

Trend of money supply in Iraq and its relationship analysis In GDP for the period (2004-2018)

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Abstract : Monetary policy is one of the requirements of economic policy for any of the countries, whether developed or developing. Especially Iraq as a country characterized by a rentier economy, and to the extent that it concerns money supply in Iraq in light, especially after 2004. The Iraqi economy has witnessed development. In this area during the period (2018 -2004) in view of the role adopted by the monetary policy represented by the Central Bank of Iraq, which was reflected in the changes in the structure of the broad money supply. The change of its trends according to the change in its components of the narrow money supply and quasi-money. It is importance in bringing about changes in the size and growth of the gross domestic product. The research found that there is a direct relationship between money supply and GDP despite the fluctuations in the trends of the wide money supply, in response to the research requirements. It included three axes, the first one included the concept of money supply and its relationship to the GDP in theory. While the second was devoted to the development Trends in the development of money supply in Iraq for the period (2004-2018). The third focuses on analyzing the relationship between money supply and gross domestic product in Iraq during the period (2004-2018).

Key words: Iraq, broad money supply, narrow money supply, gross domestic product.

INTRODUCTION: Monetary policies are one of the most important economic policy tools for different countries, whether developed or developing, as they are key tools in achieving economic stability and a goal to achieve the economic policy system, in addition to the fact that these policies have a clear impact on the overall macroeconomic variables of these countries, especially the money supply as a representative For monetary policy, and the degrees of its influence on economic activity, represented by the gross domestic product, according to the country's economic and political conditions and the factors affecting them in determining its trends, and with the increasing role of the state, monetary policies occupied an important place among other policies because of their great importance in guiding the economies of these countries.

As far as the Iraqi economy is concerned, and in light of its adoption of this policy by moving towards adopting the money supply channel for its impact on the growth of GDP, Iraq has witnessed a fluctuation in that growth between the rise at times and the decrease at other times during the period of research (2004-2018) due to the fluctuation in The size and growth of the money supply

Research importance:

The importance of the research stems from the fact that the topic has great importance in the extent of the response of economic growth represented by the growth of GDP to changes in the money supply, in the context of the development and trends of monetary policy, especially after the year 2003, as the money supply variable has a side of that effect, until it became clear theoretical and analytical To reflect the strength of its impact on GDP growth in Iraq during the research period (2004-2018).

Research problem:

Despite the important role of money supply on affecting the gross domestic product and driving its growth according to the economic conditions of the countries that pursue it, and accordingly, the research problem adopts the answer to the question that includes how the money supply might affect the growth of the gross domestic product in Iraq during the research period (2003-2018), with an indication of the strengths and weaknesses of that effect.

Research aim:

The research seeks to achieve a set of goals, the most important of which are the following:

1. Clarify the important role of money supply in achieving a certain level of economic growth
2. Researching the relationship between money supply and GDP growth according to economic theories during the period (2004-2018).

Research hypothesis:

Based on the nature of the research problem and to achieve the goals it seeks, his hypothesis was formulated as follows:

There is a positive effect of the money supply channel on GDP growth in Iraq during the research period (2004-2018), but it is fluctuating

Research Methodology:

In order to achieve the objectives of the research, and due to its nature, the descriptive inductive method based on extrapolating the results and analyzing them descriptively will be carried out through the following Sections:

section One: The concept of money supply and its relationship to GDP in theory.

Section Two: Trends of money supply evolution in Iraq for the period (2004-2018).

Section Three: Analysis of the relationship between money supply and gross domestic product in Iraq.

