# Measuring the impact of monetary policy on some macroeconomic variables in Iraq

# For the period  (2004-2020)

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**Abstract: -**

  The monetary policy is one of the economic policies that have a great role in influencing on some macroeconomic variables in Iraq which represented by (gross domestic product, inflation, unemployment) through the use of many of its tools, whether in the section of the exchange rate, money supply or interest rate, in measurement And the analysis to know the effects that resulted from it.

**Key words: - monetary policy, macro variables, inflation, exchange rate, money supply**

**An introduction:-**

 The monetary policy is one of the basic policies in achieving growth and stability, but it differs in terms of application from one country to another. The developed countries see that the primary goal of monetary policy is to achieve monetary stability and reduce inflation rates, while developing countries see that the goal of monetary policy is to achieve growth economic, monetary stability, reducing unemployment levels, and stable currency exchange markets. Moreover, the monetary policy occupies an important place among other policies; Because it can play the greatest role in achieving the multiple goals sought by the national economy, thanks to its multiple tools, which are among the most

important economic tools in achieving economic growth and eliminating problems that impede economic stability.

**The research problem**

The search problem is set off  from the following question: Is there an effect of monetary policy on some macroeconomic variables in Iraq for the period (2004-2020)?

**The research hypothesis**

The research is set off  from the hypothesis that (there is an effect of monetary policy on some macroeconomic variables in Iraq .

**The goal of the research**

The research aims to highlight the role that monetary policy plays in achieving stability in prices, controlling inflationary trends and contributing to achieving financial stability.

**The research Methodology :**

This research deals with the descriptive and applied standard aspect to demonstrate the impact of monetary policy on some Iraqi macroeconomic variables through the use of modern methods in studying the relationship between economic variables, as well as identifying the characteristics of the time series of these variables, as tests of static (stability) and choice of integration were applied. Co integration, the (VAR) model and (ADF) and Phillips-Perron (PP) tests. Quarterly data (quarterly)

**The research structure :**

In order to achieve the objective of the study, it was divided into two main topics. The first topic dealt with the theoretical and conceptual framework of the study the concept, importance and tools of monetary policy as well as the framework of the relationship between monetary policy and some macroeconomic variables. As for the second topic, it dealt with analyzing the results of measuring monetary policy on some macroeconomic variables in Iraq for the period ( 2004-2020).

**The theoretical side :**

**First requirement - the concept of monetary policy: The monetary policy concept**

The monetary policy is one of the general economic policy tools that the state uses to influence the level of economic activity through its influence on the main variables of this activity, such as investment, prices, production and income.

Some researchers believe that monetary policy includes the rules and procedures that central banks take to achieve their goals ([1]).

In light of this, this policy is defined as all the measures taken by the monetary authority to have an intentional effect on the nature and volume of money to achieve a specific objective of the economic policy ([2]).

Others see it as the use of a set of tools through which the central bank can influence or control the country's money supply or control and manage the volume and terms of credit granted ([3]).

Through the foregoing, it is clear that monetary policy is a reflection of the ability of central banks to use monetary tools and procedures in order to influence the monetary objectives in the money market and then influence the final economic goals of the state.

**The second requirement - the objectives of monetary policy:**

The main objective of the monetary policy of most central banks is to achieve stability in the price level by preserving the value of the local currency internally or externally, and this means in the domestic economy to keep inflation low and stable, either at the external level, this usually means targeting the exchange rate ([4]), The most important general objectives of the monetary policy can be clarified as follows ([5]):

1- The stability of the general level of prices (combating inflation): The general level of prices is one of the most important economic variables with an effective effect on the economic structure, and major changes in the price level result in negative effects on the overall economic life.

2- Achieving full employment (reducing unemployment rates): It is intended to ensure a high level of employment, as the monetary authorities are keen to stabilize economic activity at the highest possible level of employment of natural and human resources.

3- Contributing to achieving balance of payments balance: Monetary policy can contribute to addressing the deficit in the balance of payments through the central bank raising the discount rate, which in turn leads to commercial banks raising interest rates on loans, which leads to a reduction in the volume of credit, thus reducing domestic demand On goods and services, which reduces the intensity of the general price increase in the country, which causes a decrease in the level of internal prices of goods and services, encourages state exports and reduces domestic demand for imported goods [6].

