increasing during the years of research, but the annual rate of change indicates low rates as is evident from the general trend line fixed in the figure.

Million dinars

Table 2 Gross domestic product at constant prices (2007 = 100), in Iraq for the period 2003-2023 based on the Ministry of Planning, Economic Models Division for the period 2003-2020, and the last three years, based on the Ministry of Planning, the Central Bureau of Statistics, and the National Accounts Directorate.

Annual rate of change %	Gross Domestic Product (GDP)	Years
-	66398213	2003
53	101845262.4	2004
2	103551403.4	2005
6	109389941.3	2006
2	111455813.4	2007
8	120626517.1	2008
3	124702847.9	2009
6	132687028.6	2010
8	142700217	2011
14	162587533.1	2012
8	174990175	2013
2	178951406.9	2014
3	183616252.1	2015
14	208932109.7	2016
-2	205130066	2017
3	210532887.2	2018
6	223075020.8	2019
-16	188112265.8	2020
6	00198,496,5	2021
7	212,408,700	2022
-2	207200000	2023

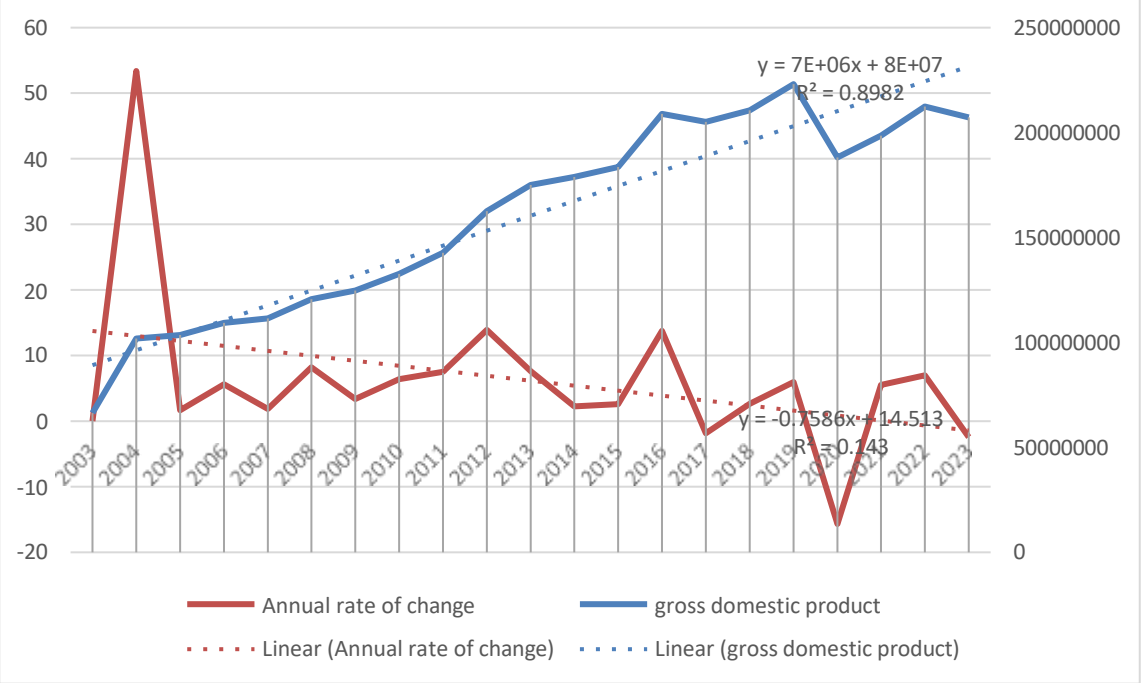

Figure 2 shows the direction of GDP and the annual rate of change using combo chat , which is the property of combining two curves into one figure.

