

Measuring and analysing the impact of the effectiveness of intermediate monetary variables in financial stability in Iraq for the period (2006-2018)

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Abstract: The achievement of stability in the economy at the macro level is closely linked to the development and stability of the financial sector, which ensures that it is able to direct savings to support productive investment opportunities that provide a large number of job opportunities and raise the level of productivity to the maximum extent possible. This means that financial stability stems from Which is the source of a sound financial system capable of facing shocks and absorbing them and their challenges, which will have a positive impact on the real sector in the economy .As stability in the financial system leads to raising the efficiency of financial intermediation and works on the direction and proper employment of financial resources and their optimal distribution on the activities of the economic sectors, and this is what makes monetary policies play their role effectively and efficiently, so the government authorities in general and the monetary authorities in particular are interested in various Including Iraq, by taking policies and measures to achieve the goal of financial stability, through its monetary tools and quantitative variables, especially the intermediate monetary variables (money supply, interest rates and exchange), which will positively reflect on economic activity, and ensure financial and economic achievement .The research concluded that the intermediate monetary variables of monetary policy are highly effective in achieving financial stability in Iraq, as there is a long-term equilibrium relationship between (interest rate, exchange rate, money supply) and financial stability in Iraq, and the research recommends the need to focus monetary policy in Iraq using Intermediate variables effectively, for their direct effects on macroeconomic variables, such as inflation, output, investment, capital mobilization and credit flows, and strengthening the role of the banking system in facing financial and monetary imbalances and shocks, as well as the integrity of the financial system, and what secures the financial stability of the country and the economy.

Introduction

The stabilization of the financial system is closely linked to the instruments and variables of monetary policy targeted by the monetary authorities of the Central Bank, Pursuing the objectives of monetary policy by maintaining price stability and exchange rate stability for domestic action and providing a cost-effective price structure commensurate with developments in global capital markets, Monetary policy uses efficient medium variables that help achieve its objectives with low material cost and short time, especially the objective of protecting the economy from price fluctuations. Monetary policy cannot be directly accessible to achieve its ultimate objectives , Except with its monetary instruments and variables, the use of intermediate variables becomes effective elements of financial stability, This means that the ability of central banks as the highest monetary asset and their empirical knowledge of the choice of variables depends on the effectiveness, impact and effects of these instruments to stabilize the financial system as a key central objective in the business of central banks , Therefore, the effect of the effectiveness of intermediate variables in financial stability is not limited only to theoretical and descriptive analysis, The impact of intermediate variables on financial stability in Iraq during the research period can be explained by the quantitative (standard) method, The standard model focuses on the three main financial stability indicators: deposits, capital of the banking system and credit.⁽⁴⁶⁻⁶³⁾

Deposits and capital are the main providers of credit for expanding aggregate supply and demand and thus economic growth as a fundamental and important condition for financial stability, the standard tests on time-series analysis, stability testing and joint integration testing were used to assess the pattern with a view to reaching the correlation between variables and their role in stabilizing the financial system.

Research Importance : The research derives its importance from the importance of financial stability, which has received wide interest from specialists at various levels, whether domestic or international, as a modern central objective pursued by central banks to keep pace with monetary, financial and banking developments , Their monetary instruments or variables are often used in accordance with the decisions and directions of monetary authorities and policy makers as required by financial and economic conditions and as appropriate to maintain a sound and efficient financial and banking system.

Research Problem: The research problem revolves around the questions: Is whether the intermediate variables of monetary policy (interest rate, exchange rate, cash offer) are effective in achieving financial stability in Iraq.

Research Hypothesis: The intermediate variables of monetary policy are highly effective in achieving financial stability in Iraq, as there is a long-term equilibrium relationship between (interest rate, exchange rate, cash offer) and financial stability in Iraq.

Research Aims:

1. To identify what the intermediate monetary variables are and their impact on financial stability.
2. To determine the effects of intermediate monetary variables on financial and economic variables in Iraq during the course of study
3. Statement of the impact of intermediate monetary variables on the financial stability of Iraq during the period of study.

The first topic: Is the theoretical framework for intermediate variables and financial stability.

Firstly: The intermediate variables of monetary policy and the criteria for its selection

1. **Intermediate variables of monetary policy:** Intermediate variables are monetary variables that enable monetary authorities to exercise their effects directly through their tools to achieve their ultimate goal, these variables, taken as a whole, form a link between the structural variables (initial objectives) and the ultimate objectives of monetary policy. They are clear and easy to absorb in a smooth manner by expressing the basic rates of the monetary mass, the exchange rate and the benefit , An intermediate variable is an economic monetary variable, using which the central bank can control in reasonable time and relative precision , And this variable has a relationship of stability and relative stability, which can at least be predicted, with the ultimate goal of monetary policy, Intermediate variables have a number of benefits, including the effects that the Central Bank produces through these variables, enabling monetary policy to influence fluctuations in the money supply and interest and exchange rates, Also, through these variables, clients are given a reference scope to focus and direct their expectations. Moreover, they express their independence through the operation of monetary policy if it spreads, provided that the intermediate variable achieves the ultimate objectives intended ⁽¹⁾, The types of variables are defined as follows:

- ¹⁾ **Monetary aggregates the supply of cash:** Monetary aggregates represent the supply of cash, which is money in the sense of deposits, and are coded as (M) They contain a number of types: ⁽²⁾
 - (M1): They represent cash rolling out of banks + on - call deposits.
 - (M2): M1 + savings deposits together with all other types of deposits in the form of money-like deposits at the central bank and other banks other than specialized banks.
 - (M3) : Representing (M2) + current and non-current deposits (government) called total local torrents.

Each total cash enters its next total until total torrents, and (M1, M2 and M3) relates to the monetary base by means of a cash multiplier, with the cash base comprising traded money and bank reserves , During the 1980s, monetary totals became the main target of the monetary authority, as these totals were expanded from M1 to M3, with the offer of cash determined from one state to another , But most countries are dependent on M2, because the purpose of money is to influence the wealth to reduce demand for goods and services and inflation expectations, given developments in financial instruments and increases in rapid cash circulation. It has become difficult for the monetary authorities to determine the offer of cash because the expanded offer of cash has become very important as an intermediate variable relative to modern economic systems, Moreover, these totals serve as intermediate monetary indicators that enable policymakers to monitor monetary growth in order to ensure rapid relative response to correct deviations , Among the available monetary aggregates, the question of selecting the appropriate monetary aggregate as an intermediate variable depends on developments in financial markets, the degree of diversification of financial instruments and their potential to receive financial innovations to see which monetary aggregates are more flexible for policy adapts ⁽³⁾.

