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ESTIMATING AND ANALYZING THE IMPACT OF SOME MONETARY POLICY VARIABLES ON THE TRADE BALANCE IN IRAQ FOR THE PERIOD 2005-2021

Research assistant professor
Ramadan Ali Hussein Al-Jubouri
Hamid Hassan Khalaf
Tikrit University/ College of Law Tikrit University/ College of Administration and Economics
econram901@gmail.com
hameed.hk@tu.edu.iq

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Abstract:

The research aims to show the extent of the impact of some monetary policy tools on the balance of payments in the Iraqi economy during the period (2005-2021) in order to identify the defects and negative points that hinder the achievement of a high growth rate. . There is a positive and significant relationship between some monetary policy tools as independent variables and the balance of payments as a dependent variable in the Iraqi economy during the study period. By pursuing an integrated economic policy through which it works to stimulate private investment of all kinds, whether local or foreign, by providing the requirements of an appropriate investment environment, which in turn works to raise the efficiency of the private sector and increase its contribution to The formation of the gross domestic product, especially in the productive sector of the Iraqi economy and thus the balance of payments

Keywords: monetary policy, balance of payments, economic growth.

The topic: the first is the methodology of the study
:the introduction

Achieving the level of balance in the balance of payments is a requirement for economic decision makers, whether in the monetary or financial aspect . Which face this and the extent to which it achieves the requirements of the macroeconomic policy after the approval of the new Central Bank of Iraq Law No. 56 of 2004, which contained reform measures in the monetary field, and the :research was divided into three sections. the third Measuring the impact of some monetary policy in Iraq during the the balance of payments tools on .study period

First: Research problem

In order to achieve full employment and reach : It is necessary to Balance of Payments balance in search for the obstacles and problems that hinder this, the following which lie in searching for the answer to represented in questions

1. The extent of the effectiveness of some policy in affecting unemployment, the balance of tools .in Iraq for the period (2002-2021) payments
2. How to reach the Iraqi economy to stability and the balance of payments access to equilibrium in Thus increasing the well-being of the individual .and society

Second: The importance of the research.

The importance of the research lies in the statement of the the role of monetary policy in achieving balance in .in the Iraqi economy balance of payments

.Third: Research hypothesis

The research stems from the hypothesis that some monetary policy tools have a positive role in achieving in the Iraqi the balance of payments balance in .economy during the period (2005-2021)

.Fourth: Research Methodology

For the purpose of answering the problem at hand, it is required to use the descriptive analytical approach .and the quantitative analysis approach

:The limits of the study

1. Spatial boundaries: Iraq
2. Temporal boundaries: (2005-2021)

Fifth: Research Structure

To prove the research hypothesis and reach the objectives, the research was divided into three sections. The first topic dealt with: the concept of the second ,the balance of payments , monetary policy topic dealt with: trends in the development of and the ,the balance of payments monetary policy and third topic dealt with: measuring the impact of some

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in the balance of payments monetary policy tools on .the Iraqi economy

The second topic / the theoretical side

balance of Concept of monetary policy and . payments

The first requirement: the concept of monetary .policy

Monetary policy is considered one of the most important macroeconomic policies, which has a prominent role in influencing the economic activity of the country in light of the use of its quantitative and qualitative tools in the financial market. Monetary policy is defined as the process of controlling and controlling the amount of money supplied and interest rates by the central bank for the purpose of achieving the objectives of the country's economic policy. Periods of inflation in order to maintain economic balance and stability **(Al-Qatari, 2012, 18)** . Monetary policy works through the central bank to control the volume of currency in circulation and its impact on the volume of credit and the interest rate, and thus on the volume of investment and economic activity of the country using its direct and indirect tools (**Ezzeddine and Abdel Samad, 1001, 2021)** . Monetary policy is one of the main economic stability tools in light of its impact on macroeconomic variables through its tools that allow it to control the size and direction of the monetary mass represented by the Central Bank for the purpose of achieving the objectives of economic policy in growth, reducing the level of poverty and equality, and improving the .livelihood of members of society**(Dong, 2012, 2)** It is also defined as a type of stability policy through which changes are made in the amount of money that is traded or in interest rates or in both **(Korgman and Wells, 527, 2022).** Or it is a set of measures that the monetary authorities take in order to control the level of credit and cash through which the means of payment and the amount of money are affected **.** according to the economic conditions of the country Also, monetary policy was defined as all the means **.(** and procedures used by the monetary authorities in managing the money supply for the purpose of achieving balance in the monetary market **(Hafez,** Monetary policy can also be defined as a . **(18 ,2020** set of decisions and procedures undertaken by the monetary authorities in order to influence monetary variables. In order to achieve economic goals **(Abdul .(Rahim and Rashid, 2021, 153**Patat defined it as that act that is used to control the money supply by " the central bank as a tool to achieve the objectives of public policy." (**Janawi, 2021, 3).** Monetary policy was defined as a mechanism for employing tools and policies in order to influence the money supply in general, and it is also the procedures adopted by the government or the monetary authority to manage the interest rate and the money supply **(Nour El-Din,** Changes in monetary policy carried out . **(131 ,2020** by the central bank in any country can have a significant impact on the markets and the economy in general by raising or lowering the standard rates of the economy, a process similar to the interest rate .process**(Tang et al., 2013, 4436)**