Section One

The concept of money supply and its relationship to GDP in theory

The wide debate among economists revolves around giving a specific definition of the money supply and how it is calculated during a certain period of time, and the disagreement has focused on a basic point represented by what are the elements that make up the money supply, as it is defined as money of direct purchasing power, i.e. the ability to switch directly to all goods and services for exchange. In other words, it is the ability to forgive debts⁽ⁱ⁾, and this debate continued and then the method of calculating it during a certain period of time, and it is no secret that this disagreement has evolved to a very complex degree that one cannot perceive the truth related to it⁽ⁱⁱ⁾, and the presentation of criticism is an important tool that you use. The monetary authority is represented by the central bank in various theoretical fields to influence various economic variables, and In this context a distinction is made between the following concepts or components:

First: The monetary base (M0) Monetary Base

It is a measure of the amount of coins (coins and paper) in circulation in the economy and in the form of the reserves of commercial banks in the central bank, which is the easiest in terms of obtaining it⁽ⁱⁱⁱ⁾, in other words that the monetary base is the sum of the currency in circulation in addition to the bank deposits with the central bank, These deposits are cash reserves of banks with the Central Bank, some of which are imposed on them by rule of law, and the other depends on the behavior of commercial banks in terms of their desire to add cash reserves that exceed the amount required to be kept legally^(iv), thus it is the sum of the currency in the hands of the public or outside the banking system, And that this measure constitutes a large percentage of the money supply in developing countries^(v), and the unit of measurement for the values of the monetary system, and that the basic amount of money is determined on its basis in the composition of the money supply^(vi), and is represented by the following equation:

$$MB=C+R$$

Where C stands for money circulating outside the banking system, while R stands for total bank reserves.^(vii)

Second: The narrow concept of money supply (M1)

It represents the total amount of money used as an intermediary for exchange and issued by financial institutions that have the ability to issue legal money, and the central bank is the one that handles the process of issuing legal money and the commercial banks are the ones that create deposits, meaning that M1 includes both current deposits of the private sector and net currency in Trading, and this definition of money supply is used in the financial statistics prepared by the International Monetary Fund and taken by central banks in various countries (), and its equation can be formulated as follows:^(viii)

$$M1 = DD + CR$$

As: M1: represents money supply in the narrow sense, and DD: represents demand deposits.

The components of this concept (M1) enjoy full liquidity, being the sum of the cash balances that are in the possession of non-bank economic units that trade outside the banking system^(ix).

Third: Presenting criticism in the broad sense The concept of (M2).

It is also defined as (the group of monetary units circulating in the economy during a certain period of time)^(x), or that it is (the amount of means of payment in the community, and it is represented by the total money of its different types located in the community in a certain period of time)^(xi), and accordingly that the money supply It is a balance and not a flow. The balance is a specific quantity that is measured at a specific moment in time, while the flow is a specific amount that can be measured during a period of time represented by national income, national spending and national investment^(xii). Economists have developed with the passage of time a basic theory of money supply that can be expanded to accommodate definitions More complex, it is determined by the state, whether it is of an expansionary or contractionary pattern, and changes in it lead to important changes in other economic variables such as prices, output, exchange rates and interest rates, and the central bank is the authority that controls the money supply, whether through the issuance of legal money or Through the money multiplier^(xiii),

It is usually known by the term domestic or internal liquidity, and it is denoted by the symbol (M2) in international monetary statistics, and it is a relatively broader concept than the first concept, and in its determination of the total cash supply it deals with the total means of payment M1 in addition to the time deposits (time) and private savings deposits with commercial banks^(xiv). And since the narrow concept of money supply does not accurately reflect the available cash quantities within the economy, the broad concept creates a suitable framework for the total volume of money, and their argument in that is that the development of the financial structure of advanced industrial economies has provided a variety of assets that can be converted into means of payment Easily and in a short time^(xv), and as in the following equation:

$$M2 = M1 + TD$$

As: M2 is the money supply in the broad sense, and TD is either time deposits or time deposits.

This concept has been of particular importance to many economists and is the best measure of economic activity^(xvi).