4- Encouraging economic growth (increasing the gross domestic product): monetary policy, through its control over the volume of credit and its cost, contributes to pushing economic growth, which means a continuous and appropriate increase in the real GDP of the country and in the real per capita income [7].

5- Exchange rate stability: The stability of exchange rates is one of the important objectives of monetary policy because of its effects on the balance in the balance of payments and thus its impact on the country's exports and imports, as well as the risks that may befall speculators due to instability in the exchange rate, which prompted decision makers to pay attention to the exchange rate as a goal. For monetary policy.

**The third requirement - monetary policy tools: Monetary policy Tools**

The central bank uses a set of means and procedures to manage the money supply and credit, and through these means the central bank achieves the goals of the monetary policy, and the tools of this policy are divided into two types:

1- Indirect quantitative monetary policy tools: These tools are used to achieve the objectives of monetary policy in an indirect way, relying on market forces and allowing them to play a role in them. The indirect tools are divided into three traditional tools:

A- Open Market Operations:

B- Rediscount rate:

C- Statutory cash reserve ratio: (Chang in the Reserve Requirement)

2- Direct qualitative monetary policy tools:

The central bank may sometimes resort to direct intervention to affect bank credit, and the monetary authority wants to direct credit to certain sectors, determine the quality of the credit granted, or encourage certain types of productive spending and investments. Among the most important direct tools of monetary policy are the following:

A- Direct actions: Direct action

B- Credit rationalization

C- Moral Suasion

D- Advertising

**The second requirement**: the framework of the relationship between monetary policy and some macroeconomic variables

   We will address here the framework of the relationship between monetary policy in terms of its impact on some macroeconomic variables, as follows:

**First** - the impact of monetary policy on inflation: - There are several economic reasons through which inflation can arise, including attracting demand (positive demand shock) or due to cost payment (negative supply shock). The inflation of attracting demand results when demand increases with the stability of aggregate supply and this is a result of The optimism of businessmen, for example, will increase their demand on the factors of production, thus raising their price, as well as that individuals' access to high incomes will increase their demand for consumer goods, and the expansionary economic policy (monetary) also leads to the occurrence of inflation when the economy is in a state of full employment [8].

There are several policies to deal with inflation, including the use of a strict monetary policy aimed at reducing aggregate demand and returning it to its previous level and then lowering the price level. money supply, i.e. lower price level, because the relationship between money supply and prices is a direct and direct relationship (9). And more precisely, the central bank by selling bonds on the open market, banks 'reserves would decrease, the money supply would decrease, the banks' ability to expand credit will be reduced, interest rates would rise, and investment and investment would decrease.It is one of the components of aggregate demand, so aggregate demand falls and prices fall ([10]).

Also, the central bank can influence the interest rates, as the central bank raises the discount rate and interest rates will lead to a decrease in investment. Aggregate demand and then prices ([11]). Raising the discount rate or statutory reserve ratio, or selling bonds in the open market, will reduce the volume of credit granted and thus lower overall demand, meaning monetary policy will be effective in reducing inflation resulting from ( Demand shocks) ([12]).

**Second** - the impact of monetary policy on the gross domestic product: the monetary policy affects what happens as a result of a change in the money supply that will affect the GDP. When the monetary authority adopts an expansionary monetary policy, it will increase the money supply, and this increase in the money supply will lead to an increase The general level of prices also pushes towards a decrease in the interest rate, and this decrease in turn will lead to an expansion in the volume of investments (as a result of the negative relationship between investments and the interest rate), which results in an increase in income, and this increase in income will result in an increase in aggregate demand, and this increase in income will increase Gross domestic product, and conversely, in the case of the monetary authority adopting a contractionary policy, it will reduce the money supply (to address a certain inflationary situation) and this will lead to a decrease in the general level of prices, and a rise in interest rates, which pushes towards reducing investments, which is one of the components of aggregate demand. Causing its decline, and this will lead to a decrease in income, and consequently a

decrease in GDP We conclude from all of the above that money supply has the effect of m They are on the GDP and have a positive relationship with it ([13]).