The second requirement: the balance of . payments

What is meant by the external balance is that there is a balance in the balance of payments and that this balance is one of the goals of monetary policy, so the occurrence of a deficit in the balance of payments for the economy of any country is considered an economic problem, which results from the increase in imports over exports, which makes the country spend more than it produces Thus, it is burdened with debts, and vice versa in the case of a surplus in the balance of payments **(Probeh, et al., 108, 2020).** Based on what Kaldur stated, it is preferable that the surplus rate in the balance of payments be within the range of **(Maan and Shehata, 175, 2020). The** %2 **Balance of Payments is** defined as a record that is made by recording all commercial operations that a country undertakes with the countries of the outside world of goods, services and financial assets during a period of one year. What and foreign countries during a period of time usually one year, and the balance of payments is considered one of the most important macroeconomic indicators and one of the tools of economic analysis through which the state can know the economic situation for it in the short term and it is from a group of accounts, including (the current account and the capital account and the account Gold, foreign monetary reserves, and the account of omissions and errors), (**Miloud and Muhammad,** It is also defined as the accounting **.(2021 ,534** record that contains all economic exchanges that take place between individuals of a particular country with individuals of another country during a period of time that is usually a year **(Mokhtari, 490, 2021).** It is also known as a summary statement of all economic transactions that take place between a specific country and other countries during a certain period of time **(Khasr and Al-Hamdi, 2011, 202).** In 1977, the International Monetary Fund defined the balance of payments as a group of accounts that carry out the systematic recording, during a specific period of time, :of the following

.* Commercial operations of goods and services, in addition to the revenues that are exchanged between .the economy of a country and the rest of the world

.* The operations related to the transfer of ownership and the changes that occur in the monetary gold assets of the economy of a country and the assets

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related to the withdrawal rights, as well as the repayments of the economy of that country from the financial loans abroad and the resulting financial .obligations abroad

Entries for transfers with consideration and transfers .* without consideration, which have been allocated accounting to balance transactions that do not balance inversely **(Sumaya and Saleh, 63, 2018). The** : **balance of payments structure consists of**

Current Operations Account: It is a balance that .1 contains all economic transactions, on both sides, credit and debit, between residents inside and non-residents during a specific period of time, and its link to income and production during that period. The :account consists of the following scales

a. Visible Trade Balance: It is a balance related to exchanges between the inside and outside (import and export) with commodities only, such as foodstuffs, .machinery, equipment, and others

B. Invisible Trade Balance: It is a balance that specializes in exchange operations for all economic operations, both the credit and debit sides, which are .in the form of service flows

The Official Settlements Account: In this account, all .2 changes that occur in the official international reserves are recorded in any year in which the change takes place, in order to settle the calculations of the net .economic surplus or deficit in the balance of payments

Capital Operations Account: Through this account, .3 entries are displayed on both sides, credit and debit, for non-financial and non-productive assets, as well as capital transfers between internal residents and non-residents, such as selling licenses, lease contracts, and .embassy lands

Calculation of omissions and errors: It is used to .4 correct errors that occur on either side, the creditor and the debit, through an item called omissions and **.**errors or statistical discrepancies **(Najia, 321, 2021)**

The first requirement: the development of .monetary policy indicators

policy indicators are independent variables that have a direct and indirect impact on the gross domestic product. It includes the narrow money supply M1 in addition to savings deposits in banks and post offices, and open market operations that are represented by the currency sale window, the interest rate, and the legal reserve, and the following table represents the quantities in millions of dinars and the percentages that represent them during the study period

Schedule (1)
The evolution of the trends of some monetary policy tools in Iraq for the period (2005-2021) (million (Iraqi dinars

Annual rate of change %	The evolution of the legal reserve	interest rate evolution %	Annual rate of change %	The evolution of open market operations	Annual rate of change %	The evolution of criticism in the broad sense M2	the years
-	4,501,297	7.0	_____	28923000	_	14,684,000	2005
37.56	6,192,141	16.0	0.04	3022700 0	43.8	21,080,000	2006
95.16	12,084,441	20.0	-0.33	20054000	28	26,956,076	2007
65.45	19,993,802	16.0	0.53	30861000	29.7	34,920,675	2008
*(52.90)	9,416,761	8.8	0.28	39,770,000	30	45,438,918	2009
(24.02)	7,155,093	6.25	0.064	42,320,000	32.8	60,386,086	2010
9.22	7,814,853	6.0	0.104	46,563,000	19.5	72,177,951	2011
10.35	8,624,023	6.0	0.21	56,724,000	6.9	77,187,497	2012
11.63	9,626,882	6.0	0.09	62067000	16	89,512,076	2013
9.86	10,566,103	6.0	-0.009	61452000	3.8	92,988,876	2014
(11.21)	9,390,493	4.3	-0.14	52,721,000	(9)	84,527,272	2015
(7.27)	8,707,551	4.0	-0.24	39,893,000	6.8	90,359,096	2016
(25.29)	6,505,171	4.0	0.25	50,219,000	2.7	92,857,047	2017
60.02	10,409,660	4.0	0.11	56,088,000	2.7	95,390,725	2018
(7.97)	9,580,388	4.0	0.065	59,764,000	8.4	103,441,131	2019
(3.2)	9,264,573	4.0	0.05	62,754,000	16	119,906,260	2020
1.3	9,387,873	4.0	0.01	63,738,000	0.8	120,876,983	2021

