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Analysis of the Impact of Some Monetary and Fiscal Policy Variables on Inflation and U9nemployment in the Iraqi Economy for the Period (2005-2022)

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Abstract

The research deals with measuring and analyzing how the fiscal and monetary is related to inflation and rates of unemployment in the economy in Iraq between 2005-2022, and this topic has been addressed to find out the role played by these two policies in achieving economic stability. This can happen when inflation and unemployment rates are controlled, the research started from the premise that there is no economic balance between macroeconomic variables, and the separation of the behavior of the financial and monetary policies from some real macro variables such as inflation and unemployment, and for proving the hypothesis was used. The study has found that there is a discrepancy in the variables of the Qiddiya and financial policies and the coordination lack between the two policies in affecting inflation and unemployment rates, and this approves the research hypothesis, and the research recommends working to adopt financial policies generating investments driving the economic wheel by developing new plans for investment spending in the real sector by the movement of high-productivity activities the external sector is not able to compete with by the open-door policy, which It works to attract the labor force and eliminate unemployment. All the tables are created by the (12EViews.) by the researchers.

Keywords: Monetary Policy, Fiscal Policy, Inflation, Unemployment.

Introduction

One of the conditions for the total balance of the economy of any country is to achieve parity between aggregate demand and aggregate supply, and this total balance is due to the partial balances interacting with each other, represented in the commodity and monetary markets and the labor market, linked and coordinated within the framework of macroeconomic policy, as the latter has become a package of policies like fiscal and monetary policy, as these two policies are among the most influential policies on economic variables. College, as the area of influence of monetary policy is the money market and its main tools, which are the rediscount rate, legal reserve, open market, while fiscal policy has a field of influence is the production market and its main tools are government spending and revenues, and since fiscal policy is considered as a pillar of monetary policy, representing the basic elements of the economic policy of countries, and are closely related to each other, which requires a great compatibility between the actions and measures taken by the monetary authorities, and the measures and procedures of the Financial authorities, in a manner that ensures that the objectives of each of them do not conflict in order to facilitate access to the desired goals.

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Many economies, including the Iraqi economy, suffer from significant weaknesses in fiscal and monetary policies, which leads to the emergence of many imbalances, due to the lack of the appropriate economic environment to activate the tools of each of the two policies, it is not possible to continue those policies that prevailed in their economies during the previous period, as their continuation creates more negative effects than it creates the positive results it seeks to advance development, achieve economic growth and reduce unemployment and inflation rates. and achieving economic stability, and in light of the above, the following question is asked:

How did the monetary and fiscal policies contribute to reducing inflation and unemployment rates, and rebalancing the overall Iraqi economy?

Research hypothesis:

The study proceeds from the hypothesis: the absence of economic balance between macroeconomic variables, and the separation of the fiscal and monetary behavior from some real macro variables such as inflation and unemployment.

Research Objective

The research aims to the extent to which there is coordination and integration between monetary and financial policies to alleviate unemployment and inflation rates in the Iraqi economy and determine who is the most interactive policy in this field.

Research Limitations

- **1-** Spatial boundaries: The Iraqi economy.
- **2-** Time limits: duration (2005-2022).

Research Outline



The first topic:

The conceptual framework of fiscal and monetary policies and their relationship to inflation and unemployment

First: Monetary policy and its relationship to inflation and unemployment:

1- The monetary policy:

It is an economic policy tools which government authorities use along with other policies to affect economic activities by its impact on the pivotal variables making up this activity like investment, production, income and prices, and it is the measures of the Central Bank to achieve stability in prices to maintain the value of money, in other words, curbing depression, inflation or the general rise in the prices. (Faure, 2015, p. 107)

Monetary policy has also been a monetary authority in a country controlling the money supply, often targeting the inflation rate or interest rates for price stability and public confidence in the currency to contribute to economic growth, lessen unemployment and keep predictable exchange rates with other currencies. (Al-Bakri and Al-Safi, 2010, p. 190)

2- The monetary policy relationship to inflation:

The inflation rate or rise in the prices is one of the most important macroeconomic indicators

It can be considered among the economic indicators that carry direct political connotations due to its direct repercussions on purchasing power and the welfare of consumers and the pattern of spending and savings for families and companies, as well as the movement of the inflation rate affects the rates and rates of investment due to its association with the impact on the incomes and returns of investment operations, and in contrast, monetary policy in represents the tool by which Implements and achieves the objectives of economic policy. It can be said that controlling monetary policy helps to control many economic indicators related to currency conditions and conditions internally such as the inflation rate and externally the exchange one.