**Third** - The impact of monetary policy on unemployment: Monetary policy has played a large and important role in influencing unemployment through the work of monetary policy tools and the degree of their effectiveness in economic activity, and accordingly, the final goal is to achieve an increase in output and reduce the unemployment rate, and the central bank uses to achieve this change the supply The monetary authorities to enhance the dynamism of the labor market and this is reflected in the quantitative tools that are represented in the open market, the rate of re-deduction, and the compulsory reserve in addition to the qualitative tools and other applicable tools in the event of economic recession and high unemployment rates. A commodity while keeping the other variables the same, it results in a decrease in the price of the commodity, and likewise for money, increasing the money supply leads to a reduction in the interest rate, as the interest rate is a large part of the investment costs, so lowering the interest rate means reducing the cost of investment. This leads to an increase in investment, which means an increase in production, and thus an increase in the employment rate and a decrease in the unemployment rate. Accordingly, the expansionary monetary policy is represented in increasing the money supply, which leads to an increase in aggregate demand, thus stimulating production and creating new job opportunities, and by imposing the behavior of the central bank expansionary monetary policy by increasing the money supply, in order to get rid of stagnation and address unemployment ([14]) .

As for the exchange rate, it has exercised great importance in the economy in order to achieve economic growth and reduce unemployment, as unemployment is considered at the present time to be one of the biggest problems facing developing countries, and economic conditions in these countries can be improved by stimulating the economy that can affect economic growth in ways Various ([15]). The exchange rate is of great importance and sensitivity, especially if it is determined incorrectly, given that changes in exchange rates can cause changes in the quantity of exports and thus affect the quantity of production, if the increase in the exchange rate (devaluation) increases the price of

imports. Consequently, imports decrease and local products replace them, and this leads to increased job opportunities, the development of industry and the expansion of factories in order to employ more manpower. Also, the decrease in the price of exports as a result of the devaluation of the currency leads to an increase in the competitiveness of the country and thus an increase in the quantity of exports and with the stability of other economic conditions, it leads To increase the amount of local production, the increase in the amount of local production leads to an increase in the demand for the labor force, and therefore we say that the fluctuations in the exchange rate have significant effects on reducing or increasing unemployment ([16]).

Practical side

Analyzing the results of measuring the impact of monetary policy on some macroeconomic variables in Iraq for the period (2004-2020)

First . Characterization and formulation of the standard form

To demonstrate the effect of monetary policy on some Iraqi macroeconomic variables, we use the (VAR) model, which is based on studying the dynamic effects between the model variables, which are as follows:

Gdp: gross domestic product as an indicator of Iraqi economic activity.

Um: unemployment rate

Inf: the rate of inflation

Ms: Presenting criticism in a broad sense.

Ex: The exchange rate of the Iraqi dinar in dollars

R: The monetary policy interest rate

The general model for vector autoregressive (VAR) is as follows:

$$\Delta Y_t = a_0 + \sum_{i=1}^{p-1} \phi i \Delta Y_{t-i} + \Pi Y_{t-1} + BX + U_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots.. (39)$$

As:

 (Yt): vector of endogenous variables (Gdp, MS, inf, Ex, R, um)

(a0): the constant term vector (nx1).

(φ): Matrix of transactions representing short-term variables (nxn).

 (Π): Matrix of transactions for long-run (nxn) variables

(U) The random error vector.

(ρ) The number of time lag periods

Second: Description of the form data.

Statistical data were obtained from separate sources for (Gross Domestic Product (Gdp)), money supply in the broad sense (Ms), the exchange rate (Ex), the interest rate (R), and the inflation rate expressed in the consumer price index (inf), And the unemployment rate (um). The model was estimated in the period (2004-2020) with quarterly data by (65) views, and Table (1) shows the results of describing the variables used in the model under study.

 It can be seen from the table below that the gross domestic product (Gdp) reached its highest value (273587) points during the second quarter of (2013) and its lowest value (53,235 points during the first quarter of the year (2004), with an arithmetic mean (187399). The median (203511,3), and the deviation Standard (66639), and with a probability less than (0.05), reaching (0.036). While the inflation index (inf) had its highest value (148) points during the first quarter of the year (2015) and its lowest value (36.4) points during the first quarter of the year (2004), with an arithmetic mean (110.8), and the median ( 109.2), the standard deviation (28.87), and with a probability less than (0.05) as it reached (0.009). As for the unemployment rate index (um), its highest value was (26.8) points during the first quarter of 2004 and the lowest value. It has (10.6) points during the first quarter of 2014, with an arithmetic mean (13.89), the median (12,58), the standard deviation (3.44) and with zero probability.

