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A STUDY OF THE EFFECT OF MONETARY POLICY ON THE STABILITY OF THE FINANCIAL SYSTEM USING THE MARKET CAPITALIZATION AND CREDIT GAP INDICATORS, THE IRAQI ECONOMY, A CASE STUDY FOR THE PERIOD 2010-2018

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Abstract:

The research tried to examine the relationship between the exchange rate, money supply in a broad sense and interest rate as key variables for monetary policy, market capitalization indicators and credit gap as indicators of financial stability using the vector autoregressive model (VAR), and the research found an increase in the market capitalization index in a year. After another, the result of the increase in the capital of government banks, while the capital of private banks remains stable, which confirms the public authorities represented by government agencies to expand government financial operations to expand economic activity, especially after the 2007-2008 crisis and the central bank's attempt to increase financing of small and medium enterprises and the development of regions as approved Public budgets and the credit gap is very low, indicating a lagging growth resulting from credit growth, and thus there is a great possibility to increase credit to economic sectors to achieve financial stability in the medium and long term.

- Theoretical Review:

Monetary policy represents the set of rules, methods, procedures and measures taken by the monetary authority to determine the role of money in the economic life that the economic system seeks to achieve (Abdul-Muttalib, 2007, 272). It also represents the measures taken by the monetary authorities to manage and regulate the amount of

money and its issuance processes in a manner that ensures ease and speed Circulating the monetary unit and organizing the general liquidity of the national economy to achieve certain goals (Hussein, 2002, 142). It is evident from the above concept that he focused on liquidity and money circulation and considered it the essential part of managing monetary policy in general and also defined the goals pursued by monetary policy. It can also be described as a set of procedures and measures that the monetary authorities undertake, using various tools to achieve stability, monetary balance, and stability of the general level of prices and then increase economic growth rates (Ali, 2012, 450). After the crisis of the thirties 1929 - 1932, monetary policy became far from the automatic characteristic that characterized it under classical thought, then it became one of the powers of the central government (2000, 100 R jewel) as an integral part of economic policy to compensate for the lack of private investment with public investment to avoid the lack of demand The total is through adopting an expansionary monetary policy to finance the budget deficit.
Monetary policy targets a minimum level of unemployment, and by full use it means that qualified people who are looking for work at prevailing wage rates will find it without much delay.
The situation in which the economy is characterized by the elimination or absence of forced unemployment.

The concept of financial stability refers to the situation in which the financial sector is able to hedge against internal and external shocks and that the financial system performs its functions by directing financial resources and investment opportunities with high efficiency and the possibility of continuing to perform payments efficiently (Bruce, 1996, 130), and financial stability is described as The situation in which there are no threats that would affect the overall economy and the performance of the financial sector and other sectors (Santo and others, 2004, P16), and financial stability contributes significantly to increasing the efficiency of the performance of financial institutions and their ability to distribute financial resources and enhance their ability to distribute risks and then It works to enhance price stability (Andrew, 2005, 80). Financial stability is also known as a sound, stable and reduced financial system that reduces potential risks through accurate forecasting of financial operations (Saad Abdel Fattah, 2019, 22). Insurance and money markets, the legislative environment) (Adly Abdel-Fattah, 2005, p. 110) Maintaining a sustainable financial system capable of mobilizing the savings of individuals and institutions and thus contributing to growth and development requires follow-up evaluation of the performance of the functions of that system using a number of different criteria and according to the availability of data on each An indicator or standard, noting that there is a discrepancy and difference in the application of those standards and indicators between the different financial and banking systems.

- Estimate and analyze the effect of money supply x1, exchange rate x2, and interest rate x3 in the market capitalization index / output 4 y

To estimate and analyze the nature of the relationship between money supply in the broad sense, the rate of exchange and the interest rate as independent variables of monetary policy and the capital / output capitalization index, we resort to estimating the VAR model as shown in Table (1).