3- Money supply: The money supply is one of the most important tools of monetary policy, as through this variable monetary policy can stimulate the national economy if there is a state of deflation or vice versa, monetary policy can curb economic activity if it suffers from inflation, it is noted through Table 3 that the money supply in the narrow sense amounted to 2,898,188.80 million dinars in 2003, after which in one year it achieved a remarkable increase of 10,148,687.00 million dinars and a rate of change Annual reached 250%, which is the highest annual rate of change during the time series, then in subsequent years we notice increases in the money supply, as we notice in 2007 the highest annual rate of change after 2004, as it reached 40%, and so the annual rates of change took positive values, until we reached the years 2014 and 2015, as the annual rates of change took - 2 and - 10 respectively, after that these rates took positive values to reach the highest rate An annual change in 2022 to become 22%, as seen in Figure 3.

Table 3 Money supply for the period from 2003-2023 Central Bank of Iraq, Department of Statistics and Research, Annual Statistical Bulletin for the years 2003-2023.

Million dinars

Annual rate of change	Narrow Monetary Offer M1	Sunnah
	2,898,188.80	2003
250	10,148,687.00	2004
12	11,399,125.00	2005
36	15,460,060.00	2006
40	21,721,167.00	2007

30	28,189,934.00	2008
32	37,300,030.00	2009
39	51,743,489.00	2010
21	62,475,821.00	2011
2	63,735,871.00	2012
16	73,830,964.00	2013
-2	72,692,448.00	2014
-10	65,435,000.00	2015
8	70,733,000.00	2016
1	71,200,000.00	2017
9	77,828,984.00	2018
11	86,771,000.00	2019
19	103,353,556.00	2020
16	119,944,000.00	2021
22	146,500,000.00	2022
9	160,300,000.00	2023

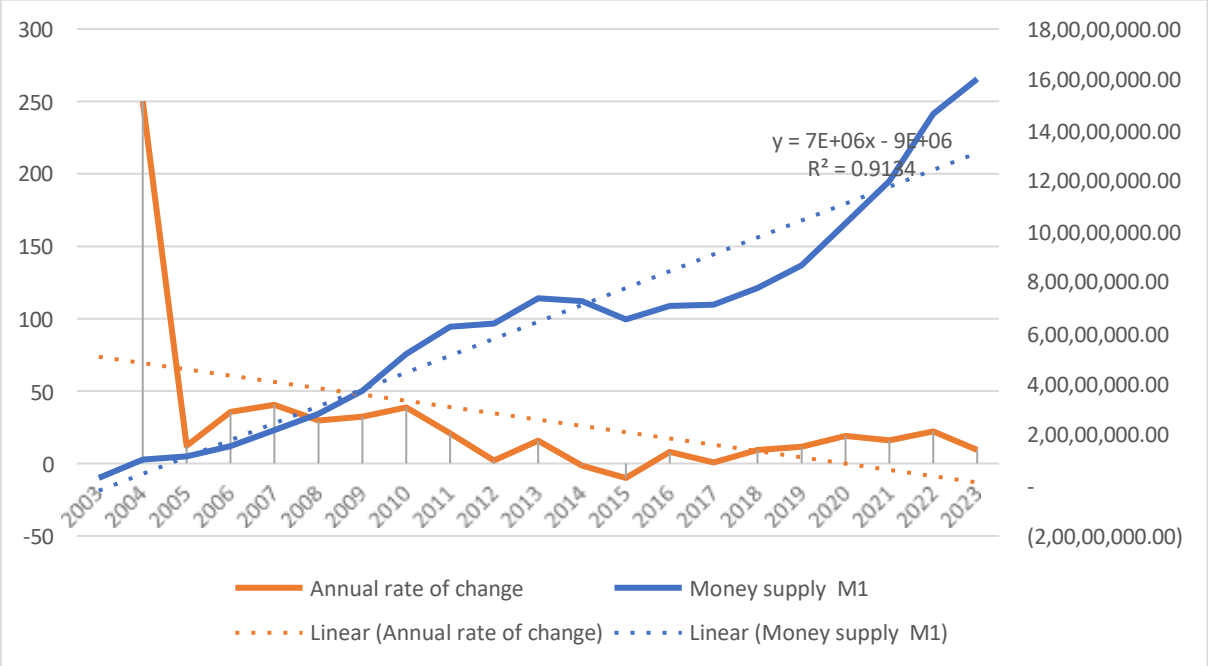

Figure 3 shows the direction of the money supply and the annual rate of change using the combo chat property , which is the property of combining two curves into one figure.