Second: The theoretical rooting of the relationship between money supply and gross domestic product

There is an existing controversy among economists about the issue of considering money supply as a sensitive tool in any economy, as it determines the performance of any economic activity, as well as describing it as a tool of monetary policy that stimulates economic growth through its effect on investment and then output, and most economists believe that the changes In the amount of money in circulation, it is a source of changes in various economic variables, meaning that the changes that occur in the size of the money supply have a close relationship with inflation, economic growth and unemployment, as well as foreign trade as well as other variables, for example, making inflation within acceptable limits has positive repercussions on economic growth Therefore, any effect that occurs as a result of a change in the money supply will affect either directly or indirectly the gross domestic product^(xvii) and then the economic growth. The monetary authority's adoption of an expansionary monetary policy, it will increase the money supply, and this increase in the money supply It will lead to an increase in the general level of prices, and also push towards a decrease in the interest rate, and that this decrease in turn leads to an expansion of the volume of investments as a result of the nature of the inverse relationship between investment Marat and interest rate^(xviii).

In any case, achieving economic growth is a goal pursued by all governments in developed and developing countries and the end alike, and it is often through changes that occur in the money supply^(xix), and through money supply the nature of the relationship between money supply and output^(xx) is determined. Money supply for the rate of economic growth means that there is a large amount of money equivalent to the same amount of goods and services, and the consequence from the point of view of the monetary school is an increase in inflation rates. Cash will be reflected positively on economic growth^(xxi), and thus the money supply has an important effect on the GDP and is linked with it in a positive relationship, so when the central bank adopts an expansionary monetary policy, it will increase the money supply that leads to a lower interest rate, and this decrease will in turn work on Expanding investments that result in increasing income, and then increasing the total demand for some of its components (consumption, investment, imports and government spending), and thus increasing the size of the gross domestic product, either In the case of a contractionary monetary policy, the opposite will happen^(xxii), and it is concluded that the money supply has an important effect on the gross domestic product and they have a positive relationship^(xxiii), and therefore controlling the growth of the money supply is an important tool for monetary policy, and one of the objectives of the monetary policy is to increase the gross domestic product And then the increase in economic growth and the stability of the general level of prices^(xxiv).

The Section Two

Trends in the development of money supply in Iraq for the period (2004-2018)

The money supply is one of the most important monetary variables that reflect the picture of the economic situation at a certain point in time. Changes in it push to important changes in other economic variables such as (output, prices, exchange rates, and interest rates). (M2) increased from (11498.1) billion dinars in 2004 to reach (95390.7) in 2018, with an average growth rate for the period (2004-2018) reaching about (17.2%), and after the annual growth was about (27.5%) in 2005, it increased It reached (43.6%) in 2006, then it started to fluctuate between rising once and down again, reaching a negative growth rate of about (-6.67%) in 2015, and that this fluctuation in the money supply was not limited to (M2), but extended to include supply Criticism in the narrow sense (M1), and the reason for this is due to the following:

Table (1)

The trend of the development of money supply in Iraq for the period (2004-2018)
billion dinars

The year	Net currency in circulation	Current deposits	Money supply M1	The growth Annual%	Contribution Net currency	Contribution of current deposits	Quasi money	Money supply M2	The growth Annual%	Contribution M1/M ²
2004	7162.9	2985.7	10149		70.6	29.4	1349.5	11498		88.3
2005	9112.8	2286.3	11399	12.32	79.9	20.1	3260.2	14659	27.5	77.8
2006	10968	4491.9	15460	35.62	70.9	29.1	5590.2	21050	43.6	73.4
2007	14232	7489.5	21721	40.5	65.5	34.5	5198.9	26920	27.9	80.7
2008	18493	9697.4	28190	29.78	65.6	34.4	6671.9	34862	29.5	80.9
2009	21776	15524.3	37300	32.32	58.4	41.6	8055.3	45355	30.1	82.2
2010	24342	27401.3	51744	38.72	47.1	52.9	8545.7	60289	32.9	85.8
2011	28287	34186.6	62474	20.74	45.3	54.7	9593.4	72067	19.5	86.7
2012	30594	33142.2	63736	2.02	48	52	11600	75336	4.5	84.6
2013	34996	38835.5	73831	15.84	47.4	52.6	13696	87527	16.2	84.4
2014	36072	36620.9	72693	-1.54	49.6	50.4	17875	90567	3.5	80.3
2015	34855	34757.9	69613	-4.24	50.1	49.9	14914	84527	-6.7	82.4
2016	42075	33448.7	75524	8.49	55.7	44.3	14942	90466	7.1	83.5
2017	40343	36643.3	76987	1.94	52.4	47.6	15871	92857	2.6	82.9
2018	40498	37330.9	77829	1.09	52.1	47.9	17562	95391	2.73	81.6
Average		2985.7		16.7	57.2	42.8			17.2	82.4