.Note // The numbers in brackets are negative
The table was prepared by the researcher based on the annual releases of the Central Bank of Iraq, for .the period (2005-2021)

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We notice Table (1) shows that there is fluctuation in the directions of the monetary policy tools during the period of the study, between rise and fall. The money supply in the broad sense tended to rise, reaching (million dinars in the year 2005, and (14,684,000 continued to rise until it reached (92,988,876) million. Dinars in the year (2014) due to the expansionary monetary policy pursued by the Central Bank of Iraq as a result of the rise in oil revenues from the dollar, as the monetary policy aimed to expand economic activity in Iraq in both its investment and consumer money supply parts, but in the year (2015) the broad) declinedM2 as the rate of change in it was (negative and amounted to (9) as a result of the negative events due to the security conditions that occurred in the Iraqi economy, and then the broad) money supplyM2 rose again, and continued until (the year (2021), and this is a challenge for the money makers Monetary policy in Iraq expresses their ability to control those high rates of the broad money supply)M2 **(Kazem et al., 2019, 122).** We conclude ,(from the aforementioned that the increase in the money supply in the broad sense is not matched by any increase in production due to the weakness in the Iraqi productive apparatus and its inability to absorb excess demand by economic units and individuals, and that this increase will be negatively reflected in the high inflation rates, which pushes the central bank To increase his sales of hard currency (dollars) through the currency sale window for the purpose of importing goods and services from abroad to cover the rise in demand and the resulting As for the increase in the the interest rate was in the year **,** money supply and continued to rise until it reached its (%7.0) (2005) highest rate during the study period, which is (20%) in rise is due to the reason This the year (2007), and the austerity policy adopted by the Central Bank to confront inflation during the years (2008 and 2009), respectively, after which the Central Bank of Iraq reduced the interest rate to (6.0%) during the period in order to encourage domestic and (2015-2011) foreign investment. And make the investment environment an attractive environment for investment, and then the Central Bank of Iraq reduced the interest rate to (4.0%) during the period (2017-2021), and the goal of this reduction was to give banks a greater role in participating in improving economic growth rates and encouraging the private sector from During the granting of credit, and it is clear from the foregoing that the monetary policy in Iraq, through its reduction of the interest rate, created a positive indicator of the investment environment in the Iraqi economy, especially in the years of the last period of the **study** . The study without one is an integer and a negative number. The exchange operations in the open market) in (2005) amounted to28,923,000 million dinars, (and the growth rate for the year (2006) was (0.04%), while the growth rate in the year (2007) was (- That is, there is a decline in the growth rate .(%0.33 of open market operations due to the internal events that the country went through, while in the year the growth rate increased to become (0.53%) (2008) as a result of the Iraqi economy moving towards openness to the outside world and the implementation of the decision to lift the economic blockade that was imposed on Iraq before the year (2003) and its exit from Chapter VII, the increase in internal and external transactions, in addition to the improvement in oil prices in global markets, since the Iraqi economy depends largely on oil revenues, and this increase in revenues leads to an increase in demand for foreign currencies, especially the dollar, which is done through The currency sale auction run by the Central Bank of Iraq, and the growth rate continued in open market operations, but at a decreasing rate, reaching in to (0.09%) as the lowest positive growth rate (2013) since the year (2005), the date of the beginning of the study, so that the volume of exchange reached million dinars. Then the growth rate (62,067,000) began to decline to the negative level, bringing the growth rate in (2014) to (-0.009) as a result of the decline in oil revenues due to the departure of a large number of oil extraction sources from the control of the central government, as well as the loss of The line carrying Iraqi oil to the Turkish port of Ceyhan came under the control of the central government, bringing the volume of exchange for the years (2014, 2015, respectively (61452000, 52721000, 39893000) (2016 million dinars, with a growth rate of (0.009-%) (-0.14) In succession, to return to the rise in (2017) to (0.24-) reach a growth rate of (0.25%) and an exchange of million dinars as a result of the (50,219,000) government's return to control over the Iraqi oil wells and the international pipeline carrying Iraqi oil to Turkey, which increased oil revenues and thus a recovery in the Iraqi economy and an improvement In the Iraqi balance of payments as a result of the improvement in the security situation and reconstruction, and then the growth rates in open market operations began to decline, but above the correct one (growth at a decreasing rate) for the years as the annual growth rate, ,(2021 ,2020 ,2019 ,2018) respectively, reached (0.25). %), (0.11%), (0.065%), respectively, with exchange rates ,(%0.01) ,(%0.05) of (56,088,000, 59,764,000, 62,754,000, 6,373,800) million dinars, respectively, and the reason for that is the health crisis the world has been exposed to (Corona crisis) year (2020), because of which most productive projects were stopped Global and supply chains stopped and the sharp drop in global oil prices