Table (1)

Estimating the VAR model of correlation

Between the money supply x1 and the rate of exchange rate x2 and the rate of interest

x3 and Market Capitalization Index / Output 4 y

Vector Auto regression Estimates

Date: 09/26/20 Time: 21:05

Sample (adjusted): 2010Q3 2018Q4

Included observations: 34 after adjustments

Standard errors in ( ) & t-statistics in [ ]

X3	X2	X1	Y4	
-2.652552	140.4963	-53791441	0.728627	Y4(-1)
(20.2752)	(847.533)	(2.1E+08)	(0.22612)	
[-0.13083]	[0.16577]	[-0.25374]	[3.22231]	
-19.09783	57.79358	87400974	0.191293	Y4(-2)
(19.9135)	(832.417)	(2.1E+08)	(0.22209)	
[-0.95904]	[0.06943]	[0.41976]	[0.86134]	
3.62E-09	-2.51E-07	0.746998	-8.73E-11	X1(-1)
(2.1E-08)	(8.6E-07)	(0.21560)	(2.3E-10)	
[0.17563]	[-0.29160]	[3.46471]	[-0.37951]	
1.07E-08	2.50E-07	0.047207	1.98E-10	X1(-2)
(2.1E-08)	(8.7E-07)	(0.21698)	(2.3E-10)	
[0.51759]	[0.28843]	[0.21757]	[0.85408]	
-0.000369	0.802476	-12453.12	9.31E-06	X2(-1)
(0.00558)	(0.23328)	(58352.7)	(6.2E-05)	
[-0.06606]	[3.43990]	[-0.21341]	[0.14951]	
-0.001858	0.076235	40789.61	1.56E-05	X2(-2)
(0.00585)	(0.24443)	(61140.4)	(6.5E-05)	
[-0.31777]	[0.31189]	[0.66715]	[0.23863]	
0.740222	-0.481159	-37570.20	-0.000561	X3(-1)
(0.24398)	(10.1986)	(2551032)	(0.00272)	
[3.03398]	[-0.04718]	[-0.01473]	[-0.20631]	
-0.117420	7.531795	249926.9	0.000668	X3(-2)
(0.23146)	(9.67521)	(2420108)	(0.00258)	
[-0.50731]	[0.77846]	[0.10327]	[0.25869]	
4.223525	105.3331	-18858014	-0.035691	C
(3.91779)	(163.770)	(4.1E+07)	(0.04369)	
[1.07804]	[0.64318]	[-0.46035]	[-0.81686]	

0.904922	0.778422	0.886114	0.967629	R-squared
0.874497	0.707516	0.849671	0.957270	Adj. R-squared
3.031314	5296.820	3.31E+14	0.000377	Sum sq. resids
0.348213	14.55585	3640927.	0.003883	S.E. equation
29.74271	10.97836	24.31480	93.41082	F-statistic
-7.148715	-134.0684	-556.6801	145.7183	Log likelihood
0.949924	8.415790	33.27530	-8.042253	Akaike AIC
1.353961	8.819827	33.67934	-7.638217	Schwarz SC
5.308824	1230.176	83734000	0.034706	Mean dependent
0.982920	26.91453	9390537.	0.018787	S.D. dependent

2.49E+09	Determinant resid covariance (dof adj.)
7.27E+08	Determinant resid covariance
-539.8508	Log likelihood
33.87358	Akaike information criterion
35.48972	Schwarz criterion

Source: Source: Prepared by researchers based on E-Views 9 program outputs

The results of estimating the Vector Autoregressive Model VAR indicate that the ratio of the variance explained by the model to the total variance of the total variance in the dependent variable through the value of the coefficient of determination R2 is high, which reaches 0.96, which means that there are 0.96 of the changes that occur in the total capitalization index of the outcome is They come from changes in the broad money supply, exchange rate and interest rate.

In recent decades, repeated calls have emerged for economic reforms in accordance with market freedom and the market economy, and this is an option imposed on developing countries, including Iraq, for more than three decades, so most countries have tended to reform macroeconomic policies, including monetary policy, as well as structural reforms in various sectors. In Iraq, it differs somewhat. The Iraqi economy is a one-sided economy characterized by the sovereignty of the oil sector in the formation of the gross domestic product and financing the general budget as well as the weak performance of the productive sector in it, which made it a net importer of goods and services. However, this does not prevent the effectiveness of monetary policy tools in raising the ratio of capital to the banking system to give greater potential to finance investment and thus increase the overall supply of various economic sectors and thus achieve growth and development, which implies expanding the circle of economic growth and achieving comprehensive development leading to the employment of capital and thus stability. Financial.

From following up on the results of estimating the model, we find that the clarified (corrected) coefficient of determination is the other with a high value, which indicates the high explanatory ability even with modifying its calculation formula, and thus it is possible to acknowledge the quality of reconciliation in choosing the model variables and the nature of the different relationships between the variables, in contrast, the value of the F test is The others are high and thus the model as a whole can be acknowledged. In order to confirm the validity of the results for the relationship between the independent variables (money supply, exchange rate, interest rate) and the dependent variable, the output capitalization index, some

necessary tests must be performed that confirm the validity of the estimates for the values and the regression coefficient and the value of F ... We run the unit root test to find out the stability of the time series As in Table (2).