The highest value of the money supply variable in a broad sense was (112571) (ms) during the first quarter of (2020) and its lowest value (12245) during the first quarter of 2004, its arithmetic mean (69364.74), the median (78519.25) and its standard deviation (2853) ), And with a probability less than (0.05), it reached (0.039).

As for the exchange rate (Ex), its highest value was (1475) points during the fourth quarter of (2005) and its lowest value (1167) points in the first quarter of the year (2015), and its arithmetic average was (1258.21), and the median was (1221.25), The standard deviation is (94.20), and a probability of less than (0.05) is (0.000).

While the interest rate of monetary policy (R), it reached its highest value (20) points during the third quarter of (2007) and its lowest value (4) points during the fourth quarter of (2016), and its arithmetic average (7.61) and the median (6) And the standard deviation (4.6), with a probability close to zero, reaching (0.0002).

Table (1) Results of the description of monetary and macro variables for the period (2004-2020) (quarterly data)

| Gdp | R | Ex | Ms | Inf | Um | |
|---|---|---|---|---|---|---|
| 187399 | 7.61 | 1258.21 | 69364.74 | 110.84 | 13.89 | Mean |
| 203511.3 | 6 | 1221.25 | 78519.25 | 109.52 | 12.58 | Median |
| 273587 | 20 | 1475 | 112571 | 148 | 26.8 | Maximum |
| 53235 | 4 | 1167 | 12245 | 36.4 | 10.6 | Minimum |
| 66639.46 | 4.6 | 94.2 | 28532.98 | 28.87 | 3.44 | Std. Dev. |
| −0.49 | 1.42 | 1.52 | −0.703 | −0.914 | 1.77 | Skewness |
| 1.95 | 3.7 | 3.8 | 2.36 | 3.34 | 6.01 | Kurtosis |
| 5.61 | 23.18 | 1.26 | 6.45 | 9.37 | 58.66 | Jarque−Bera |
| 0.036 | 0.000 | 0.0035 | 0.0039 | 0.0042 | 0.000 | Probability |
| 12180 | 495.2 | 41188 | 4508 | 7204.9 | 903.0 | Sum |
| 2.84 | 135 | 4.76 | 5.21 | 53376.5 | 758.95 | Sum Sq. Dev. |
| 65 | 65 | 65 | 65 | 65 | 65 | Observations |

Source: Eviews 10 statistical results

**Third: Unit root tests:**

Before estimating, the time series was tested with respect to the existence of the unit root in the variables of the basic model and equation. By applying the tests of both

developed Dickie Fuller - Extended - (ADF), and Phillips - Perron (P-P), at level and at Differences1 and under hypotheses without a categorical, interrupted, interrupted, and temporal direction.

Table (2) and (3) illustrate the statistical results extracted through the application of the (ADF) and (PP) test, the critical value and at a significant level (1%), (5%), (10%), and the dormancy of the variables was at the first difference. Interrupt and time trend.

Table (2)
ADF test results for unit root for monetary and output variables for the period (2004-2020) (quarterly)

| Variable | Level | | 1$^{st}$ Difference | | Critical value | | |
|---|---|---|---|---|---|---|---|
| | ADF test | Prob. | ADF test | Prob. | 1% | 5% | 10% |
| Gpd | −2.2522 | 0.4519 | −3.6260** | 0.0368 | −4.1372 | − 3.4952 | − 3.1766 |
| M2 | −2.6273 | 0.2707 | −6.8423* | 0.000 | −4.1705 | −3.5107 | − 3.1855 |
| Ex | −2.3344 | 0.4083 | −4.5110* | 0.0038 | −4.1567 | −3.5043 | − 3.1818 |
| R | −2.6249 | 0.2714 | −4.7779* | 0.0016 | −4.1408 | −3.4969 | − 3.1775 |
| Inf | −2.9566 | 0.1538 | −4.1215** | 0.0115 | −4.1756 | −3.5130 | − 3.1868 |
| Um | −0.8871 | 0.7856 | −3.499** | 0.041 | −4.1213 | −3.4878 | − 3.1723 |

Source: E-views results 10.
*: 1% significance level.
**: significance level 5%.
***: morale level 10%.