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as a result of the lack of demand for it and thus the impact on the Iraqi economy being part of the global economy. As for the ratio of the legal cash reserve during the study period, the legal reserve ranged between (4501297) million dinars in the year (2005) and (9387873) million dinars in the year (2021), and it began to rise until it reached (12,084,441) million dinars at an average Growth (95.16) in the year 2007, which is the highest growth rate in the legal reserves .of the Central Bank of Iraq during the study period and ,(%9.86) ,(%11.63) ,(%10.35) ,(%9.22) ,(% respectively. Growth rates range from high ,(%11.21) to low as a result of the monetary policy adopted by the monetary authority. In the case of expansion, the cash reserve decreases The opposite is true in the case of a deflationary policy in order to eliminate inflation and increase monetary and economic stability in the Iraqi economy. As for the period (2016-2021), the annual growth rates were negative, with the exception of the year 2018, in which the annual growth rate reached (60.02%) as a result of the improvement in the security conditions that contributed to increasing confidence among the public and their return to investment in banks through deposit (Sultan, 2022 **, 67).** Table (1) shows the legal reserve trends in the Iraqi economy during the study .period

The second requirement: the evolution of balance of payments trends during the study .period

The Balance of Payments is a monetary window for the Iraqi national economy through which it overlooks the global economy because it is the record in which all transactions between the inside and outside are recorded, which include the movement of goods, services and capital. It is usually one year, and the Iraqi balance of payments has gone through different stages between rise and fall according to the economic situation of the country, the quantities of oil exported, oil prices in the global market, as well as the political, military and economic events that it went through, which had a major role in affecting the balance of the balance, the most important of which is the blockade period The economic imposed on Iraq for the period (1991-2003), which negatively affected foreign exchange operations with other countries until the exchange rate reached very low levels (almost completely stopped), except for oil exports in limited quantities as permitted by the UN resolution and the entry of some specific commodities. Inside and the rest of the oil revenues go to pay the obligations incurred by the country in accordance with UN resolutions (**Jalil, Hamdoun, 270, 2021).** Which led to great unemployment at home and a decrease in the level of Iraqi per capita income below the poverty line, then it rose again after the year (2003) and the end of the economic blockade period as a result of economic openness to the outside world, as well as the transformation of the country's economic system from the planned to the market economy and the adoption of the Bank Law Central Bank of Iraq No. (56) for the year (2014), which contributed to revitalizing open market operations by providing importers with the amounts required to import hard currency, but it fluctuated again after the military events that the country went through after the year (2014) and decreased again in (2020). After the global epidemic (Corona virus), table (2) as well as figure (1) show the stages and trends that the Iraqi balance of .payments went through during the study period

Table(2)
(million Iraqi dinars) for the period (2005-2021) Growth rate in the Iraqi balance of payments

* annual growth rate %	Balance of Payments	the years
-	**-5,181,765**	2005
-3.2	**11865683**	2006
0.66	**19735286**	2007
0.55	**30778790**	2008
-0.99	**147420**	2009
57.66	**8648055**	2010
3.18	**36214776**	2011
0.08	**39,171,536**	2012
-0.16	**32603575**	2013
-0.27	**23706179**	2014
-0.86	**3207366**	2015
-2.	**3207357**	2016
4.56	**17846781**	2017
1.38	**42498573**	2018
-0.53	**19645312**	2019

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0.062	**20876545**	2020
0.070	**22346102**	2021

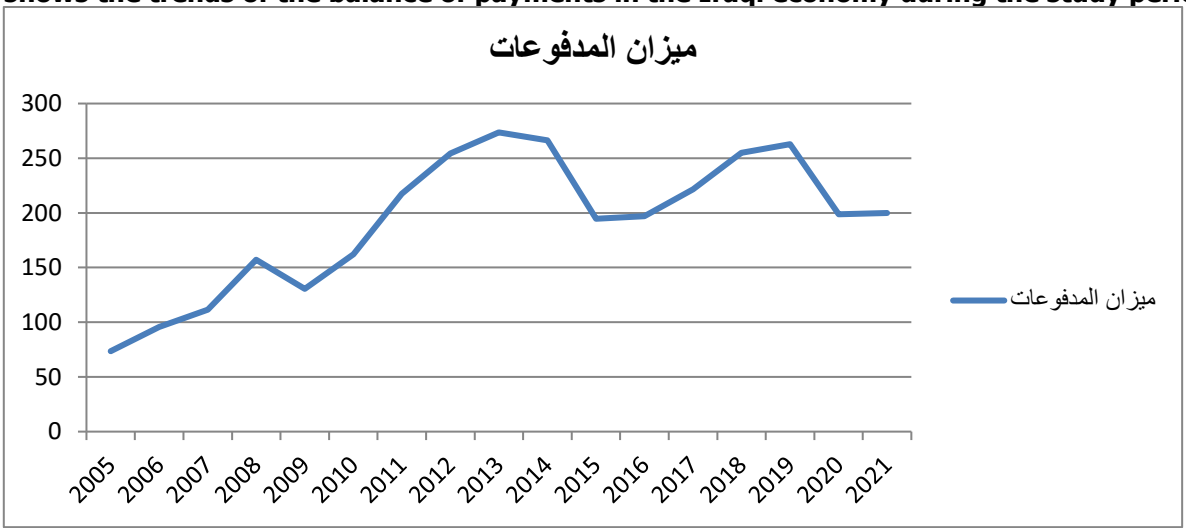
Source: The researcher worked by relying on the Central Bank of Iraq, the annual bulletin for the years .(2021-2005)