4- Measure and analyze the relationship between government spending and GDP, government spending and money supply

Two models will be built, one showing the impact of total government spending on GDP and another showing the impact of government spending on the money supply, based on the data contained in Table 1, 2, 3 after following the following steps:

1-4 Model Description of Research Variables

For the first model, GT represents total government spending, which is an explained variable in the model, and the second variable is GDP, which is a dependent variable.

For the second model, GT represents total government spending, which is an explained variable in the model, and the second variable is the money supply M1 dependent variable.

2-4 The graph is one of the tribal tests of the three model variables, as through the graph and with an initial look, it can be noted that there is a common integration between the variables of the model or not, and as follows in Figure 4 we note that the path of the three variables takes an upward trend from the bottom left to the top right to express an upward general trend for each variable and the same path, and through the figure and with a preliminary look, it becomes clear to us that there is a common integration between the total public expenditure and the gross domestic product, as well as the width of Purity separately.

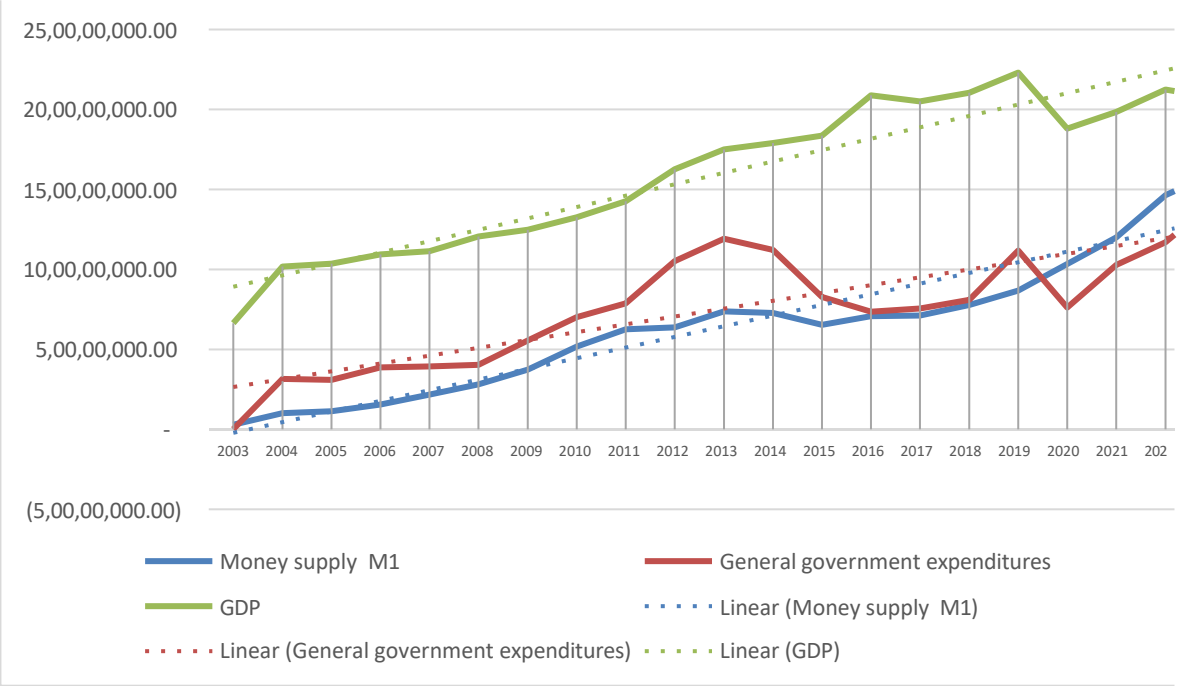

Figure 4 shows the trajectory of total government spending, GDP and money supply.