Source: Central Bank of Iraq, General Directorate of Statistics and Research, annual statistical bulletins, for separate years

1. The absolute increases in money supply (M2) during the years (2004-2014) came as a result of the increase in its components, whether from (M1, represented by the net currency in circulation or current deposits, with a growth ranging between (-4.24%) in 2015 and (40.5%) in 2007, it averaged about (16.7%) for the whole period, with the increase in quasi money from (1349.5) billion dinars in 2004 to (17874.5) billion dinars in 2014^(xxv)
2. As for the relative slowdown in 2011 in the broad money supply and a growth of about (19.54%) after there was a clear increase in the previous two years (2010, 2009) with annual growth rates of 30% (32%) for each,

respectively. This exceeds the overall growth of GDP at its current prices without oil, but it mainly reinforces the increases in the components of the money supply (M1) and quasi-money, while the fluctuations in the growth of the broad money supply (M2) during the years (2012-2014) are due to trends Central bank policy, for flexible interaction towards achieving control over money supply in light of the pursuit of national economic stability^(xxvi)

3. As for the increase in the annual growth of money supply (M2) in 2017 to (2.64%), it was due to the increase in money supply (M1) in addition to the increase in quasi money for the same years, and this is due to the financial and economic stability and the increase in oil prices for 2017.

To assess the effectiveness of monetary policy, it must be noted that monetary policy since 2006 has sought to focus on stabilizing the general level of prices, by using the interest rate and the exchange rate, as the monetary policy has succeeded in reducing the inflation rate from 34% in 2016 to about 12.7% 2008^(xxvii)

The Section Tree

Analysis of the relationship between money supply and gross domestic product in Iraq

Economic theory indicates that there is a relationship between these two variables (gross domestic product and money supply), as any change in the money supply (by following an expansionary policy), this leads to a decrease in the interest rate, and with the prevalence of optimism among businessmen, the increase In investments, it will be a result of a decrease in the interest rate in light of the inverse relationship between investment and the rate of interest, which generates a doubling increase in income, which in turn increases aggregate demand, which in turn will constitute an incentive to increase the gross domestic product. By reducing the money supply, the rise in interest rates will generate a decrease in investment and income with a decrease in aggregate demand, which will generate a decrease in gross domestic product, and as shown in Table (2) following that there is a positive relationship between money supply and GDP during the period (2004-2018)

Table (2)
Presentation of cash and GDP at current prices in Iraq for the period (2004-2018)
billion dinars

The year	G DP At current prices	The growth %Annual	(M2) Money supply	The growth %Annual
2004	53235.4		11498.1	
2005	73253.4	37.6	14659.3	27.49
2006	95588.5	30.49	21050.2	43.6
2007	111456	16.6	26920.1	27.88
2008	157026	40.89	34861.8	29.5
2009	130643	-16.8	45355.3	30.1
2010	162065	24.05	60289.2	32.93
2011	217327	34.1	72067.4	19.54
2012	254226	16.98	75336.1	4.54
2013	273588	7.62	87526.6	16.18
2014	266420	-2.62	90567	3.47
2015	199716	-25.04	84527.3	-6.67
2016	203870	2.08	90466.3	7.03
2017	225722	10.72	92857.1	2.64
2018	254870	12.91	95390.7	2.73
Average		13.54		17.2

Source:

1. The Central Bank of Iraq, the General Directorate of Statistics and Research, annual statistical bulletins, for various years

2. The Ministry of Planning and Development Cooperation, the Central Agency for Statistics and Information Technology, the National Accounts Directorate, GDP reports for various years.