*

The annual growth rate was extracted by the researcher

It is noted from the initial review and preliminary reading of Table (2) and Figure (1) that it is clear that the growth rate in the Iraqi balance of payments has reached its lowest levels during the study period in at a rate of (3.2%) and an amount of (2016) million dinars as a result of the security (121,865,683) events that took place. The country went through it in that year, which negatively affected import and export operations with foreign countries, then it rose again in the two years (2007, 2008) to reach a growth rate of and (0.55%), respectively, with an amount of (%0.66) million dinars, (30,778,790)) ,(19735286) respectively, as a result of the improvement in the security situation, but it dropped back below the correct one in the year (2009) to reach a growth rate of (-0.99%) due to the drop in oil prices in the global markets, then it rose again to reach the growth rate in the year (2010). Its percentage is (57.66%), which is the highest growth rate during the study period, with an amount of (8648055) million dinars as a result of the rise in oil prices in the global markets until the price of a barrel of oil reached approximately (150$), which led to an increase in the percentage of oil revenues in the budget Iraqi by a large percentage from the previous year and notes that it decreased again In the two years (2011, 2012), the growth rate reached (3.18%) and (0.08%), respectively. It should be noted that it decreased again during the years to negative growth rates . **(** 2016 ,2017 ,2014 ,2013) of (0.16%), (0.27%), (0.86%), (0.2%). From the control of the central government and the closure of some international roads that are used in trade exchange with abroad and the decrease in the rate of Iraq's oil exports as a result of the impact of transport lines and sources of extraction, which affected the proportion of oil revenues, since oil is the main engine of Iraqi economic activity because it is the main financier of the budget and at the procedural level the rate returned The growth in the balance of payments increased again in the year (2017) to reach (4.56%), with an exchange rate of (17,846,781) million dinars as a result of the improvement in the security situation and the re-establishment of central government control over oil extraction sources and control of foreign exchange routes, as well as allowing the entry and exit of goods from And to the Iraqi interior, on the contrary, it decreased again during the two years to reach the growth rate in it (1.38%) ,(2019 ,2018) and (-0.53%), respectively, due to the decline in prices in global markets, and it is noted that it has returned to It increased, but at a slight rate and at a decreasing rate during the two years (2020, 2021), so that the growth rate in the balance of payments was (0.062) and (0.070), respectively

Figure (1)
It shows the trends of the balance of payments in the Iraqi economy during the study period



Source: Prepared by the researcher based on the data of Table (2) using theExcel program

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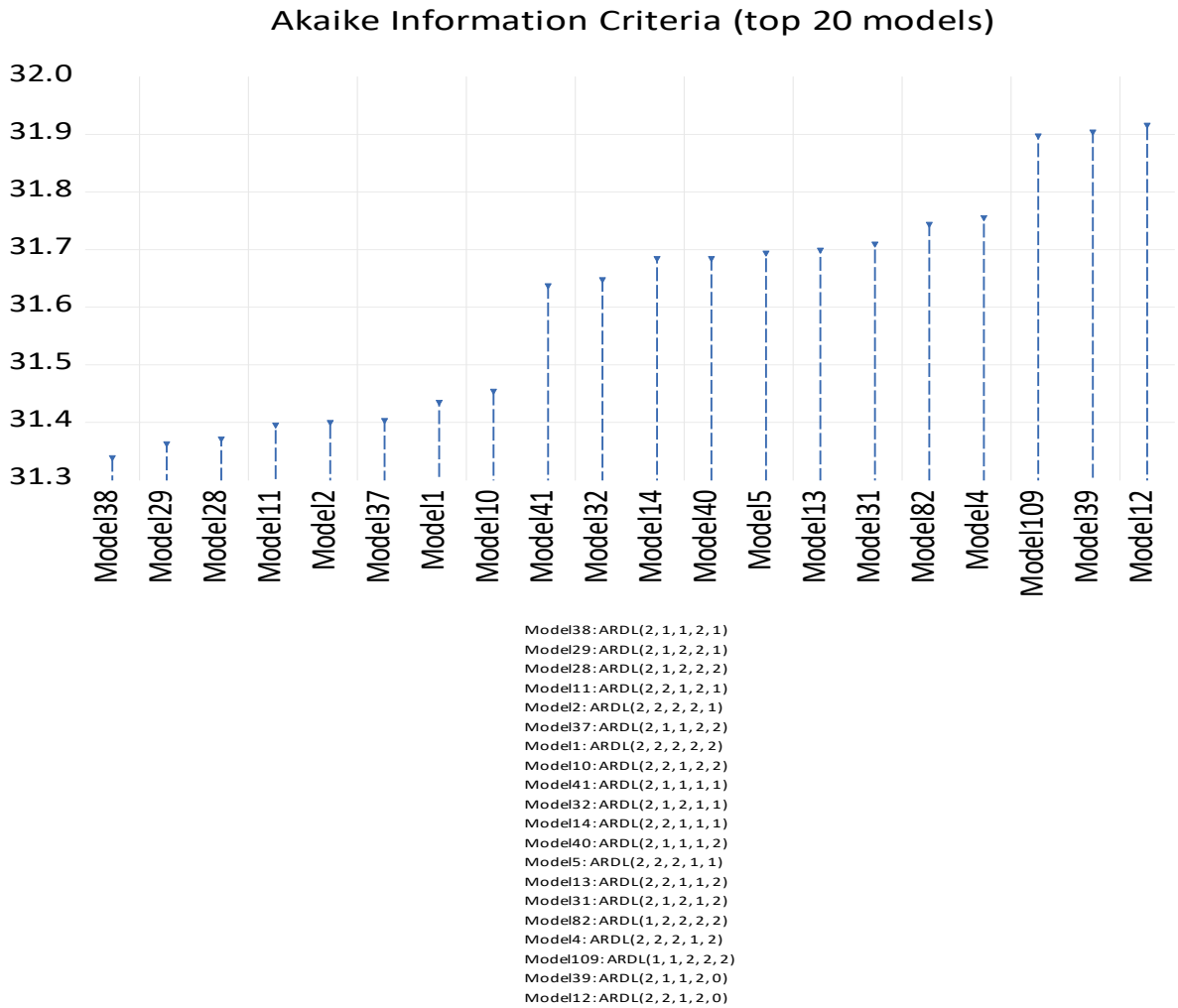
Estimating and analyzing the impact of some monetary policy variables on the : The second topic balance of payments index