3-4 Unit root testing of model variables based on EViews 12 outputs as follows:

Null Hypothesis: D(GT) has a unit root
Exogenous: None
Lag Length: 0 (Automatic - based on SIC, maxlag=4)

		t-Statistic	P
Augmented Dickey-Fuller test statistic		-4.253918	0.
Test critical values:	1% level	-2.692358	
	5% level	-1.960171	
	10% level	-1.607051	

Table 4 of the outputs of the EViews 21 program, showing the stability of the series of total government expenditure

Null Hypothesis: D(GDP) has a unit root
Exogenous: None
Lag Length: 0 (Automatic - based on SIC, maxlag=4)

		t-Statistic	P
Augmented Dickey-Fuller test statistic		-4.860420	0.
Test critical values:	1% level	-2.692358	
	5% level	-1.960171	
	10% level	-1.607051	

Table 5 of the outputs of the EViews 2 1 program, showing the stability of the GDP series

Null Hypothesis: M1 has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 4 (Automatic - based on SIC, maxlag=4)

		t-Statistic	P
Augmented Dickey-Fuller test statistic		-3.635452	0.
Test critical values:	1% level	-4.667883	
	5% level	-3.733200	
	10% level	-3.310349	

Table 6 of the EViews 2 1 Output, showing the stability of the money supply chain

Through the above tables, we can see the following:

1- The time series of total government spending is stable at the first difference

2- The time series of GDP is stable at the first difference

3- The time series of the money supply time series is stable at the level.

4-4 Estimating the GDP function as a dependent variable of government expenditure using the distributed slow-down autoregressive model.

Variable	Coefficient	Std. Error	t-Statistic	
GDP(-1)	0.205982	0.282690	0.728652	
GDP(-2)	0.015290	0.317780	0.048114	
GDP(-3)	0.662493	0.360227	1.839098	
GDP(-4)	-0.480954	0.185338	-2.595018	
GT	0.398867	0.110940	3.595341	
GT(-1)	-0.149546	0.204227	-0.732252	
GT(-2)	0.032681	0.216036	0.151275	
GT(-3)	0.047039	0.268119	0.175440	
GT(-4)	0.505122	0.243254	2.076521	
C	43475328	12980256	3.349343	
R-squared	0.987400	Mean dependent var		1.7
Adjusted R-squared	0.971200	S.D. dependent var		36
S.E. of regression	6204699.	Akaike info criterion		34
Sum squared resid	2.69E+14	Schwarz criterion		34
Log likelihood	-282.4738	Hannan-Quinn criter.		34
F-statistic	60.94969	Durbin-Watson stat		2.
Prob(F-statistic)	0.000008			

*Note: p-values and any subsequent tests do not account for model selection.

Table 7 The regression model shows government spending on GDP

Variable	Coefficient	Std. Error	t-Statistic
M1(-1)	1.270219	0.090114	14.09572
GT	-0.010842	0.103047	-0.105215
GT(-1)	-0.066230	0.111118	-0.596038
GT(-2)	-0.178511	0.083060	-2.149173
C	9335372.	4607301.	2.026213

R-squared	0.982970	Mean dependent var	70
Adjusted R-squared	0.978104	S.D. dependent var	40
S.E. of regression	6038960.	Akaike info criterion	34
Sum squared resid	5.11E+14	Schwarz criterion	34
Log likelihood	-320.7198	Hannan-Quinn criter.	34
F-statistic	202.0210	Durbin-Watson stat	1.
Prob(F-statistic)	0.000000		

*Note: p-values and any subsequent tests do not account for model selection.