- 2) **interest rate variable:** One of the most important variables used to drive economic activity through monetary policy in the light of macroeconomic movement is a variable of monetary variables, which is very important compared to other variables, by its effects on the supply of cash, savings, investment and income, It represents the cost to the investor and a return or profit on the depositor⁽⁴⁾. And defines the interest rate as the price paid for the acquisition of capital⁽⁵⁾. The value rate has been used by central banks as a variable in the monetary policy strategy, responding to developments at the international level of the financial system, as well as using the value rate as both a price and an intermediate variable through its effects on economic activity such as investments due to asset dependence on interest rate, As a means of monitoring the impact on the volume of cash and the exchange rate, low interest rates do not encourage savings for investment , High interest prices also disrupt consumption and investment. Monetary authority is required to control interest rates at average levels that are not as wide as the market balance. Fluctuations in the interest rate within extended levels cause fluctuations in economic stability⁽⁶⁾.

 - 3) **exchange rate variable:** The exchange rate represents only one price of a particular business purchased in another currency and is defined as "the number of units of foreign labour that pay a price for one single amount of domestic labour"⁽⁷⁾. One of the main variables is the economic situation of any particular state by maintaining the exchange rate, monetary policy can contribute to the overall economic balance by using the exchange rate as an intermediate variable for monetary policy. That the devaluation of the exchange rate improves the balance of payments and States tie their currency to strong convertible currencies by stabilizing the exchange of their currency against those currencies⁽⁸⁾. Moreover, the stability of the exchange rate constitutes the most important guarantee for the stability of the situation in any exogenous State⁽⁹⁾. As a result of exchange rate flexibility, the monetary authority is targeting the exchange rate by raising or lowering it to improve the balance of payments and thereby achieve economic stability. The exchange rate is the link between the domestic economy and the global economy and its effective effects on the competitive potential of the economy. It is also the main instrument that has direct implications for the relationship between domestic and external prices as a major factor in promoting exports and providing imports⁽¹⁰⁾. It can be argued that intermediate variables can be counted as signals of the work of monetary policy and as tools for communication with the public because they reveal the intentions of the priorities established by monetary policymakers , By following the medium variables used, in particular the price of the benefit, the public can offer cash to stabilize expectations, especially price, thus creating factors that help to achieve the ultimate goals, particularly the maintenance of price levels within their target range.
2. **Criteria for selecting intermediate variables :**The lead officer behind the central bank's strategy for selecting intermediate variables is determined by three basic criteria, It clarifies this with its due topics, the following points by the Central Bank and the effects of its prediction⁽¹¹⁾:

- **Measurement criterion:** The main objective of the Central Bank is to monitor the tracking of intermediate variables in a systematic manner as the objectives of its monetary policy intermediary, the cost-benefit rates and monetary aggregates of mostly measurable intermediate variables are very subtle, fast and necessarily indicative of how monetary policy is moving towards the ultimate goal or beyond the direction of the final path.
- **The criterion of control and control:** This means that the central bank must be able to control the intermediate variables, that is, that the central bank has the capacity to act on the variable and, in the event that it is not able to control them, deviates from the required paths.
- **Criteria for forecasting and impacts on objectives :**One of the most important features of a targeted beneficial variable is that it must be able to make a predictive impact. This is the predicted impact on ultimate objectives. For example, monetary aggregates or the price of benefit are targeted, and which is the best effect by achieving the ultimate objectives of monetary policy through them.

Secondary: Financial stability/general theoretical framework:

- 1) **Definition of financial stability :**Financial stability is defined as a condition under which a financial system comprising financial intermediaries, markets and market infrastructure can resist shocks and unravel financial imbalances so as to reduce the risk of disruption in its financial structure so that it is regular, that is, severe enough to produce a material recovery in real economic activity ⁽¹²⁾.
- 2) **Objectives of financial stability:** The main objectives of financial and banking stability are ⁽¹³⁾.
 - ❖ Reducing Risks That Show Their Impact with Financial Crises.
 - ❖ Enabling economic policymakers to identify any potential vulnerabilities before any financial crisis occurs.
 - ❖ Allows for proactive, preventive, and therapeutic policies at appropriate time.
 - ❖ Promoting stability in the macroeconomic system, not only at the level of financial institutions and individually.
 - ❖ Enhancing the viability, resilience and resilience of the financial system to support economic growth.
 - ❖ To identify the most important factors affecting the integrity and stability of the financial system by studying and analyzing them, fitting the size of bank credit with the size of economic activity and testing the economic situation and the level of its pressure on the banking sector .
 - ❖ To achieve a sustainable and high level of economic activity in order to ensure stable economic growth, institutions of the financial system must provide adequate financing and the lowest possible costs to sectors with real activity and high productivity, and ensure torrential and efficient risk reduction and management ⁽¹⁴⁾.
- 3) **Indicators of financial stability :** A total of indicators were issued by the International Monetary Fund (IMF) in 2000 showing the state of financial stability and as a window through which events could be monitored and monitored before they occurred, i.e., as

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early warnings of instability in the financial system, As well as its role used to assess bank performance and the vulnerability of financial systems to financial and economic crises, "any indicator of financial stability is defined as a viewable or observable variable and is used to describe a particular phenomenon that is difficult to fully understand ⁽¹⁵⁾. Indicators of financial stability serve as an early warning system to reduce the likelihood of crises as well as the costs of treating their effects, As a result, most of the supervisory authorities are paying close attention to indicators of financial stability, There is a large body of indicators to show financial stability in the financial sector, There are too many indicators and States vary in their use depending on the nature of the financial systems, reflecting the strength, integrity, vulnerability and fragility of the financial and banking system (strengths and weaknesses) of the financial sector in the States concerned. The most important and notable key financial stability indicators selected under study can be summarized ⁽¹⁶⁾ :

- **Capital Index:** It is an indicator of financial stability, as increasing its proportion enhances banking and financial stability, To raise financial resources and strengthen the capacity to confront any financial risk, to ensure banking peace and to provide substantial protection to the individuals in custody, In addition, any development projects need substantial financial resources and banking facilities for entry, robust markets for the contributor and its actions to promote financial stability and economic construction.
- **indicator of deposits:** It is one of the most important sources of financing for banks, accounting for a large proportion of the total requirements of banks, and it is important to show the economic activities of States, their increase is a reflection of the individual's inclination with investment expansions and an increase in the banking capacity to grant loans, thereby increasing banking profits. This reflects the state of financial stability, the opposite is true when they fall, that is, the low bank value of lending, and thus the lower profits of banks, which is reflected in the negative financial stability.
- **indicator of credit:** Reviews information on the financial base, reflecting the ability of credit institutions to perform their own functions in financial terms, the higher the level of this indicator, the more sophisticated the financial system is. Especially considering that credit includes domestic rather than foreign work, which can be a source of risk, the management of credit flows is necessary to increase the return first and to reduce the volume of risk second, and within the limits permitted, commensurate with the capital's medium and long-term risk sustainability potential at least ⁽¹⁷⁾ .