As it is clear from Table (2) itself that the money supply increased from (11498.1) billion dinars in 2004 to (95390.7) billion dinars in 2018, and the average growth rate for the mentioned period amounted to about (17.2%), the gross domestic product at prices The current one had also increased from (53,235.4) billion dinars in 2004 to (254870) billion dinars in 2018, with an average growth rate for the whole period amounting to about (13.54%), and this period had clear fluctuations between the rise at times and the decrease at other times for many reasons for my years To clarify it later.

In any case, the nature of the relationship between the money supply (M2) and economic growth represented by the gross domestic product, is also evident due to the fact that the increase in the money supply at a growth rate of about (29.5%) in 2008 led to an increase in the gross domestic product at current total prices at a negative growth rate. It reached about (16.4%) in 2009, and this is due to the decline in oil prices due to the repercussions of the global crisis, while the increase in the money supply was matched by a growth rate of (30.1%) compared to its growth rate in 2008 of about (29.5%) given To increase the banking awareness of individuals, and it was matched by a decrease in the rate of growth of output in the same year (3.38%) compared to its growth rate in 2008, due to the global crisis in 2008, whose effects were negatively reflected in oil prices, and the positive relationship between money supply in the year 2010, due to the rise in oil prices and the monetary authority's continuing expansionary policy by increasing the money supply that reduces the interest rate, which in turn allowed an increase in the volume of investment and then an increase in the gross domestic product.

While the relationship between them was reversed in the years (2011-2012), as the money supply recorded low growth rates amounting to about (4.54, 19.54%) respectively for each of them due to the delay in approving the budget, while the output had recorded high growth rates for the same years reached (13.94%, 7.55%, respectively, for each of them, due to the continuing rise in global oil prices, but in 2013 the reverse relationship continued, as the rate of growth of the money supply increased, reaching about (16.18%) due to the increase in net foreign assets, offset by a decrease in the rate of growth of output for the year The same amounted to about (7.62%) due to the decline in oil prices, after that the relationship between money supply and gross domestic product returned to a direct proportion in the years (2014-2017) except for the year 2015, in which the relationship was reversed to an inverse proportion, due to the low growth rate The money supply reached (-6.67) due to the sharp decline in oil prices in global markets, net foreign assets, and what the country was exposed to in terms of ISIS terrorist organization operations and their negative repercussions on the economy in general, offset by an increase in the rate of output growth, which reached about (3.8%) in the same year after it was By (0.2%) in 2014 due to the decrease in the inflation rate. The money supply was growing at varying rates until it reached about (2.73%) in 2018, and its impact was clearly visible in increasing output at current prices, and the reason for this discrepancy is due to the monetary policy's attempt to control the growth of the money supply in order to positively affect growth Economic, and justified the cheap monetary policy that was followed during the period (2004-2018) under the basic pretext of providing the financial resources that are necessary for the growth process, and thus achieving the requirements of development, especially after the scarcity of external financial resources due to international sanctions that stopped oil exports and froze the Iraqi cash assets. It was found that despite the adoption of economic policies, economic growth as a basic goal, especially the use of monetary policy as a financial lever to achieve it, this goal was not achieved, as revealed by the realistic results, except in limited exceptions related to the formation of social capital through the reconstruction of the infrastructure and vital projects destroyed by the war, As the gross domestic product did not record acceptable growth rates, it is able to meet the negative supply shock that the economy was exposed to at the time, by compensating for imports of tuberculosis. In the years following the signing of the Memorandum of Understanding, the growth was mostly due to the resumption of oil production and export, which confirms the great dependence of the domestic product on the contribution of oil. Through the foregoing, the researcher concludes that there is a clear direct relationship between changes in money supply and growth on the one hand, and changes in gross domestic product and its growth on the other hand, throughout the aforementioned period to coincide with the articulation of economic theory, with the exception of some years for the reasons that have been mentioned previously.

Conclusion

First: the conclusions

1. It was found from the theoretical side that there is a direct relationship between money supply and gross domestic product, and that money supply has an important effect on GDP, meaning that the money supply within the economy is the amount of money prepared for spending, so controlling the growth of the money supply is an important tool for monetary policy And one of the objectives of the monetary policy is to increase the real GDP, and then increase economic growth and stabilize the general level of prices.