In light of the foregoing and given the stability of the time series of the study variables within the limits of the first difference and not exceeding the barrier of the second difference, they fulfill the conditions of joint integration between the variables of the study using the methodology of self-regression of time gaps ARDL With these conditions met, we were able to apply theARDL model test using the ,Akaike Information Criteria (top 20 models) as it specifies slowing periods for 20ARDL models.) To determine the number of time lag periodsLag and choose the optimal duration to reveal the relationship between the independent)variablesX4, X3, X2, X1) and the dependent variable Y.

1- .Test the number of time lags according to Akaki's criterion

Figure (3)
Test the number of time lags according to Akaki's criterion



Source: Figure prepared by the researcher using (12Eviews .program (

table (3)
Test the number of time lags according to Akaki's criterion

Model Selection Criteria Table						
Dependent Variable: Y1						
Model	**LogL**	**AIC***	**BIC**	**HQ**	**Adj. R-sq**	

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38	**-473.7462**	**31.3384**	**31.89355**	**31.51941**	**0.988948**	**ARDL(2, 1, 1, 2, 1)**

:The results of Table (3) and Figure (2) indicate each of the following

-*

The best model for studying the long-term relationship between some monetary policy variables and the :balance of payments is the model

ARDL) (2, 1, 1, 2, 1)

This is based on the results of the Akaike Information Criteria, as the optimal model had the lowest value for this criterion, which amounted to (31.3384), and it is the model that takes slowdowns by(2, 1, 1, 2, 1).for .the dependent variable and the explanatory variables Through the value of the corrected coefficient of -* determination, it is clear to us that0.988948 % of the changes that occur in the dependent variable are caused by the explained variables with their slowing down. The initial model was estimated, and its results were included in Table4

2- .Preliminary estimate of the balance of payments modelARDL.

table (4)

The results of the preliminary estimate of theARDL model for the balance of payments

Dependent Variable: Y3				
Method: ARDL				
R-squared	**0.993000**	**Mean dependent var**		**20943658**
Adjusted R-squared	**0.988948**	**SD dependent var**		**12743592**
SE of regression	**1,339,720.**	**Akaike info criterion**		**31.33846**
Some squared residence	**3.41E+13**	**Schwarz Criterion**		**31.89356**
Log likelihood	**-473.7462**	**Hannan-Quinn criter.**		**31.51941**
F-statistic	**245.0381**	**Durbin-Watson stat**		**2.070730**
Prob(F-statistic)	**0.000000**			
***Note: p-values and any subsequent tests do not account for the model selection.**				

Source: The table was prepared by the researcher using the program (12Eviews .(

The data contained in the above table for the results of the initial estimate of theARDL model refer to the relationship between (legal reserve, money supply, interest rate, and open market operations) as independent variables and the balance of payments as .a dependent variable

Where the value ofR^2 = 0.9930005which represents the explanatory ability of the model, and the value of DW (meaning that the model is devoid of ,(2.070730) .correlationThe F-statistic value also reflected the significance of the model as a whole, which is less than (5%), which requires moving to the subsequent steps to verify the existence of the long-term equilibrium relationship between the variables of the study according to the ARDL model bytesting the Bound Test .