The second topic: Development of the effectiveness of the use of intermediate cash variables in Iraq for the period (2006-2008)

Firstly: Analysis of the effectiveness of intermediate (quantitative) variables of monetary policy for the period 2006-2018

1. **Analysis of the effectiveness of cash supply as an intermediate variable of duration (2006-2018) .**

The narrow cash supply, as defined by the traditional definition of the Central Bank of Iraq, represents out-of-bank cash plus active deposits in national and foreign labour for the economic sectors, with the exception of the central government sector of commercial banks, Out-of-bank cash represents cash that is the source of trade, except in central bank coffers, from which the cash is placed in commercial bank coffers, The broad cash supply in Iraq represents the narrow cash offer, as well as other deposits to the economic sectors, which are sufficient for commercial banks except for the central Government. These deposits contain enough types of deposits to the economic sectors in commercial banks, maintaining stable growth rates from the supply of cash in Iraq has become a primary objective by increasing or reducing it to have an impact on economic activity. Moreover, changes in the supply of cash have significant implications for aggregate demand, gross domestic product (GDP) and prices ⁽¹⁸⁾ . Table (1) shows the evolution of monetary supply variables that are relevant to financial stability, The upward motion to offer cash in the narrow and broad sense shows that increases in the supply of cash have been the result of the continued increase in government spending despite the deflationary trend of monetary policy to align the growth rates of the money supply with the real growth rates of the flow of goods and services , Annual growth rates for the tight cash supply continued to rise from (2006) to (2012), reaching the highest growth rate of (40%) in (2007) and the lowest negative growth rate of (-2%) in (2014) with a balance of (63736) billion dinars , This rate declined in 2012 to 2% from 2011 due to a decrease in the proportion of active deposits to a tight cash supply by 52% from 2011, and then rose to 16% due to an increase in out-of-bank work by 15%, as well as an increase in the proportion of current deposits to a narrow cash offer recorded (17.2%), During the years (2014) and (2015), the tight cash supply recorded negative growth rates of (-2%) and(-10%), respectively, as a result of the low percentage of current deposits, the tight cash supply due to the decline of torrential rains and the rationalization of government spending, which led to stagnation in economic activity levels and activities and the impact on the levels of tight cash supply during the above-mentioned period ⁽¹⁹⁾, During the years (2016-2018), the supply of tight cash increased at a recorded positive rate (8%) due to the relatively high importance of out-of-bank business growth as a result of public hedging to keep savings to meet the uncertainty of the recession in (2016) The supply of tight cash rose slightly from the year (2017) recorded (9%) due to the growth in current deposits of 8%, the problem of 43% offering tight cash, while out-of-bank work declined in negative proportion (-4%). This is good evidence of the withdrawal of deposits in favor of banks, and finally in 2018 , The growth rate of the tight cash supply declined (1%) due to the decline in current deposits as a result of the recession, The tight cash supply has seen a record composite growth rate (13%),A negative growth rate (-9%) in 2015 was (82,595) billion dinars, compared to(2014). Lower growth in the broad cash supply was due to a decline in the narrow cash supply and a decline in deposits this year, In (2016), the growth rate in the wide cash supply increased (7%), The rise in domestic torrents is due to the wide supply of cash as a result of the expansionist effects of net government debt despite the decline in oil prices and, consequently, the decline in foreign assets ⁽²⁰⁾ . The growth rate of the broad cash supply then declined to(2%) at the end of (2017) and increased at a positive growth rate in (2018), recorded (7%) due to the increase in the narrow cash supply as its base component of (77828) billion dinars , In addition to the rise in oil prices, the combined rate of growth of the wide supply of cash during the period (2006-2018) was a composite growth rate (12%), and figure (25) illustrates the trends of the narrow and broad supply of cash (2006-2018).

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Table (1)
Iraq's narrow and broad cash presentation and annual ratio (2006 - 2018)

Annual growth rate (%) (4)	Broad Cash Offer (M2) (3)	Annual growth rate (%) (2)	Narrow Cash Offer (M1) (1)	The period (2018-2006)
-	21080	-	15460	2006
28	26956	40	21721	2007
30	34920	30	28190	2008
30	45438	32	37300	2009
33	60386	39	51743	2010
20	72180	21	62616	2011
5	75466	2	63736	2012
16	87679	16	73831	2013
3	90728	-2	72691	2014
-9	82595	-10	65435	2015
7	88082	8	70733	2016
2	89441	9	76987	2017
7	95391	1	77828	2018
	%12		%13	Composite growth rate

The source:

1. Central Bank of Iraq: Economic Reports for the Years (2006-2018), General Director of Statistics and Research, various pages.
2. Central Bank of Iraq: Annual statistical publication for the years 2006-2018, Statistics and Research Service, Baghdad, various pages.
3. Columns 2 and 4 by researchers. The simple annual growth rate was calculated using the equation:
The composite growth rate was calculated using the formula: (base year/comparison year) $1/n-1 * 100$.

$$\text{average annual growth} = \frac{\text{terminal value} - \text{initial value}}{\text{initial value}} * 100$$

Secondly: Analysis of the effectiveness of intermediate (price) variables of monetary policy for the period (2006-2018)

1. Cost-Benefit Effectiveness Analysis as Medium Variable (2006-2018)

The value rate is very important as it is used by the Central Bank as a tool to influence inflation rates by acting as a conduit for the transfer of effects between the offer of cash and the exchange rate ⁽²¹⁾, One of the most important developments in the Iraqi economy after 2004 was the integration into the world economy and the attempt to attract investment, particularly foreign investment. This has led the central bank to take an important set of measures at the financial sector level to keep pace with these global developments, such as making the bank

price the basis price, The Central Bank links this rate to the economic situation in the country, where the country is at a higher inflation level than the target level, the price of benefit is increased and vice versa. Table (2) shows developments in interest rates for the Central Bank of Iraq during the period (2006-2018). The interest rate was raised by the Central Bank in (2006) to (16%) from (7%) in (2005), when it was adjusted by the Central Bank to draw the largest amount of individual cash to reduce inflation, Increases in the price of interest continued over the remaining consecutive years. The price of benefit was highest in (2007) during the period (2006-2018), with (20%) of investors registering their borrowing because of increases in value. In (2008), owing to an improvement in the foreign exchange rate (US \$) against the Iraqi dinar, the yield rate rose to (16.75%) , The price of benefit fell in (2009) to (8.83%) in (2009) due to low inflation rates in (2007) and (2008),at (30.8%)and (2.7%) respectively, Reductions in interest rates by the Central Bank continued to reach (6.25%) to stabilize the financial system by moving credit activity on the basis of a useful rate (6%) to finance development during the period (2011-2015), In addition to reducing the price of the benefit again for the period (2016-2018) to (4%) with a view to increasing growth rates in the Iraqi economy, Therefore, the asset price signal used by the Central Bank of Iraq and its response to inflationary pressures and expectations to restore real investment activities are the right roles. Maintaining real interest rates is the promise of a money price that serves to stabilize demand for the Iraqi dinar to meet inflation expectations.

Table(2)
interest rates ratios for the Iraqi financial sector for the period (2006-2018)

(%) interest rates	Years
16	2006
20	2007
16.75	2008
8.83	2009
6.25	2010
6	2011
6	2012
6	2013
6	2014
6	2015
4	2016
4	2017
4	2018

Source: The Central Bank of Bulletins for the and Research pages.