Table 8 Regression model of government expenditure on the money supply

From Tables 7 and 8, we can see that the two models are significant, that the coefficient of determination in relation to GDP is 98%, and that the coefficient of determination for the supply of money is 98% as well.

5.4 Boundary testing

EC = GDP - (1.3968*GT + 72799948.5966)

F-Bounds Test — Null Hypothesis: No levels relatio

Test Statistic	Value	Signif.	I(0)
			Asymptotic: n=1000
F-statistic	6.575554	10%	3.02
k	1	5%	3.62
		2.5%	4.18
		1%	4.94
Actual Sample Size	17		Finite Sample: n=3
		10%	3.223
		5%	3.957
		1%	5.763
			Finite Sample: n=3
		10%	3.303
		5%	4.09
		1%	6.027

Table 9 Limit test of GDP

EC = M1 - (0.9458*GT - 34547428.4702)

F-Bounds Test		Null Hypothesis: No levels relat	
Test Statistic	Value	Signif.	I(0)
			Asymptotic: n=10
F-statistic	8.712678	10%	3.02
k	1	5%	3.62
		2.5%	4.18
		1%	4.94
Actual Sample Size	19		Finite Sample: n=
		10%	3.223
		5%	3.957
		1%	5.763
			Finite Sample: n=
		10%	3.303
		5%	4.09
		1%	6.027

Table 10 shows the limit test for the money supply function

Tables 9 and 10 show that there is a common complementarity between the three model variables at the level of significance of 5%.

6.4 Diagnostic tests:

A- Contrast Instability Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

F-statistic	1.033720	Prob. F(9,7)
Obs*R-squared	9.700945	Prob. Chi-Square(9)
Scaled explained SS	1.037022	Prob. Chi-Square(9)

Table 11 Instability of Invariance Test for Government Expenditure and GDP

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

F-statistic	1.288788	Prob. F(4,14)
Obs*R-squared	5.113395	Prob. Chi-Square(4)
Scaled explained SS	0.911557	Prob. Chi-Square(4)

Table 12 Test of invariance of government spending and money supply

Through the two tables, we notice that the value of F-statistic and the value of the Chi-Square probability is greater than 5%, and thus we accept the null hypothesis, and this indicates that the two estimated models do not suffer from the problem of instability of variance.

B- Lakrang test for serial correlation between residues:

Breusch-Godfrey Serial Correlation LM Test:
Null hypothesis: No serial correlation at up to 2 lags

F-statistic	1.533845	Prob. F(2,5)	0
Obs*R-squared	6.464146	Prob. Chi-Square(2)	0

Table 13 Sequential correlation between government expenditure and GDP

Breusch-Godfrey Serial Correlation LM Test:
Null hypothesis: No serial correlation at up to 2 lags

F-statistic	0.085159	Prob. F(2,12)
Obs*R-squared	0.265897	Prob. Chi-Square(2)

Table 14 Sequential correlation between government expenditure and money supply

We note in Tables 13 and 14 that the calculated F and Chi-Square values are not significant in both models, which means that the two models do not suffer from the problem of serial correlation between the remainders.