3- Bound . Test

schedule (5)

Boundary test results Bound Test

F-Bound Test		**Null Hypothesis: No levels of relationship**		
Test Statistic	**Value**	**signif.**	**I(0)**	**I(1)**
	60.96483		**Asymptotic: n=1000**	
F-statistic	**60.96483**	**10%**	**2.2**	**3.09**
k	**4**	**5%**	**2.56**	**3.49**
		2.5%	**2.88**	**3.87**
		1%	**3.29**	**4.37**

Source: The table was prepared by the researcher using the program (10 Eviews .(

The table above shows the results of the Bound Test for joint integration between the variables of the study, as the value ofF-statistic calculated was ((which is greater than the maximum and , **(60.96483** minimum tabular values, as they reached (3.49), at a significant level (5%), which It means that (2.56)

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we reject the null hypothesis and accept the alternative hypothesis, and this means that there is a cointegration relationship between some variables, that is, the existence of a long-term equilibrium relationship. In tables6) ,(7 .(

4- .Short-term regression between monetary policy tools and the balance of payments

table (6)

Short-term estimates and error correction of monetary policy and balance of payments variables

Dependent Variable: D(Y3)				
Selected Model: ARDL(2, 1, 1, 2, 1)				
Case 2: Restricted Constant and No Trend				
Date: 01/10/23 Time: 22:55				
Sample: 2005S1 2021S2				
Included notes: 31				
Conditional Error Correction Regression				
Variable	**Coefficient**	**std. Error**	**t-statistic**	**Prob.**
C	**5922444.**	**4,461,296.**	**0.000000**	**0.0000**
Y3(-1)*	**-0.505104**	**0.045021**	**-11.21938**	**0.0000**
D(X1)	**1.064252**	**0.286421**	**3.715693**	**0.0015**
D(X2)	**0.327859**	**0.095083**	**3,448,139**	**0.0027**
D(X3)	**-6 .157,557**	**1363301.**	**0.000000**	**0.0000**
D(X4)	**0.906232**	**0.132877**	**6.820089**	**0.0000**
*** p-value compatible with the t-body distribution.**				

Source: The table was prepared by the researcher using the program (12Eviews

The above table shows the results of the short-term assessment, as the monetary policy and balance of :payments indicators are as follows

1. The results of the study showed in the short term that there is a direct relationship between the legal) reserve indexX1 and the balance of payments (index(Y , That is, when increasing the legal) reserve indexX1 by one unit, it leads to an ( ) increase in the balance of payments indexY by ((1.064252 units), and I have a probability level (0.0015) .
2. The results of the study showed that there is a direct relationship between the money supply(X2) and the balance of payments index (Y that is, ,( ) when increasing the money supplyX2) by one unit leads to an increase in the balance of) payments indexY units, and I (0.327859) by (.(. (0.0027) have a probability level
3. The results of the study showed that there is a direct relationship between the interest rate index (X3) and the balance of payments indexY that ,( ) is, when increasing the interest rateX3 by one (unit leads to an increase in the balance of) payments indexY units, and I (6.157557-) by ( ) have a probability level0.0000 .(
4. The results of the study showed that there is a direct relationship between open market operations(X4 and the balance of payments ( ) indexY that is, when increasing open market ,( ) operationsX4) by one unit leads to an increase) in the balance of payments indexY) by ( ) units, and I have a probability level (0.906232 0.0000 .(
5. As for the error correction coefficient, it has a ,(0.505104-) negative sign, as it amounted to and this value is significant based on the probability value, which amounted to (0.0000), which is less than (0.05), meaning that the first condition has been fulfilled, noting that this value indicates that it is 50% Errors in the short term can be corrected in the unit of time represented here in the year in order to return to the .equilibrium situation in the long term

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5- .The long-term regression between the monetary policy tools and the balance of payments

table (7)

Long-term estimates of the variables of some monetary policy and balance of payments tools

Levels Equation				
Case 2: Restricted Constant and No Trend				
Variable	**Coefficient**	**std. Error**	**t-statistic**	**Prob.**
x1	**-4.045223**	**0.750414**	**-5.390658**	**0.0000**
x2	**-0.132111**	**0.070589**	**-1.871545**	**0.0767**
x3	**7 .213,975**	**541690.3**	**1.331753**	**0.1987**
X4	**0.945616**	**0.138143**	**6.845178**	**0.0000**
C	**11725187**	**9248526.**	**1.267790**	**0.2202**
EC = Y3 - (-4.0452*X1 -0.1321*X2 + 7 .213975*X3 + 0.9456*X4 +11725186.7426)				

Source: The table was prepared by the researcher using the program (1Eviews .(

The above table shows the results of the long-term assessment, as the monetary policy indicators and the :balance of payments index are as follows

1. The results of the study showed that in the long term, the relationship between the interest rate indexX3 and the balance of payments index Y failed because the probability exceeded the (0.05) .barrier
2. The long-term results of the study showed that there is an inverse relationship between open market operationsX4 and the balance of payments indexY that is, when an increase in open market operationsX4 by one unit leads to an increase in the balance of payments indexY ( ) by0.945616 units . And I have a probability .level (0.0000