Iraq: Annual Statistical Years (2006-2018); Statistics Service, Baghdad; various

2. Exchange rate effectiveness analysis as an intermediate variable (2006-2018)

Monetary policy focused on a basic objective of managing monetary policy by stabilizing the domestic exchange rate of labour by influencing the element of inflationary expectations, reflecting the stability of the overall price level while gradually stabilizing the currency exchange rate ⁽²³⁾. One of the new developments in the Central Bank of Iraq has been the acquisition of independence under Law (56) of the year (2004) because of the new monetary policy strategy in managing the cash supply and maintaining its growth rates to maintain the value of the business and control over the general price level ⁽²⁴⁾. Table (3) Noting the developments in the exchange rate vis-à-vis the Iraqi dinar during (2006), as the exchange rate in the parallel and official markets improved to (1475) dinars and (1476) dinars, respectively, Its improvement continued to rise in (2008), with the parallel exchange rate (1203) reaching a growth rate (-5.05%) and the official exchange rate (1193) at a growth rate (-4.9%) , These continued improvements were due to the Central Bank's employment of a portion of foreign reserves, ⁽²⁵⁾ by the Central Bank to reduce the value of the dollar vis-à-vis the Iraqi dinar by absorbing part of the individual cash balance by increasing the amount of sales of the dollar against foreign currencies. The exchange rate has seen the two parallel markets and the official market stabilize in Medina (2009-2011), as this stability has been amplified by the fact that individuals retain foreign labour as a store of value rather than domestic labour, the exchange rate fluctuated between the highs and lows of (2012) and (2013), at (1233) and (1233) dinars, respectively, against the official exchange rate, which fell to (1166) for the same two years as a result of higher oil prices. This led to the accumulation of foreign reserves in the Central Bank of Iraq, which in (2013) amounted to some (74) billion dinars. The official exchange rate was established on (1190) dinars from (2015) to (2018). In relation to the parallel exchange rate, the rise and decline fluctuated with (1247), (1275), (1258) and (1208) dinars, respectively, during the years (2015), (2016), (2017) and (2018), The cause of this volatility has been the decline in the volume of foreign reserves as a result of the decline in oil prices, the deterioration in security conditions and the war in Iraq in recent years in some Iraqi governorates ⁽²⁶⁾.

Table (3)

Changes in the annual exchange rate of the Iraqi dinar against foreign labour (US dollar) for the period (2006-2018)

Source:

- 1) The Central Bank of Iraq (2006-2018), Statistics and Research Service, Baghdad, various pages.
- 2) Columns 2 and 4 by researchers

Third topic: Quantification of intermediate cash variables and analysis of their impact on Iraq's financial stability for the period (2006-2018)

Firstly: Theoretical framework of methods used in measurement models

The use of modern methods to test the relationship between intermediate variables (interest rate, exchange rate, cash offer) and financial resolution in Iraq has been achieved through the testing and analysis of time

Official price annual (%) growth rate (4)	official price (3)	Parallel price annual (%) growth rate (2)	Parallel price (1)	The period (2018-2006)
	1467		1475	2006
-14.451	1255	-14.101	1267	2007
-4.940	1193	-5.051	1203	2008
-1.927	1170	-1.745	1182	2009
0	1170	0.253	1185	2010
0	1170	0.928	1196	2011
-0.341	1166	3.093	1233	2012
0	1166	-0.081	1232	2013
1.886	1188	-1.461	1214	2014
0.168	1190	2.7182	1247	2015
0	1190	2.245	1275	2016
0	1190	-1.333	1258	2017
0	1190	-3.974	1208	2018

chains using static tests and joint integration methodology, with a view to achieving realistic and sound results of economic relations.

1. **Stationarity:** Static is essential for the study, processing and use of time chains in forecasting processes. Unless the time chain is static, no sound and logical results, such as R^2 or F, T values, will be obtained. The time series (Y_t) is considered stationary if the following properties are met ⁽²⁷⁾ :

- a. Stability of average values over time

$$E(Y_t) = \mu$$

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b. Consistency of variation over time

$$\text{Var}(Y_t) = E(Y_t - \mu)^2 = \sigma^2$$

c. - The variation of any value of the same variable is dependent on the time gap (K) between the values (Y_t, Y_{t+k}) and not on the actual value of the time calculated in the variation

$$\text{Cov}(Y_t, Y_{t+k}) = E[(Y_t - \mu)(Y_{t+k} - \mu)] = \gamma_k$$

It's:

The arithmetic medium = μ

Consistency of variation = σ^2

Variation coefficient = γ_k

2. Tests of Stationarity: It is sometimes difficult to determine the nature of the time chain (whether resident or not) either by simple observation or graph, and here we use statistical measures to test the existence or absence of the general trend in the chain, The simplest and most widely used of these measures is to divide the time series into two equal parts and then calculate the arithmetic average of each section, When the two arithmetic averages are equal or close to each other, it can be said that there is no direction in the time chain, and therefore it is resident, If there is a marked inequality, we conclude that there is a trend which means that the time chain is not static, and it can be further confirmed by a moral test of this difference , (i.e. making sure that the difference between the two averages is moral and not the result of coincidence) ⁽²⁸⁾. There are a number of methods used to test the slot of time chains: (autocorrelation function), (Q), also known as (Box-pierce), and the (Ljung - box), as well as the (Dickey and Fuller Root) Test, the (Augmented Dickey and Fuller) Test, and the (Phillips and Perron) Test.

a. Augmented Dickey and Fuller test: Dickie and Fuller (1979) tested the variable whether it had a single root or whether it was a white random movement (White Random Walk) ⁽²⁹⁾, setting two conditions (Null Hypothesis):

- $H_0 = Y$ has a Unit Root .

$$\rho = 0 \text{ (p=1)}$$

It means that the variable has a single root, that is, the variable is non-static, that is, the average, the variation and the variation of the variable are not constant across its time series, and the (Alternation Hypothesis):

- $H_1 = Y$ Stationary

$$\rho = 0 \text{ (p=1)}$$

It means that the variable does not have a single root, that is, the Mean mean, the variance (variance) of the variable is constant across the time chain ⁽³⁰⁾.

If the P-Value value is less than 5%, we refuse to impose noth and accept alternative imposition.