Table (2)

Model stability

For the relationship between money supply x1 and the rate of exchange rate x2 and the rate of interest

x3 and Market Capitalization Index / Output 4 y

Roots of Characteristic Polynomial
Endogènes variables: Y4 X1 X2 X3
Exogenous variables: C
Lag specification: 1 2
Date: 09/26/20 Time: 21:12

Modulus	Root
0.951603	0.949150 - 0.068281i
0.951603	0.949150 + 0.068281i
0.719085	0.694356 - 0.186957i
0.719085	0.694356 + 0.186957i
0.249059	0.092406 - 0.231283i
0.249059	0.092406 + 0.231283i
0.230006	-0.226751 - 0.038558i
0.230006	-0.226751 + 0.038558i

No root lies outside the unit circle.
VAR satisfies the stability condition.

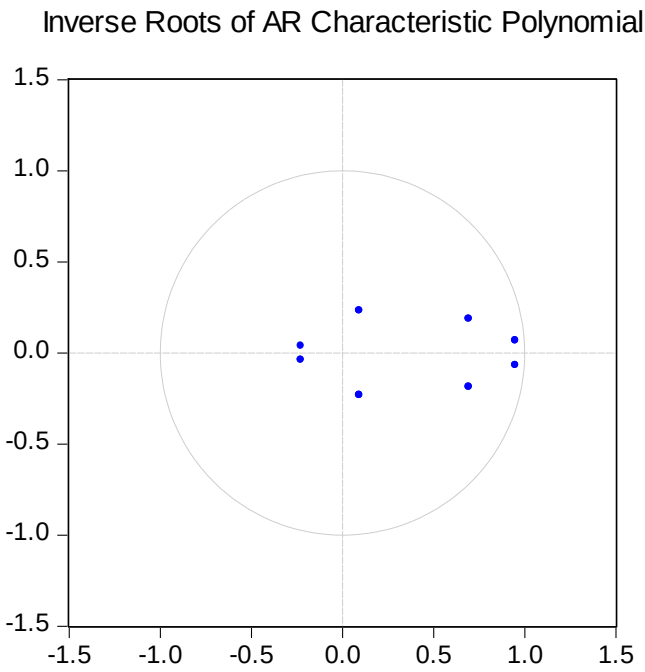
Source: Prepared by researchers based on the outputs of E-Views 9

Thus, it is possible to continue conducting the rest of the tests to find out the relationships between the dependent and independent variable, and to make more sure we draw the time series as in Figure (1)

Figure (1)

Unit root circuit of the relationship between money supply X1, rate of exchange rate X2 and rate of interest X3

And Market Capitalization / OutputIndex



Source: Prepared by the researcher based on the outputs of the E-Views 9 program

From the above figure, it is clear that the model has stabilized and that the roots are all within the unit circle, and thus the possibility of performing various tests to examine the relationship between the model variables.

- Estimate and analyze the effect of money supply x1, exchange rate x2, and interest rate x3 on the credit gap / GDP 5 y

To estimate and analyze the nature of the relationship between the money supply in a broad sense, the exchange rate and the interest rate as independent variables of monetary policy and the credit gap / GDP index, we resort to estimating the VAR model as shown in Table (3).

Table (3)

VAR model estimation

The relationship has the money supply x1 and the exchange rate x2

The interest rate is x3 in the credit gap / GDP 5 y

Vector Auto regression Estimates
Date: 09/26/20 Time: 21:23
Sample (adjusted): 2010Q3 2018Q4
Included observations: 34 after adjustments
Standard errors in ( ) & t-statistics in [ ]

X3	X2	X1	Y5	
-1.027083	6.770883	-1950795.	0.805114	Y5(-1)
(5.14656)	(201.018)	(5.0E+07)	(0.21371)	
[-0.19957]	[0.03368]	[-0.03930]	[3.76729]	
-3.112405	63.21538	-31389883	-0.157408	Y5(-2)
(5.28248)	(206.326)	(5.1E+07)	(0.21936)	
[-0.58919]	[0.30639]	[-0.61612]	[-0.71759]	