2. It was found through the trends of money supply that it recorded an average growth rate of about (17.2%) for the period (2004-2018), and at rates that fluctuate between high and low at other times, and this fluctuation in the money supply was not limited to (M2) but rather extended To include the presentation of cash in the narrow sense (M1).
3. The absolute increases in money supply (M2) during the years (2004-2014) came as a result of the increase in its components, whether from (M1) represented by the net currency in circulation or current deposits
4. The fluctuations in the growth of the wide money supply (M2) during the years (2012-2014) are due to the policy orientations of the Central Bank, due to the flexible interaction towards achieving control over the money supply in a manner that facilitates obtaining high economic growth in light of the pursuit of the stability of the national economy.
5. The increase in annual growth in money supply (M2) in 2017 is due to the increase in quasi money due to financial and economic stability and the increase in oil prices in the same year.
6. The effectiveness of monetary policy generally refers to focusing on the stability of the general level of prices, through the use of interest rates and exchange rates, and their success in reducing the rate of inflation.
7. It was found from the analysis that the money supply has a major role in affecting the gross domestic product. When the money supply increases at a certain growth rate, the output at current prices increases at a certain growth rate and vice versa when the money supply growth decreases during the period (2004-2018) to correspond with The operative of economic theory, with the exception of some years, for the reasons that were mentioned previously.

Second: Recommendations

1. The need to formulate a balanced monetary policy that would coordinate with the financial policy in order to achieve the goals of the economic policy.
2. The need to increase the effectiveness of monetary policy and to enable the Central Bank of Iraq to influence more changes in the money supply, and this is being done by reducing the circulating currency and increasing current deposits.
3. The Iraqi economy suffers from structural imbalances in the economic infrastructure. Therefore, macroeconomic policy efforts must be combined alongside monetary policy in order to introduce sectoral economic reforms in the agriculture, industry, services, manufacturing and extractive industries and other sectors.
4. The necessity to search for appropriate means to control the money supply factors in a way that serves the stability process in the money supply.
5. The changes in the factors affecting the money supply play a role, whether negative or positive, which is reflected in the monetary capacity of the country, and thus it is necessary to give priority to monetary policy through the central bank to control the size of the money supply.

Sources:

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- ⁱ. Nermin Maarouf Ghafour, The effects of money supply and the speed of its circulation on inflation rates in Iraq during the period (1991-2013), *Dinanir magazine*, Issue 7, p.
 - ⁱⁱ. Dr.. Awad Fadel Ismail Al-Dulaimi *Money and Banks*, (Mosul: Dar Al-Hikma Printing and Publishing 1990), p.105.
 - ⁱⁱⁱ. Hussein Ashour Jaber Al-Attabi, Ali Hussein Nuri Al-Lami, *Planning and Analysis of the Relationship Between Inflation and Monetary Presentation, An Empirical Study on Iraq for the Period 2010-2013*, University of Baghdad, *Journal of Management and Economics*, Volume IV, Issue 16, p. 271.
 - ^{iv}. Dr.. Abdul-Hussain Jalil Al-Ghalibi, Kazem Saad Al-Araji, *Fundamentals of Money and Banking*, Edition 1,2015, pg. 47.