There are three cases for each hypothesis, as follows ⁽³¹⁾:

▪ Having Trend

$$\epsilon Y_{t-1} + \sum_{i=1}^K \rho_{i+1} \Delta Y_{t-i} + \mu_t \text{-----} (4) + \Delta Y = \theta t$$

- Having Constant And Trend

$$\mathbf{Bt} + \mathbf{0t} + \boldsymbol{\epsilon} \mathbf{Y}_{t-1} + \sum_{i=1}^K \mathbf{p}_{i+1} \Delta \mathbf{Y}_{t-i} + \boldsymbol{\mu}_t \text{---(5)} = \Delta \mathbf{Y}$$

- Non Constant And Trend

$$\mathbf{Y}_{t-1} + \sum_{i=1}^K \mathbf{p}_{i+1} \Delta \mathbf{Y}_{t-i} + \boldsymbol{\mu}_t \text{-----(6)} = \boldsymbol{\epsilon} \Delta \mathbf{Y}$$

- b. **Test Phillips-Perron :** Phillips and Perron General (1988) developed a further test of the variable to determine whether or not it suffered from the root of Unity Root, by placing both the nil and alternative hypotheses of Dickie-Fuller, as well as the same conditions for decision-making and cases for all ⁽³²⁾.

The Phillips-Perón test differs from the extended Dickey-Fuller test in that the extended Dickey-Fuller test can handle the chain connection that exists in the random error limit by adding the slow time difference to the variable on it, Whereas the Phillips-Perón test uses a self-correlating heterodynamic matrix and variation of variation ⁽³³⁾. Heteroscedasticity and Auto Covariance Matrix for Newey and West ⁽³⁴⁾, and the Phillips-Peron test is better than the Dickey-Fuller test in small samples ⁽³⁵⁾.

- c. **Joint integration tests:**

❖ **Engle And Granger Test**

The idea of joint integration (Counteraction) dates back to the "Granger" of 1981, in which Kranger believed that there was a correlation between the two time chains, with fluctuations in one eliminating fluctuations in the other, The ratio between them is constant over time, which means that the chain may be non-static if it is taken alone, but still if it is taken as a whole, it is therefore called common integration ⁽³⁶⁾. Kranger developed his idea with Engle in 1987 to develop a test known as the (Engle and Granger) Test, which requires that the time chain of the portal be thickened through the application of a (Unit Root Test) as an ADF or an (PP) test, Two hypotheses were also developed (Null Hypothesis) :

$$H_0: r = 0$$

It's:

r: Joint integration matrix rank.

Alternation Hypothesis:

$$H_1: r > 0$$

The Null Hypothesis means that there is no common complementarity between the two chains, and Alternation Hypothesis means that there is a common complementarity between the two chains ⁽³⁷⁾. The regression equation is then estimated in one statistical way as the standard small squares method (OLS) ⁽³⁸⁾.

❖ **Johansen and Juselius test**

Johansen and Jocelius introduced a new joint integration test (1990), due to the inappropriate Engle - Granger test of more than two variables and the small sample bias, Johansen and Joceleus have developed a test that allows for joint integration of more than two variables and requires all variables to be I (1), and the test is non-biased by small samples, The gates must undergo a unit root test prior to the test (Johansen - Goslius) ⁽³⁹⁾ . They rely on two tests, the (Trance test) and the (maximum eigen value test) the results of

$$\lambda_{trace} = -n \sum_{i=r+1}^k \ln(1 - \lambda_i) \dots \dots (7)$$

$$\lambda_{Max} = -n \ln(1 - \lambda_{r+1}) \lambda_{Max} = -n \ln(1 - \lambda_{r+1}) \dots \dots \dots (8)$$

which are obtained through the Null Hypothesis Which denotes the existence of (r) common integration vectors versus the alternative hypothesis of (r + 1) common integration vectors, and in this case when the value of the greatest possible is greater than that of the critical value , At a certain moral level, we reject the Null hypothesis and accept the alternative hypothesis , However, if the value of the greatest possibility is smaller than the necessary value, the null hypothesis is accepted and the alternative hypothesis is rejected, as these versions apply to the test of the maximum effect and values ⁽⁴⁰⁾ .

❖ **Self-regression model of slow distributions**

The Johansen Test (1988) and the Johansen-Joselius Test (1990) assume that the economic variables in the model are first class I (1), However, the asymptotic regression model of slow distributions (ARDL) allows the dependent variable to be static at difference I (1) and independent variables to be static at level I (0), and uses the ARDL to test the existence of long-term relationships between economic variables across time chains by (Pesaran and Shin, 2001)⁽⁴¹⁾ . The basic form of the ARDL model is:

$$Y_t = b_0 + b_1 Y_{t-1} + \dots + b_p Y_{t-p} + a_0 X_t + a_1 X_{t-1} + a_2 X_{t-2} + \dots + a_q X_{t-q} + U_t \dots (9)$$

- It's:
- Y_t: Dependent variable in(t).
- Y_{t-1}: independent variable in (t- 1).
- X: Independent variable.
- B, a:
- U_t: Random error limit.

The ARDL model is characterized by some advantages:

1. An ARDL model is a method that can be applied to samples whether small or large (80 - 30) ⁽⁴²⁾ .

2. Applies an ARDL to its public-to-private models, making a sufficient number of time fluctuations to generate practical data ⁽⁴³⁾.
3. An ARDL can be used regardless of whether there is a simple or multiple regression ⁽⁴⁴⁾.
4. An ARDL can distinguish between dependent and independent variables, eliminate problems generated by the existence of self-association, estimate the short-term and long-term relationship simultaneously and the abundance of efficient unbiased estimates, as well as the fact that an ARDL is based on a single equivalent.

In order to apply the ARDL model, the following conditions must be achieved ⁽⁴⁵⁾:

1. There is no auto correlation problem in the data.
2. There is no Heteroskedasticity problem in the data.
3. The absence of consonantal variables in the second difference [(2)I].
4. The researched variables must be all-round at either the first [I (1)] difference or the independent variables at the level [(0) I] and the dependent variable at the first [(1) I] difference.

Secondly: Measuring and analysing the effectiveness of intermediate monetary variables in Iraq's financial stability over the period (2006 - 2018)

1. Measuring the impact of intermediate monetary variables in Iraq's financial stability for the period (2006-2008)

a) **Description of standard models:** The research examines the effectiveness of the intermediate variables of (interest rate (R), exchange rate (EX), money supply in the broad sense (M2)) as independent variables for financial stability and basic variables (Total capital of the banking system of operating banks (government and private) Y1) , Total cash credit provided by working banks (government and private) (Y2), total working bank deposits (government and private) (Y3) as dependent variables, deposits and capital are essential for the granting of credit Thus expanding aggregate supply and demand for economic growth, which is an important condition for financial stability, Credit is an important element in the transfer of monetary currents in the monetary and financial markets to the real market, depending on the prevailing interest rates in the monetary market or the benefit rate, the basis for the central bank's determination of monetary policy trends. Moreover, the capital of the banking system is the primary support for risk management as a safety element of deposits, as the higher the value of capital, the greater the potential for financial stability, investment stimulus and thus influence the paths of economic activity. The general formula of the models is determined according to the following equation:

$$(Y1, Y2, Y3) = f(R, EX, M2) \dots\dots(1)$$

$$\Delta(Y1, Y2, Y3)_t = C + \sum_{t-1}^n \alpha_1 (Y1, Y2, Y3)_{t-1} + \sum_{t-1}^n \alpha_1 (Y1, Y2, Y3)_{t-1} + \sum_{t-1}^n \alpha_2 R_{t-1} + \sum_{t-1}^n \alpha_2 R_{t-1} + \sum_{t-1}^n \alpha_3 EX_{t-1} + \sum_{t-1}^n \alpha_3 EX_{t-1} + \sum_{t-1}^n \alpha_4 M2_{t-1} + \sum_{t-1}^n \alpha_4 M2_{t-1} + \beta_1(Y1, Y2, Y3) + \beta_2 R + \beta_3 EX + \beta_4 M2 + \mu_t \dots\dots(2)$$

It's:-

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Y1: Total capital of the banking system of operating banks (government and private)

Y2 : Total cash credit provided by working banks (government and private)

Y3 : total working bank deposits (government and private)

R : interest rate

EX: exchange rate

M2: Presentation of money in a broad sense.