2.68E-09	-1.95E-07	0.698452	-1.51E-10	X1(-1)
(2.3E-08)	(9.0E-07)	(0.22170)	(9.5E-10)	
[0.11646]	[-0.21758]	[3.15038]	[-0.15834]	
1.64E-09	2.80E-07	0.124927	3.21E-10	X1(-2)
(2.2E-08)	(8.6E-07)	(0.21124)	(9.1E-10)	
[0.07501]	[0.32709]	[0.59140]	[0.35242]	
-0.000272	0.811932	-21278.52	-3.92E-05	X2(-1)
(0.00603)	(0.23554)	(58161.7)	(0.00025)	
[-0.04517]	[3.44710]	[-0.36585]	[-0.15672]	
-0.004530	0.100332	42419.88	9.15E-05	X2(-2)
(0.00634)	(0.24764)	(61149.1)	(0.00026)	
[-0.71447]	[0.40515]	[0.69371]	[0.34746]	
0.862008	-1.419175	-680479.7	-0.002353	X3(-1)
(0.23694)	(9.25446)	(2285186)	(0.00984)	
[3.63812]	[-0.15335]	[-0.29778]	[-0.23916]	
0.012689	6.389218	292923.6	0.003896	X3(-2)
(0.24001)	(9.37430)	(2314779)	(0.00997)	
[0.05287]	[0.68157]	[0.12654]	[0.39090]	
6.123384	75.29305	-8362488.	-0.088908	C
(4.33067)	(169.150)	(4.2E+07)	(0.17983)	
[1.41396]	[0.44513]	[-0.20021]	[-0.49440]	
0.891150	0.778525	0.889067	0.541304	R-squared
0.856318	0.707653	0.853569	0.394521	Adj. R-squared
3.470399	5294.353	3.23E+14	0.005984	Sum sq. resids
0.372580	14.55246	3593412.	0.015471	S.E. equation
25.58419	10.98493	25.04525	3.687789	F-statistic
-9.448363	-134.0605	-556.2335	98.72116	Log likelihood
1.085198	8.415324	33.24903	-5.277715	Akaike AIC
1.489234	8.819361	33.65307	-4.873679	Schwarz SC
5.308824	1230.176	83734000	-0.007047	Mean dependent
0.982920	26.91453	9390537.	0.019883	S.D. dependent
		5.01E+10	Determinant resid covariance (dof adj.)	
		1.46E+10	Determinant resid covariance	
		-590.9001	Log likelihood	
		36.87648	Akaike information criterion	
		38.49262	Schwarz criterion	

Source: Prepared by researchers based on E-views program outputs

The results of estimating the Vector Autoregressive Model VAR indicate that the ratio of the variance explained by the model to the total variance of the total variance in the dependent variable through the value of the coefficient of determination R2 is 0.54, which means that there are 0.54 of the changes that occur in the total credit gap index to the output are the source of the changes In the broad concept of money supply, the exchange rate and the interest rate, as the monetary policy, through its various variables, seeks to expand the credit circle to include all economic sectors because that expansion will ultimately lead to an increase in the overall supply and influence the distributional structure for it, and the stability of interest and exchange rates and the growth of the money supply are proportional. With the growth of output, it will provide a sound environment for consumers to make appropriate decisions in allocating their resources between different uses, and this effect also applies to producers as projects and institutions, as well as markets. This analysis applies to economies that are economically and politically stable, but the situation is different in the Iraqi economy, especially the period 2010-2018, in which political factors intertwined with economic factors and thus led to the result that the effect of monetary policy variables in the credit gap index / output is unclear, as confirmed by the rest the exams.

From following up on the results of estimating the model, we find that the clarified (corrected) coefficient of determination is the other with a low value, which indicates the weak contribution of credit institutions in financing the outcome. In contrast, the value of the F-test is also weak, and therefore the significance of the model as a whole cannot be recognized. In order to confirm the validity of the results for the relationship between the independent variables (money supply, exchange rate, interest rate) and the dependent variable, the credit gap index / output, some necessary tests must be performed that confirm the validity of the estimates for the values and the regression coefficient and the value of F ... we run the unit root test to find out its stability The time series is as shown in Table (4).