6- Diagnostic tests for the variableY **:**

In order to ensure the validity and accuracy of the results obtained in the previous tests, we will perform some important diagnostic tests to prove this, as :follows

1. **The problem of self-correlation: The results according to the**LM test and the (F- test) statistic showed that they are not significant, and therefore we reject the hypothesis of the existence of an autocorrelation problem, see Table34
2. **Heterogeneity of variance test:** The results were shown according to theARCH test . According to theF- test statistic, it is not significant, and therefore we reject the hypothesis that there is a problem of homogeneity of error .variance

Schedule (8)

Results of diagnostic tests for theY variant

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	**0.029547**	**Prob. F(1,18)**	**0.8654**
Heteroskedasticity Test: ARCH			
F-statistic	**1.413611**	**)Prob. F(1,28 (**	**0.2444**

.Table: Prepared by the researcher based on the statistical program (12Eviews .(

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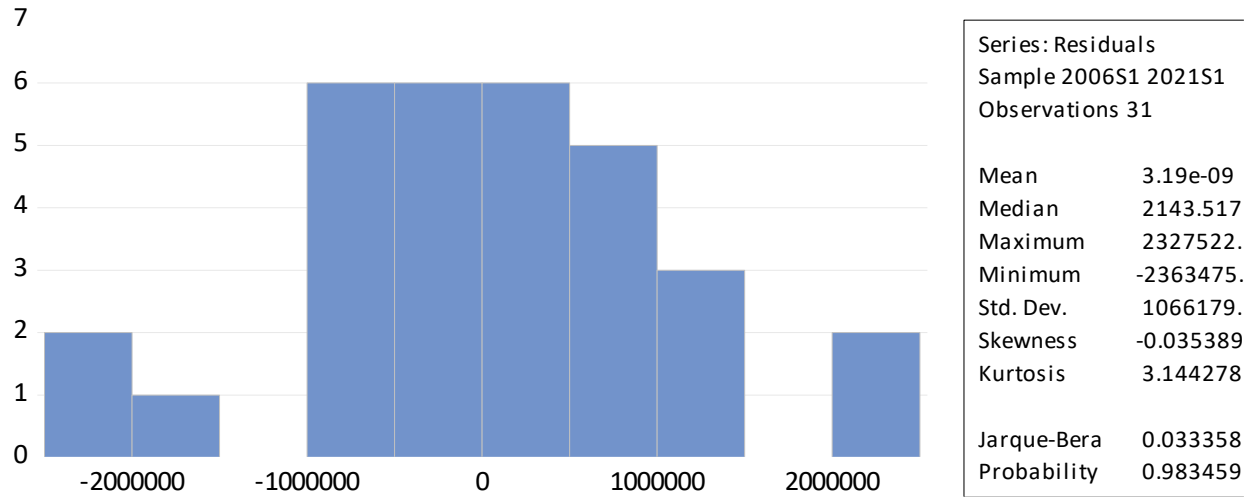
3. The problem of normal distribution: the results showed that the estimated model is free from the problem of :normal distribution of the residuals, as follows

Figure (4)
normal distribution



.Figure: Prepared by the researcher based on the statistical program (12

EVIEWS.

Conclusions

1. Through the analysis of the data, it was found that there is a positive role for some monetary policy tools in affecting the growth rate of the annual balance of payments, as it ranged between high and low, and that it settled in the recent period at .economically acceptable levels
2. The results of the unit root through the expanded (Dickie-Fuller) and Phillips-Berron test showed that the variables of the study were stable at the level) and others were stabilized at the first difference with a co-integration relationship between monetary policy and balance of payments .indicators
3. The results of the study showed that in the short term, the relationship between monetary policy and the balance of payments, there is a direct relationship between the indicators (legal reserve, money supply, interest rate, open market operations) and the balance of payments indicator. As for the long term, there is an inverse relationship between the indicator (legal reserve, open market operations) With the balance of payments index and the failure of the relationship between (money supply interest rate) and the balance of payments index

Recommendations

1. Supporting foreign investment by providing banking facilities for the entry of money from abroad to the inside and vice versa easily and easily and directing it towards projects with strategic production in order to increase internal production and thus increase the gross domestic product and increase the rate of economic growth (achieving a high growth rate) and thus achieving .balance in the balance of payments
2. Using the revenues generated from oil exports in projects of an investment production nature that can contribute to increasing production, especially the basic materials needed by members of society, which contribute to reducing imports from abroad, thus controlling the general level of prices at home .and achieving balance in the balance of payments
3. Encouraging national products through developing infrastructure, providing facilities and granting soft loans for long periods of time to the public and private sectors, especially in productive projects that have a comparative advantage in producing goods for export at competitive prices for the purpose of exporting them abroad, and reducing imports of luxury and unnecessary goods in order .to achieve balance. in the balance of payments
4. Giving monetary policy a greater role to contribute to the Iraqi economic decision through its contribution to enacting laws that affect the money supply, especially the operating budget, preventing its increase from economically acceptable limits, and directing the rest of the available revenues to the investment side, especially infrastructure and projects of a productive nature in order to achieve economic

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stability and increase The rate of growth in the Iraqi economy and thus achieving balance in the .balance of payments

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