The results obtained from the ADF test showed that the time series of the variables (Gdp, Ms, Ex, inf, R, um) were not static at their original levels, as all the estimated values were smaller (or the absolute value is greater) than the tabular values, which means

acceptance H0 null hypothesis, which says that the variables are not static in their levels, that is, they contain the unit root.

Therefore, the test was performed by taking the first difference and using all the first hypotheses, and it becomes clear to us that the estimated value of the variable (Gdp) of (-3.6260) is smaller than the tabular value of (-3.4952) at a significant level (5%) and with a probability of less than (0.05) reached (0.036).

The estimated value of the variable (Ms) of (-6.8423) is smaller than the tabular value (-4.1705) at a significant level (1%), with zero probability.

While the estimated value of the variable (EX), which is (-4.5110), is smaller than the tabular value (-4.1567) and at a significant level (1%) with a probability approaching zero.

The estimated value of the variable (R) (-4.7779) was smaller than the tabular value (-4.1408) and at a significant level (1%) with a probability approaching zero.

As for the estimated value of the variable (inf) which is (-4.1215), it is smaller than the tabular value of (-3.5130) and at a significant level (5%) and with a probability less than (0.05) amounting to (0.011).

The estimated value of the variable (um) of (-3.499) was smaller than the tabular value of (-3.487) and at a significant level (5%) with a probability of less than (0.05) amounting to (0.045).

Which means accepting the alternative hypothesis: H1, which says that the variables are still in their first differences.

To support the results of the ADF test, the (P-P) test was adopted in testing the static time series of the model variables, because of its better and accurate statistical dynamic ability, especially in small-sized samples. It is evident from the results of the Phillips-Peron test that the time series of the model variables are not static at the level and with all assumptions, as the calculated values for these series were greater than the tabular values at significant levels (1%, 5%, 10%), which means the possibility of accepting the null hypothesis H0: With the presence of the unit root.

When performing the test (PP) by taking the first difference and using all the first hypotheses, it becomes clear that the estimated value of the variable (Gdp) of (-3.6699)

is smaller than the tabular value of (-3.4952) at the level of significance (5%) and with a probability of less than (0.05) reached (0.033).

The estimated value of the variable (Ms) of (-3.5025) is smaller than the tabular value of (3.495) -) at a significant level (5%), and with a probability of less than (0.05) amounting to (0.049).

While the estimated value of the variable (EX), which amounts to (-3.5079), is smaller than the tabular value (-3.4952) and at a significant level (1%) with a probability of (0.048).

Table (3) Results of (P-P) test for unit root for monetary variables and output for the period (2004-2020) (quarterly)

| Variable | Level | | 1st Difference | | Critical value | | |
|---|---|---|---|---|---|---|---|
| | P–P test | Prob. | P–P test | Prob. | 1% | 5% | 10% |
| Gpd | −1.7445 | 0.7177 | −3.6699** | 0.0331 | −4.1372 | −3.4952 | −3.1766 |
| M2 | −0.5426 | 0.9784 | −3.5025** | 0.0492 | −4.1372 | −3.4952 | −3.1766 |
| Ex | −1.3214 | 0.8721 | −3.5079** | 0.0486 | −4.1372 | −3.4952 | −3.166 |
| R | −2.0335 | 0.5703 | −8.4090* | 0.000 | −4.1408 | −3.4969 | −3.1775 |
| Inf | −1.3939 | 0.8 519 | −8.4084* | 0.000 | −4.1408 | −3.4969 | −3.1775 |
| Um | −1.8415 | 0.6728 | −3.5270** | 0.045 | −4.1104 | −3.4827 | −3.1693 |

Source: E-views results 10.

*: 1% significance level.

**: significance level 5%.

***: morale level 10%.

The estimated value of the variable (R) (-8.4090) was smaller than the tabular value (-1.4408) and at a significant level (1%) with zero probability.

As for the estimated value of the variable (inf) of (-4.4084), it is smaller than the tabular value of (-1.4408) and at the level of significance (1%) and with zero probability.

The estimated value of the (um) variable, which is (-3.5270), is smaller than the tabular value of (-3.4827) at the level of significance (0.05) with a probability of (0.045). This means accepting the alternative hypothesis: H1, which says that the variables are still silent, have their first difference, that is, they are integrated of the first degree (I ~ 1). Figure (12) shows the stability of the model variables with the first difference.