Δ : The first difference of the variable

C: fixed limit

N: upper limit for optimal delay period

$$\alpha_1, \alpha_2, \alpha_3, \alpha_4 \quad \alpha_1, \alpha_2, \alpha_3, \alpha_4$$

The slope at short time

$$\beta_1, \beta_2, \beta_3, \beta_4 \quad \beta_1, \beta_2, \beta_3, \beta_4$$

The slope at long time

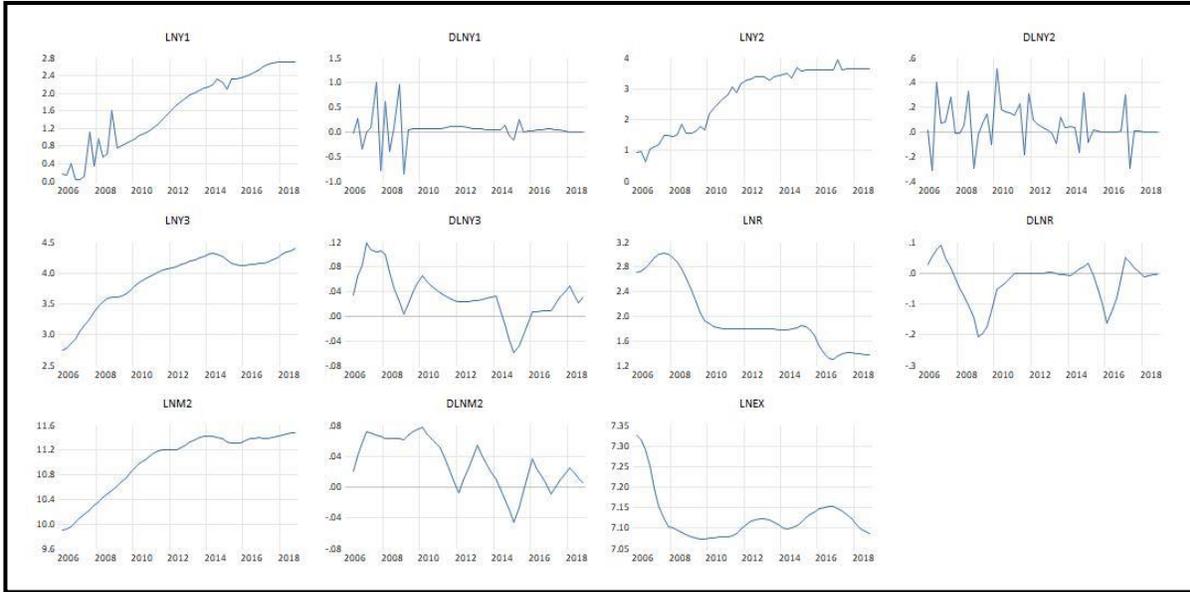
μ_t : Random Error Limit

b) The data:

Data on the total capital of the working banking system of banks (government and private) (LnY1), the total cash credit provided by working banks (government and private) (LnY2) and the total working bank deposits (government and private) (LnY3) have been used, As well as offering money in a broad sense (LnM2) in billions of Iraqi dinars and in current prices, the rate of proceeds (LnR) and the exchange rate (LnEX), these data have been converted from annual data to quarterly data (quarter-annual) for the period (2018.Q4-2006.Q1) Using the Letterman method and taking the natural logarithm, the number of sightings is 52, and the data appear in the following diagram (1):

Figure 1

The total capital of the banking system of working banks (government and private) (LnY1), the total cash credit provided by working banks (government and private) (LnY2), the total working bank deposits (government and private) (LnY3) and the supply of money in a broad sense (LnM2), the rate of proceeds (LnR) and the exchange rate (LnEX) In Iraq for the period (2018. Q4-2006-Q 1)



Source: Prepared by researchers based on the Statistical Program (Eviews 12).

- c) **Unit root tests:** There are a number of tests to determine whether the time series is static, and the time series means that its medium and variation are constant over time as well as heterogeneity, so that the time series is static if the above three conditions are met, thereby avoiding the phenomenon of false decline. Table (4) below shows that all time series are Stationarity at the first difference [I (1)] Except for the variable time series (LnEX) is static at level [I (0)], by a statistical value (T) of both tests (ADF, PP) greater than tabular In addition, the (P-Value) value is less than (5%), which means rejecting the nihilistic imposition that the time chains are non-static and accepting the alternative imposition that all time chains are static at the first [I (1)] difference except for the time series of the variable (LnEX).

Table (4)
Test (ADF, PP) for ARDL models

unit root tests									
At (Level) *					At first difference				
Tests Variables	ADF		PP		ADF		PP		
	T-Statistic	Prob	T-Statistic	Prob	T-Statistic	Prob	T-Statistic	Prob	
LnY1	-1.365	0.590	1.187	0.673	-8.792	0.000	-25.518	0.000	
LnY2	-1.989	0.291	-1.799	0.377	-9.344	0.000	9.119	0.000	

Measuring and analysing the impact of the effectiveness of intermediate monetary variables in financial stability in Iraq for the period (2006-2018)

LnY3	-1.594	0.478	-1.765	0.394	-3.937	0.012	-13.315	0.000
LnR	-1.694	0.428	-1.036	0.734	-3.408	0.016	-3.568	0.015
LnM2	-2.718	0.080	-1.005	0.934	-11.560	0.000	-11.647	0.000
LnEX	-4.163	0.002	-4.010	0.002	/	/	/	/

Source: Prepared by researchers based on the Statistical Program (Eviews 12)

Notes * The pattern includes at the level the intersection limit, and also at the first difference.

d) **Estimation of standard models:** A boundary test (F-Bonds Test) has been used to determine a long-term relationship in the case where the time series of researched variables are inhabited at the first difference I (1) or a combination between the first difference I (1) and level I (0). Table 31 shows a long-term equilibrium relationship for the three models and for the (total capital of the banking system working (government and private) (LnY1), total cash credit provided by working banks (government and private) (LnY2) and total working bank deposits (government and private) (LnY3), The F-Bonds Test, which is larger than all higher values at a moral level (5%), confirms the refusal to null hypothesis and to accept the alternative hypothesis of a long-term equilibrium relationship.