C- Test the normal distribution of random errors

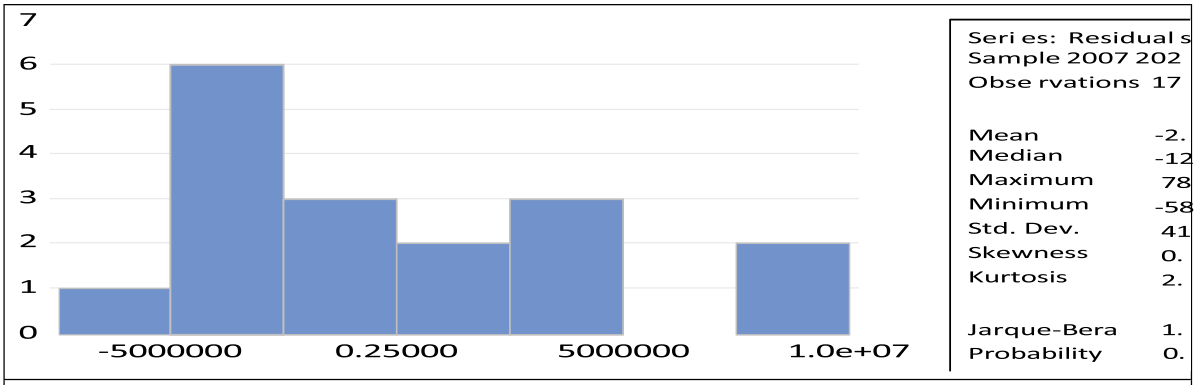

Figure 5 Test of the normal distribution of government expenditure model and GDP

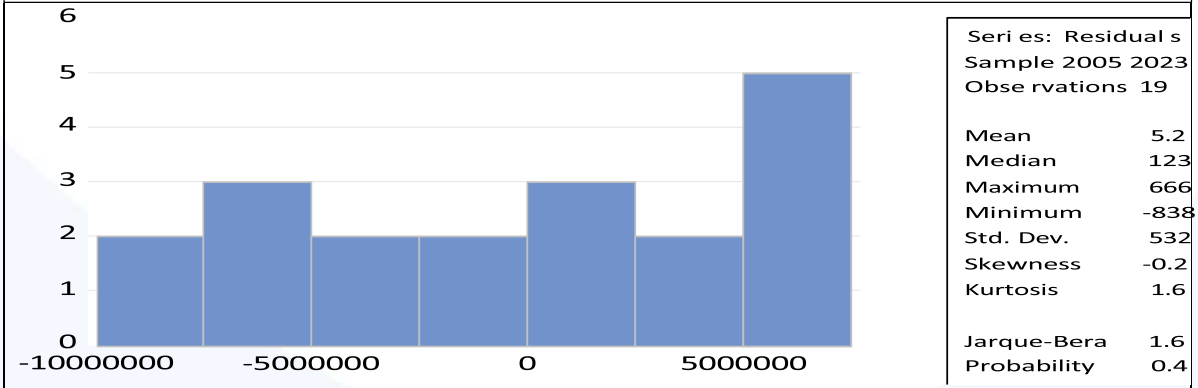

Figure 6 Test of the normal distribution of the government expenditure and money supply model

It is clear from Figures 5 and 6 that the Jarque-Bera value in both models follows the normal distribution at 5%.

D- Test the stability of the estimated features:

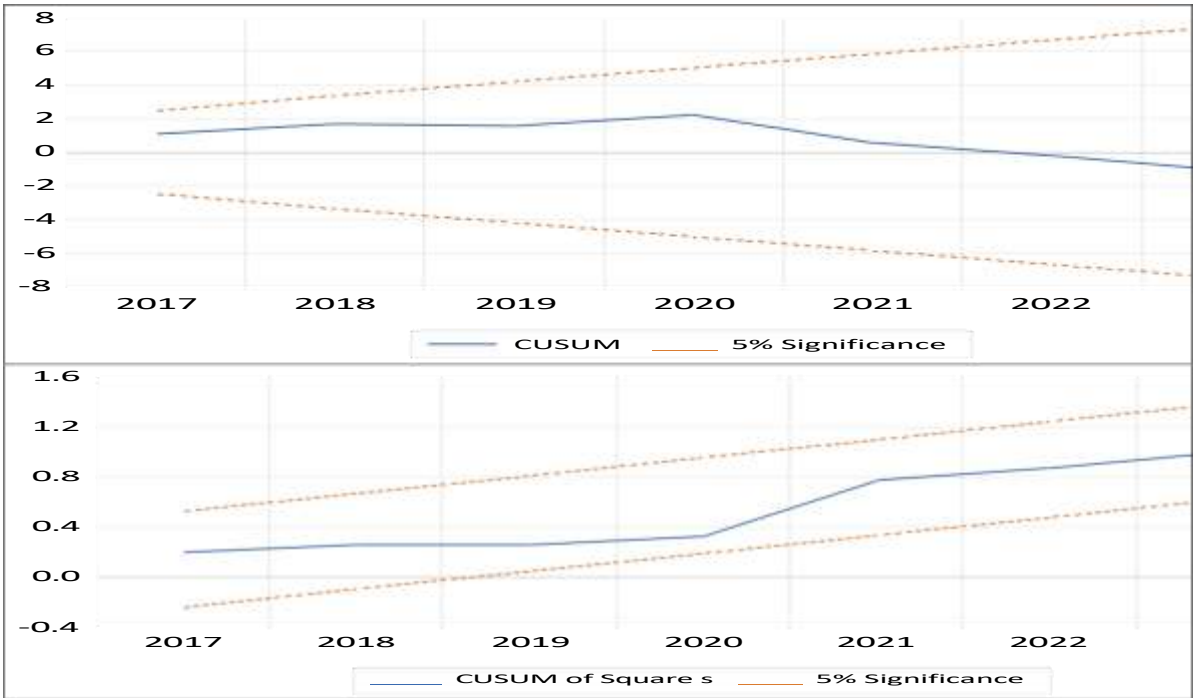

Figure 7 Structural stability test of government expenditure model parameters and GDP