Figure (1) Stability of monetary and macro variables in the Iraqi economy for the period (2004-2020)
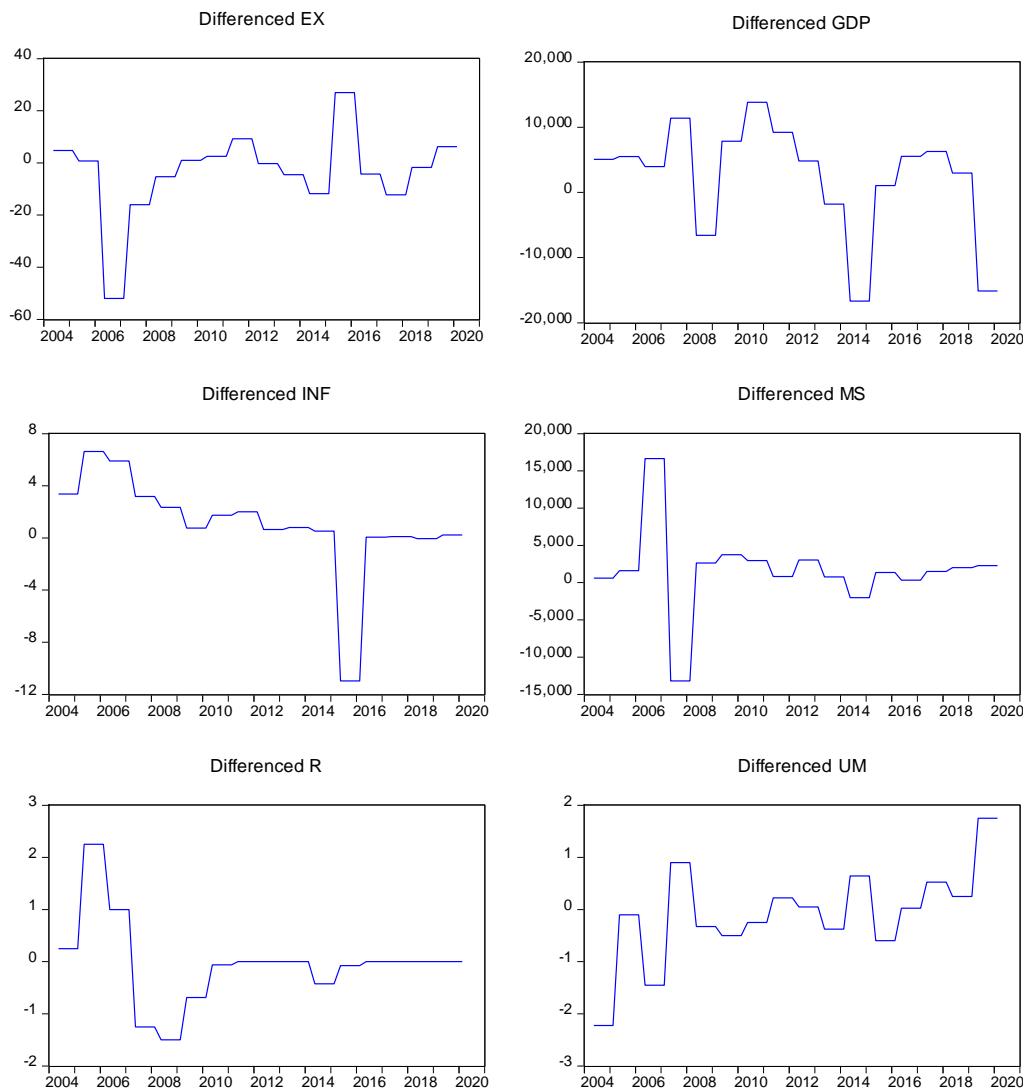


Source: Eviews.10 statistical results

Fourthly. Co integration

Whereas the time series of the model variables are integrated of the first degree (I ~ 1), that is, they are integrated to the same degree, and this indicates the possibility of a joint complementarity between non-oil GDP on the one hand, money supply in the broad

sense, the exchange rate, the consumer price index and the interest rate, both on Sharpness on the other hand. The existence of a joint complementarity relationship, in turn, reflects the existence of a long-term equilibrium relationship between these variables. The Johansen and Juselius method for estimating the integration vector depends on two types of tests: Trace and Maximum Eigen value. Table (14) shows the computed value of the impact test and Table (15) the computed value of the maximum value test. One of the results included in the two mentioned tables is the presence of at least three vectors of cointegration.