2. Analysis of the impact of the effectiveness of intermediate monetary variables in Iraq's financial stability over the period (2006-2018)

1) Statistical and economic interpretation of the first model

- Statistical Interpretation of the First Model {total Capital of the Banking Functioning System (Government and Private) (LnY1)}

The table shows that in the long term, all variables are dematerialized since the value of (T) is greater than tabular, as well as (P-Value) is less than (5% ,)which means refusing to null hypothesis and accept alternative hypothesis. If the price of LNR increases by (1%), it will increase the capital of the banking system (LnY1) by (0.33%), and the opposite happens in case of a decrease assuming that other factors are constant which effect in the model, if the supply of cash (LnY2) increases by (1%), it will increase the capital of the banking system (LnY1) by (1.82%) and the opposite occurs in case of a decrease assuming that other factors affecting the model are constant. An increase in the exchange rate of (1%) would increase the capital of the banking system by (1.49%) and the opposite would occur in case of a decline assuming that other factors affecting the model were constant, if any short-term imbalance in this relationship results in long-term equilibrium, the error correction model restores the balance quickly (1.2045) quarterly, which means that (120.45%) of the imbalance in the shock of the last chapter is corrected in the current chapter.

- Economic Interpretation of the First Model {total Capital of the Banking Functioning System (Government and Private) (LnY1)}

The offering of cash is the most effective instrument of direct influence on the capital of the banking system. The presentation of cash is highly flexible and increases it by a certain

percentage, increasing the capital of the banking system by (182.37%), The monetary authority uses the purchase of bonds in order to increase the supply of cash and increase its market price, thereby increasing the profits of the banks, and thus increasing the capital of the banks , On the other hand, the increase in bank profits increases the stock prices of the banks themselves, and as long as the increase in the supply of cash reduces the interest rates, which increases the granting of credit, increases the total credit margin, thereby increasing the profits of the banks, which increases the profits held, thereby increasing the capital of the banks, In addition, in these circumstances (higher share prices and higher profits with high credit demand) and in order to increase credit grants, banks are putting new shares on the market to increase the bank's capital, thus increasing the bank's capital again.

The exchange rate, on the other hand, is an effective influence on the capital of the banking system, which has a higher flexibility, and on the other hand, the more the exchange rate of the Iraqi dinar against the United States dollar (devaluation of the currency), the more the capital of the banking system increases by (149.26%) , Given its investment opportunities for foreign capital to possess a large untapped potential for the Iraqi economy, which requires a large capital banking apparatus to finance these foreign capital projects, domestic capital increased the exchange rate of the dinar against the dollar as an increase in the exchange offer and thus the above-mentioned case of an increase in the exchange offer, While the interest rate is one of the least flexible instruments that directly affects the capital of the banking system, an increase in the interest rate by a certain percentage would increase the capital of the banking system by (33.46%), This is because the increase in the interest rate will increase the credit margin ratio, which will increase the profits of banks and thus the profits held, which will increase the capital of banks.

2) Statistical and economic interpretation of the second model

- statistical interpretation of the second model {total cash credit provided by working banks (Government and Private) (LnY2)}

The table shows that in the long term all variables are dematerialized since the value of (T) is greater than tabular, as well as (P-Value) is less than (5%), which means rejecting null hypothesis and accepting alternative hypothesis, When the price of (LNR) increases in proportion (1%), it increases the cash credit (LnY2) by (0.60%), and the opposite occurs in case of a decrease assuming that other factors affecting the model are constant, When the cash supply (LNM2) is increased by (1%), it will increase the cash credit (LnY2) by (1.25%), and the opposite is achieved in case of decline assuming that the other factors affecting the pattern are constant. Whereas an increase in the exchange rate by (1%) would result in a decrease in the cash credit (LnY2) by (1%) and the opposite would occur in the case of a decrease assuming that other factors affecting the pattern are constant, In addition, a short-term imbalance in this relationship over the long-term equilibrium, the error correction model will quickly restore the balance (-0.4410) quarterly, Which means that 44.10% of the imbalance in the shock of the last chapter is corrected in the current chapter.

Measuring and analysing the impact of the effectiveness of intermediate monetary variables in financial stability in Iraq for the period (2006-2018)

- Economic interpretation of the second model {total cash credit by public (government and private) banks (LnY2)}

The supply of cash directly affects bank credit in Iraq and is highly flexible. When the supply of cash increases by a certain percentage, it increases bank credit in Iraq by (125.11%). This increase provides banks with the necessary torrents for customer credit, thereby enhancing the financial stability of the economy, The interest rate also affects bank credit directly, but its flexibility is low, as increasing the interest rate by a certain percentage would increase bank credit to Iraq by 60%, As a result of the Iraqi government's launching of its development plans in the agricultural, manufacturing and housing sectors, as well as the availability of investment opportunities, this has led entrepreneurs as well as low-income people (for housing projects and durable goods such as automobiles) To borrow despite relatively high interest as a result of the improved security situation in most Iraqi governorates after (2008), While the exchange rate has equal flexibility, increasing it by a certain percentage would result in bank credit being reduced by 100.33% of the increase, Devaluation increases the prices of all imported goods Which is usually production and medium, Moreover, in times of inflation, monetary wages rise, and these factors increase the overall cost of investment projects. At the same time, inflation is reducing the purchasing power of people, especially those with low incomes , This reduces the total income of the project So profit reduction, and that's about large-scale projects with economies of scale, Medium-sized and small enterprises could be lost and bankrupt Thus, every increase in the exchange rate of the Iraqi dinar against the United States dollar is offset by the departure of its investment projects from the market and, consequently, the decline in bank credit.

Table (5)

Results of model estimation ARDL

ARDL Model			
LnY3	LnY2	LnY1	Dependent Variable
			Independent Variable
1.189173***	***0.440957	-	D(LNY (-1))
		1.105097***	
-	/	-	D(LNY (-2))
0.584198***		0.875438***	
/	/	-	D(LNY (-3))
		0.737104***	
/	/	-	D(LNY (-4))
		0.486905***	
0.182948***	***2.222700	-2.141927*	D(LNR)
-	*1.361988-	2.041558	D(LNR(-1))
0.247190***			