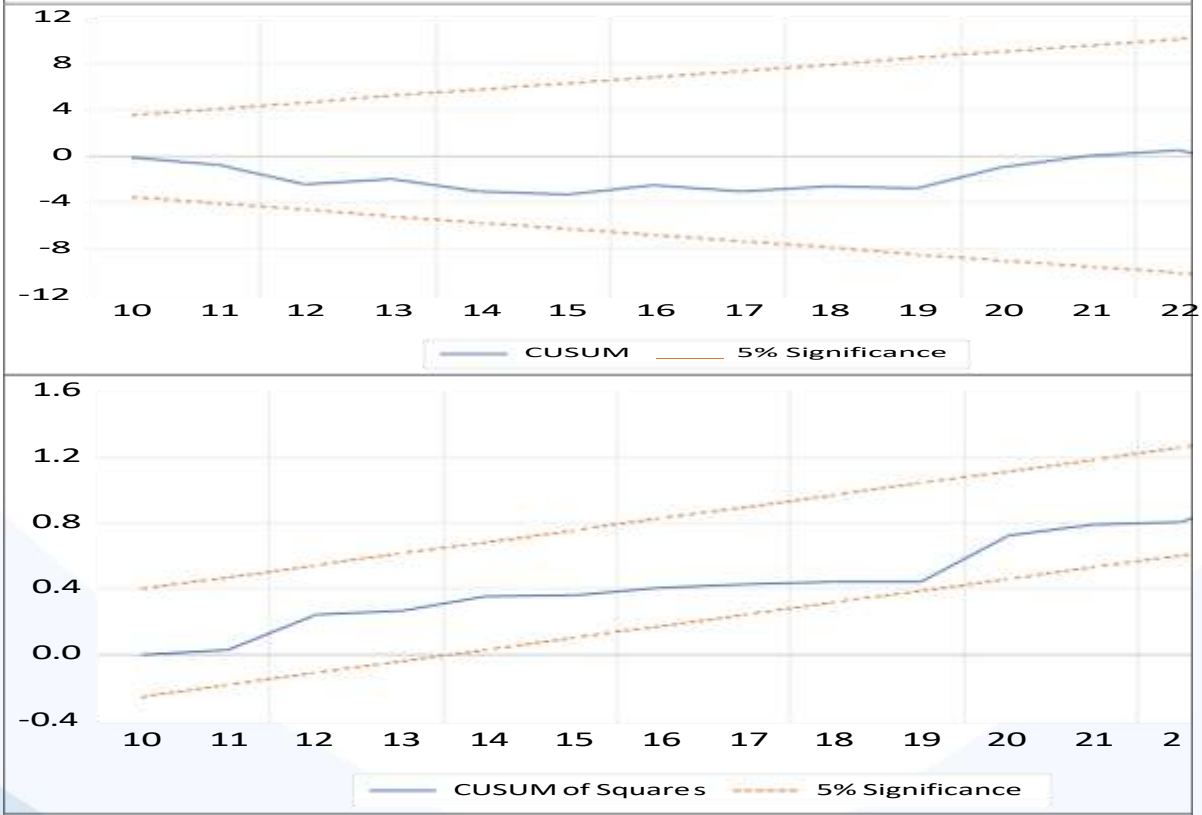

Figure 8 Structural stability test of government expenditure model parameters and money supply

Figures (7 and 8) show the structural stability test of the model parameters according to the TEST CUSUM and the TEST Squares OF CUSUM test, as the two parts show that the sum of the accumulation of residues is located within the column of critical values, that is, the estimated parameters are stable at a significant level (5%), while the second part of theThe graph shows that the sum of the accumulation of squares of residuals is located within the critical values column, i.e. the variables included in the model are stable at a significant level (5%).

Conclusions:

1- There is an upward trend in total public expenditures, which means an increase in government intervention in economic activity.
2- Current expenditures accounted for the largest proportion of total public expenditures
3- Although there have been increases in GDP, annual rates of change indicate a general downward trend.
4- It is noticeable that there have been increases in the money supply during the research years, accompanied by distorted annual rates of change up and down, which negatively affects financial stability.
5- The existence of a common complementarity relationship between government spending and GDP as well as between government spending and the money supply.

Recommendations:

1- Government interference in economic activity must be reduced by encouraging the private sector and increasing its contribution to overall activity.
2- It is necessary to review the process of directing expenditures and focusing on increasing investment spending at the expense of current spending.
3- Attention should be paid to the annual rates of change of GDP, and to monitor these rates and ensure that the rates are at least appropriate to the population growth rates.
4- Stable and stable annual rates of change must be maintained as this leads to the creation of a stable economic environment.
5- With the two standard models, the impact of government spending on GDP and money supply must be minimized.

References:

1- Saud Jaid Mashkour, Aqeel Hamid Al-Helou, Principles of Finance and Financial Legislation in Iraq, International Press, Muthanna, Iraq, 2016.
2- Mustafa Fadel Hammadi, Changes in the structure of government spending and its implications for private investment, a comparative study for the period (1990-2021), Journal of Regional Studies, 2023, Volume 17, Issue 56.
3- Ali Mohammed Khalil, Suleiman Ahmed Al-Lawzi, Public Finance, Dar Zahran Amman, Jordan, 2002.

4- Sahera Hussein Zain Al-Thalabi, Faraj's regional residence, an econometric study of the relationship between the money supply and government spending, in the Iraqi economy, for the period 1991-2011, 2013.

5- Abdul Moneim Al-Sayyid Ali, Introduction to Economics, Ministry of Higher Education and Scientific Research, Al-Mustansiriya University, Baghdad, 1984.

6- Ministry of Planning, Economic Models Division, Estimating the Relationship between Government Spending and GDP, 2021.

7- Ali Waheeb Abdullah, Samir Siham Dawood, Measuring and analyzing the inflation response to the money supply shock in the Iraqi economy, Journal of Business Economics for Applied Research, 2023, Volume, Issue Special.

8- Haidar Sahib Saleh Al-Karawi, The Impact of Money Supply on Economic Stability in Selected Countries with Special Reference to Iraq, Letter to the Council of the College of Administration and Economics, University of Karbala, 2023.

9- Central Bank reports for the period 2003-2023.

10- Philippe Aghion, Peter Howitt, THE ECONOMICS OF GROWTH, Cambridge, Massachusetts London, England, 2009)