The results of the effect test showed that the calculated value of the maximum probability rate of the first cointegration vector (89.53) is greater than the critical (tabular) value (69.81) at a significant level (5%) with zero probability. And the calculated value of the test of the maximum value of the vector (38.60) was greater than the critical value (33.87) at the same level of significance, with a probability (0.004). This means accepting the alternative hypothesis (r = 1) that there are a number of covariant vectors, and rejecting the null hypothesis (0r ≤). The calculated value of the effect test for the second integration vector (57.92) was greater than the critical value (47.83) at the level of significance (5%) and with a probability (0.004), and the maximum calculated value for the vector (30.15) was greater than the critical value (27.58) with the same level of significance and with a lower probability. From (0.05) it reached (0.041). Which means before the alternative hypothesis.

 As for the third cointegration vector, the calculated effect value (35.17) was greater than the tabular value of (29.79) at the level of significance (5%) and with a probability (0.010). In other words, accepting the alternative hypothesis and rejecting the null hypothesis.

Table (4)
Results of the trace test) for the joint integration of monetary and macro variables
in Iraq for the period (2004-2020)

| | | Unrestricted Cointegration Rank Test (Trace) | | | |
|---|---|---|---|---|---|
| Prob.** | 0.05 Critical Value | Trace Statistic | | Eigenvalue | Hypothesized No. of CE(s) |

| Prob.** | 0.05 Critical Value | Trace Statistic | Eigenvalue | Hypothesized No. of CE(s) |
|---|---|---|---|---|
| 0.0000 | 95.75366 | 141.7800 | 0.569456 | None * |
| 0.0006 | 69.81889 | 89.53223 | 0.399361 | At most 1 * |
| 0.0043 | 47.85613 | 57.92702 | 0.307223 | At most 2 * |
| 0.0109 | 29.79707 | 35.17007 | 0.291086 | At most 3 * |
| 0.0874 | 15.49471 | 13.84072 | 0.184449 | At most 4 |
| 0.2734 | 3.841466 | 1.199480 | 0.019161 | At most 5 |

Trace test indicates 4 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Source: Results of the statistical program

Table (5) Examining the maximum value of monetary and macro variables in Iraq for the period (2004-2020)

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

| Prob.** | 0.05 Critical Value | Max-Eigen Statistic | Eigenvalue | Hypothesized No. of CE(s) |
|---|---|---|---|---|
| 0.0014 | 40.07757 | 52.24774 | 0.569456 | None * |
| 0.0041 | 33.87687 | 38.60521 | 0.399361 | At most 1* |
| 0.0041 | 27.58434 | 30.75696 | 0.307223 | At most 2* |
| 0.0049 | 21.13162 | 29.32935 | 0.291086 | At most 3 * |
| 0.0888 | 14.26460 | 12.64124 | 0.184449 | At most 4 |
| 0.2734 | 3.841466 | 1.199480 | 0.019161 | At most 5 |

Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Source: Eviews.10 statistical results

## The Conclusions and recommendations

## The Conclusions

1- The new direction of monetary policy after 2004 is to achieve price stability through the exchange rate signal and through currency auctions conducted by the Central Bank, which is to give enough space to target the gross domestic product, but it did not achieve tangible success as a result of the phenomenon of the continuous decline in GDP growth The real total is from outside the oil sector, in proportion to the low government investment spending, and the weak contribution of the private sector.

2- The stability results of the monetary and macro variables model showed that all the variables are not stable in the level and when the first difference was taken for them, they were stable based on the ADF and P-P test.

3- The results of the joint integration of the monetary and macro variables model showed the existence of a long-term equilibrium relationship between the monetary variables

and some macro variables, and the existence of at least three vectors for the joint integration.

**The Recommendations:**

1- The central bank must take into account the reliance in formulating its monetary policy on setting a target for GDP growth at current prices (including real growth plus the amount of inflation) at a certain rate.

2- That monetary policy can, in the short term, achieve its goals by controlling the money supply without incurring financial costs, and thus financial and banking reform must be accelerated.

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