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- ^v. Ali Hussain Nouri Al-Lami, Legal Reserve and its Impact on Narrow Monetary Presentation, Journal of the Central Bank of Iraq, Baghdad College of Economic Sciences, Issue 21, 2017, p. 454.
- ^{vi}. Ahmad Husayn Ali al-Hiti, Economics of Money and Banking, Ibn al-Atheer House for Printing and Publishing, Mosul, 2005, p. 84.
- ^{vii}. Dr.. Saeed Hussein Clinic, The Impact of Liberating Interest Rates on the Monetary Policy of the Central Bank of Iraq, Journal of Administration and Economics 2015, Al-Mustansiriya University, Al-Mustansiriya University, Issue (104), p.62.
- ^{viii}. Dr. Yunus Ali Ahmed, Measuring the relationship between determinants of money supply and economic growth in Iraq for the period (1990-2018), Sulaymaniyah University, Volume 2, Issue 6, 2019, p. 206.
- ^{ix}. William J. Baumol and Alan S. Blinder. Economics. principles and policy, the Dryden press. Harcourt Brace college publisher, New York. 7th Ed. 1998. p. 678.
- ^x. Ahmed Shehab, and Wafah Shihab Al-Hamdani, Measuring the Impact of Change in Money Supply on GDP for the Period (2005-2015), Al-Mansour Journal, Al-Nahrain University, Issue 30-2018, p. 2.
- ^{xi}. Hussam Dawood, and others, Principles of Macroeconomics, Edition 1, (Dar Al-Masirah for Publishing and Distribution, 2000), p. 276.
- ^{xii}. Dr.. Widad Yunus Yahya, Monetary Theory (Theories, Institutions, and Policies), 2001, p. 38.
- ^{xiii}. Adnan Muhammad Hassan Al-Shaddud, The Effectiveness of Monetary Policy and its Role in Economic Stability in Iraq for the Years (1991-2006), (Unpublished PhD thesis), College of Administration and Economics, Basra University, 2009, p. 42.
- ^{xiv}. Fadel Awad Ismail Al-Dulaimi, Money and Banks, Dar Al-Hikma Printing and Publishing, Mosul, 1990.
- ^{xv}. Dr.. Abdul-Hussein Jalil Al-Ghalibi, Kazem Saad Al-Araji, previous source, pp. 49-48.
- ^{xvi}. Paul A. Samuelson and William D. Nordhaus. Economics, McGraw-Hill. New York. Twelfth ed. 1985. p. 270.
- ^{xvii}. Bakare, A. S. An empirical study of the determinants of money supply growth and its effects on inflation rate in Nigeria. Journal of Research in International Business and Management, 2011, 1.5: p. 124-129.
- ^{xviii}. Dr.. Abdel-Moneim Al-Sayed Ali, Dr. Nizar Saad Al-Yen Issa, Money, Banks and Financial Markets, 1st Edition, Al-Hamid Publishing and Distribution House, Amman, 2004, p. 99
- ^{xix}. Dr.. Yunus Ali Ahmad, Measuring the relationship between determinants of money supply and economic growth in Iraq for the period (1990-2018), Sulaymaniyah University, Volume 2, Issue 6, 2019, p. 209.
- ^{xx}. Ahmad Saleh Hassan, Thaeer Saadoun Muhammad, Change of money supply and its impact on inflation and output in Iraq for the period, Journal of Al-Maamoun College, Diyala University, Issue 34, 2019, p. 124.
- ^{xxi}. Saadoun Hussein Farhan, Monetary stability and its impact on economic growth in a number of developing countries for the period (1990-2010), Kirkuk University Journal of Administrative and Economic Sciences, Volume 4, Issue 2, 2014, pp. 283-275.
- ^{xxii}. Dr. Abdel Moneim Al-Sayed Ali, Nizar Saad Al-Yen Issa, a previous source, pp. 283-275
- ^{xxiii}. Dr.. Abd al-Hussein Jalil al-Ghalibi, Sawsan Karim al-Jubouri, The effect of money supply measures on some macroeconomic variables in a sample of developed countries, Al-Ghary Journal of Economic and Administrative Sciences, p.

^{xxiv}.Saadoun Hussein Farhan, previous source, pp. 147-146.

^{xxv}. Republic of Iraq, Central Bank of Iraq, General Directorate of Statistics and Research, Annual Economic Report for the year 2005, p. 6.

^{xxvi}.Republic of Iraq, Central Bank of Iraq, General Directorate of Statistics and Research, Annual Economic Report for the year 2010, p. 17.

^{xxvii}. Mujib Hassan Muhammad, The Role of Monetary Policy in Sustainable Economic Growth in Iraq during the Period 1990-2014, The Second Scientific Conference of Cihan University, Department of Banking and Financial Sciences, Cihan University, p. 78.