Table (4)
Model stability
For the relationship between money supply x1 and the rate of exchange rate x2
The interest rate is x3 and the credit / GDP gap is 5 y

Roots of Characteristic Polynomial
Endogènes variables: Y5 X1 X2 X3
Exogenous variables: C
Lag specification: 1 2
Date: 09/26/20 Time: 21:25

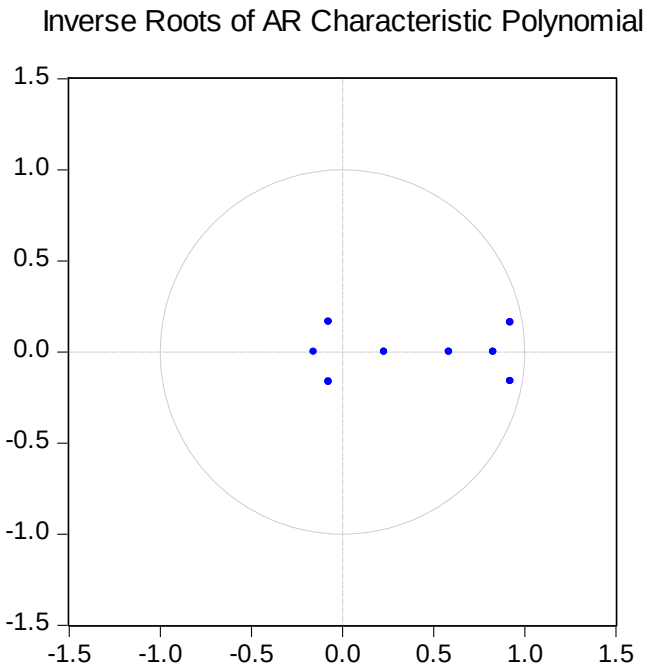
Modulus	Root
0.935665	0.921525 - 0.162053i
0.935665	0.921525 + 0.162053i
0.827862	0.827862
0.586104	0.586104
0.229840	0.229840
0.181258	-0.075856 - 0.164622i
0.181258	-0.075856 + 0.164622i
0.157637	-0.157637

No root lies outside the unit circle.
VAR satisfies the stability condition.

Source: Prepared by researchers based on the output of 9 E-views

Figure (2)

Unit circle of relationship between X1 money supply, X2 exchange rate, interest rate, and credit gap index / GDP



Source: Prepared by researchers based on 9 E-views output

From the above figure, it is clear that the model has stabilized and that the roots are all within the unit circle, and thus the possibility of performing various tests to examine the relationship between the model variables.

- **Conclusions:**
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1- The monetary policy in Iraq for the period 2010-2018 was able to increase the capital of the banking system, which helped in increasing the market capitalization / output index for the above period.
2- The credit gap index remained low for the above period, indicating the need to lift restrictions on credit to finance various productive sectors to ensure long-term financial stability.
3- The results of estimating the Vector Autoregressive Model VAR indicate that the value of the coefficient of determination R2 is high, which reaches 0.96, which means that the changes that occur in the total output capitalization index are the source of changes in the money supply in the broad sense, the exchange rate and the interest rate.
4- The results of estimating the Vector Autoregressive Model VAR indicate that there are 0.54 of the changes that occur in the total credit gap index / output.

They come from changes in the money supply in the broad sense, the exchange rate and the interest rate, which means the need for more credit financing for the national economy.

References:

- Dr. Abdel-Muttalib Abdel-Hamid, The Economics of Money and Banking, First Edition, Aldar University Press, Alexandria, 2007.
- Dr. Hussein Ibn Hani, The Economics of Money and Banking, First Edition, Al-Kindi House, Amman, 2002.
- Dr.. Ali Kanaan, Money, Banking and Monetary Policy, First Edition, Beirut, Lebanese Dar Al-Manhal, 2012.
- Dr. Saad Abdel Fattah - Dr. Khaled Wassef Al-Wazzani, Macroeconomic Principles between Theory and Practice, First Edition, Wael Publishing House, Amman, 2019.
- Dr. Adly Abdel Fattah, Macroeconomics, First Edition, Afaq House, Lebanon, 2005.
- Dr. Abdel Moneim Al-Sayed Ali - Dr. Nizar Saad al-Din, Money, Banking and Financial Markets, Al-Hamid Publishing and Distribution House, Amman, 2003.
- Santo So and other , Path system stability frame work , 2007.
- Santo So and others, Financial System Stability Frame Work , Chant , 2004.
- Andrew & vaugin, , Could Camels, Down Grade Model Improve of Site Sure ance , Federal Reserve 2005.
- Bruce R jewel , An Integrated approach to Business studies ,third edition , long man printed In China , 1996.