0.146887**	/	0.935616	D(LNR(-2))
/	/	-1.340714	D(LNR(-3))
/	/	1.912206	D(LNR(-4))
0.871004***	**1.802780	0.133937	D(LNM2)
/	/	0.226496	D(LNM2(-1))
1.111940***			
0.607333***	/	-0.015525	D(LNM2(-2))
/	/	0.071760	D(LNM2(-3))
/	/	7.251317***	D(LNM2(-4))
-0.096889	**1.445740	-3.490201	LNEX
-0.216491	/	55.14723*	LNEX(-1)
/	/		LNEX(-2)
		102.2307***	
/	/	86.37521***	LNEX(-3)
/	/		LNEX(-4)
		29.52599***	
0.002068	10.33456**	-44.56998*	C
/	-0.440957***		CointEq(-1)
0.395025***		1.204543***	
Long-run estimates			
0.209215**	0.597319**	0.334576**	D(LNR)
0.927530**	1.251099**	1.823738**	D(LNM2)
-0.793318**	-1.003319**	1.492555**	LNEX
0.005236	7.172012**	-10.60043**	C
Model diagnostics			
4.636452**	24.885***	13.553***	F-Bounds Test
0.965	0.339	0.822	R – squared
0.956	0.263	0.697	Adjusted R – squared
105.107***	4.506***	6.557***	F – statistic
0.1488	0.8228	0.1279	Breusch – Godfrey
0.3104	0.7321	0.0819	Breusch – Pagan – Godfrey
0.9690	0.5651	0.3693	Jarque – Bera
0.1134	0.1186	0.1004	Ramsey RESET
Stable	Stable	Stable	CUSUM
Stable	Stable	Stable	CUSUM – squared

Source: Prepared by researchers based on the Statistical Program (Eviews 12)

3) Statistical and economic interpretation of the third model

- Statistical Interpretation of Third Model {(Total Working Bank Deposits (Government and Private)) (LnY3)}

The table shows that, in the long term, all variables are dematerialized, since the value of (T) is greater than tabular, as well as (P-Value) is less than (5%), which means rejecting null hypothesis and accepting alternative hypothesis. Increasing the (LNR) rate by (1%) would increase the LnY3 deposits by (0.21%), and the opposite would occur in the event of a decrease assuming that other factors affecting the model are constant. An increase of (1%) in the offer of cash (LNM2) would result in an increase of (0.93%) in working bank deposits (LNY3), and the opposite would occur in the event of a decrease assuming that other factors affecting the model are constant, Whereas an increase in the exchange rate by (1%) would result in a reduction in working bank deposits (LNY3) by (0.79%) and the opposite would occur in the event of a decline assuming that other factors affecting the model are constant, When there is a short-term imbalance in this relation to the long-term equilibrium, the error correction model will re-balance rapidly(- 0.3905) quarterly, meaning that (39.50%) of the imbalance in the shock of the last chapter will be corrected in the current chapter.

- Economic interpretation of the third model {(total bank deposits in operation (government and private) (LnY3)}

The model shows that the presentation of cash is almost evenly flexible, as it directly affects bank deposits, increasing it by a certain percentage would increase bank deposits by (92.75%). The money supply provides banks with the means to cope with customer withdrawals, thereby reducing the risk of bank non-payment and bank bankruptcy. While the price of interest is very low, for a certain percentage increase, bank deposits will increase by (20.92%). The price of the benefit is the cost of keeping the money, and therefore the greater the benefit, the higher the cost of the alternative opportunity, the increase in the exchange rate of the Iraqi dinar against the United States dollar (devaluation of the currency) has an adverse and low-flexibility effect, increasing it by a certain percentage would reduce bank deposits by (79.33%). The result of depositors receiving very low, if not negative, interest is that the inflation resulting from the devaluation of the work reduces depositors' desire to deposit in banks as a result of the disappearance of the cost of the alternative opportunities represented by real interest rates, Thus, individuals either dollar savings and acquire them, transfer them to goods or flee national capital abroad.

The above-mentioned models are statistically acceptable. The (P-Value) value of a statistical test (F) for all models is less than (5%), which means refusing to null hypothesis and accepting alternative hypothesis in the holistic sense of the models, in addition, all estimated models do not have a serial connection problem, as confirmed by the Breusch-Godfrey test. The (P-Value) value of (Obs * R-Squared) is greater than (5%), which means accepting the null hypothesis and refusing alternative hypothesis, as well as the fact that all models do not have the problem of asymmetry,

As the (Breusch-Pagan-Godfrey) test shows, the (P-Value) value of (Obs * R-Squared) is also greater than (5%), which means accepting the null hypothesis and refusing alternative hypothesis. In addition, all models are naturally distributed as shown by the (Jarque-Bera) test, with a (P-Value) value greater than (5%), which means accepting the null hypothesis and refusing alternative hypothesis, Moreover, the estimated models are well-characterized as confirmed by the (Ramsey RESET) test. The (P-Value) statistical value is greater than (5%), which means refusing to null hypothesis and accepting the alternative hypothesis that the estimated models do not have a characterization error problem. Also, Stables are stable as confirmed by two tests (CUSUM & CUSUM-squared). The line of appreciation is between the limit of confidence, which means accepting the null hypothesis and refusing alternative hypothesis

conclusions and recommendations: -

Firstly: conclusions

1. Monetary variables have a high impact on the financial stability of Iraq. There is a long-term equilibrium relationship between (interest rate, exchange rate, cash offer) and financial stability in Iraq.
2. The offer of cash is almost even-handed, as it directly affects bank deposits, increasing it by a certain percentage would increase bank deposits by (92.75%) , The money supply provides banks with the means to cope with customer withdrawals, thereby reducing the risk of bank non-payment and bank bankruptcy, While the price of benefit is very low as its increase by a certain percentage will increase bank deposits by (20.92%) of those ratios, The price of the benefit is the cost of keeping the money and therefore the greater the benefit, the higher the cost of the alternative opportunity , The increase in the exchange rate of the Iraqi dinar against the United States dollar (devaluation of the currency) has an adverse and low-flexibility effect, increasing it by a certain percentage would reduce bank deposits by (79.33%) . The result of depositors receiving very low if not negative interest is that inflation resulting from devaluation reduces depositors' desire to deposit in banks, as a result, the cost of alternative opportunities, represented by prices of real benefit, has disappeared, and thus individuals either dollar savings and acquire them, transfer them to goods, or flee national capital abroad.
3. Financial and monetary developments, reflected in the effects of quantitative intermediate monetary variables, such as the presentation of cash and price, such as interest and exchange rates, play important and influential roles in fundamental financial stability variables, these effects all affect the variables of the economy in pictures that show and illustrate mutual relationships and interplay in one or two directions.

Secondly: recommendations

1. The need to focus monetary policy on the role of the presentation of cash and its importance as a highly influential and effective intermediate variable in financial stability variables, to achieve stable growth in the supply of cash that is even at a minimum compatible with indicators of financial stability and to channel the monetary mass with images that ensure that the negative effects of rising or falling domestic torrents are reduced from their right amount.

Measuring and analysing the impact of the effectiveness of intermediate monetary variables in financial stability in Iraq for the period (2006-2018)

2. Working on a measure to monitor financial and monetary developments, in addition to creating modern means of total credit as a key indicator of financial stability, by which market stability and financial stability take place in different economic sectors.
3. To make use of and learn about the experiences of States, particularly in the areas of capital investment, so as to ensure that returns are generated by financial assets and bankers with appropriate margins of security.
4. To make use of the experiences of States in supporting and promoting financial stability, particularly those countries that are similar to Iraq with their economies and social patterns.

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