All economic schools have agreed on a close and solid relationship between monetary policy and the growth of inflation rates in the short and long term, and as long as inflation is conditional on the general rise in the general prices continuously and quickly, the monetarists and Keynesians agree with Friedman's assumption that inflation is a monetary phenomenon, so the main goal of monetary policy in dealing with inflation stems from theoretical and practical vocabulary connected to economic stability, as it is noted that many central banks targeted inflation to conduct Monetary policy, which is characterized by the general declaration of the official target of areas or a quantitative target for the inflation rate for one or more periods of time with the apparent recognition that

Reducing and stabilizing inflation on the long term is the main objective of monetary policy. (Dagher and Farhan, 2017, p. 2)

In order to confront inflation, the Central Bank resorts to using monetary policy tools, like, raising the interest rates, withdrawing cash liquidity from the markets as profits are demanded and since the high interest rate makes profits with doubt about future market conditions, then investors deposit their money in banks for interest rates, so cash liquidity, demand and inflation rates decrease, and the Central Bank use cash reserve ratio, meaning the money that banks must keep with the Central Bank, and the latter is decides on the money percentage the bank performs according to economic conditions, when inflation happens, the Central Bank raises this

3110 Analysis of the Impact of Some Monetary and Fiscal Policy Variables percentage, so it grants credit decrease, and then demand drops, prices drop and then inflation, and vice versa in deflation.(**Dulaimi, 1990, p. 612**)

The discount rate is the oldest tool of the central banks, and it is the interest rate which the central bank change for rediscounting commercial documents of commercial banks, increasing their liquidity, and the central bank in high inflation rates, it raises the discount rate as borrowing becomes more expensive, lowering spending and investments to control inflation by reducing economic activity and overall demand in the economy. Also, an important tool of monetary policy is open market operations, represented in the operations of the Central Bank to buy and sell securities in various terms, in particular short-term, for controlling the money supply and the volume of credit and requires the success of this tool with a sophisticated financial and monetary market during high inflation rates, the bank offers securities (stocks and bonds in its possession for sale, to absorb excess liquidity in the market and decrease the money in circulation and the low prices. (Makid and Ashit, 2017, p. 77)

Accordingly, by the Central Bank of the State changes monetary policy whose aim is to confront inflation and achieve monetary stability and thus make internal and external economic stability.

3- The relationship of monetary policy on the unemployment rate:

The relationship of the efficiency of monetary policy represented by the unemployment is freely reflected and how the central bank tools are used in terms of independence in formulating and implementing monetary policy, which affects the monetary policy performance indicators showing the economic situation of the country, here the central bank affects the money supply and the volume of bank credit by the prevailing interest rates.

If the national economy faces unemployment, the expansionary monetary increasing the money supply or buying bonds and papers through the open market or by increasing the volume of loans provided or reducing the interest rate to deal with this issue, and since the interest rate is part of the cost of investment, increasing investment and then production and job opportunities increase, i.e. the high level of employment and the low unemployment rate, that is, the level of Net national product that achieves full employment, meaning the interest rate and the money supply are related (**Rode, 2012, pp. 42-43**).

Second: The concept of fiscal policy and its relationship to inflation and unemployment:

1- The concept of fiscal policy:

It is the economic policy tools of the government authorities to manage and direct the economy to affect the distribution of income, address the shocks or crises it is exposed to, and maintain stability and sustainability of conditions achieved through the collection of public revenues and public expenditures. (**Bogdanov**, 2010, p. 5)

It is also defined as: a program planned and implemented by the state deliberately using all government efforts and attempts adopted in identifying the various sources of revenue for the purpose of financing public spending in its various forms of current and investment spending to achieve economic goals, the most significant is economic stability for the country. (Ali M., 2008, p. 134)

2- The relationship of fiscal policy to inflation:

Fiscal policy has a major role in addressing inflation rates Controlling inflation rates through a set of measures of the state to influence economic activity, as the tax control policy has an

effective impact in controlling inflation movements by raising income tax rates, which leads to a decrease in consumer spending for individuals and then a drop in aggregate demand, which may also result from raising tax rates for corporate profits and indirect customs duties on Imported and domestic goods.

On local and imported goods, as the tax is an effective tool for low inflation rates on the one hand and on the other hand its proceeds can be converted into productive investments, and government authorities seek through control over government spending to limit the increase in aggregate demand, as the government through the adoption of this policy to rationalize spending both consumer and investment in proportion to the conditions that the economy is going through (inflation or deflation), the government By drecreasing public spending by using the surplus in the public budget to affect other aspects of spending, as the control of public spending has more impact on the volume of total consumption than on the volume of investment, as well as the policy of tax control and control of public expenditure that contributes to controlling public debt in the management of financial transfers and directing productive spending by freezing excess purchasing power in the markets and using it to finance the deficit in the public budget.(**Guartini, 1988, pp. 306-307**)

3- The relationship between fiscal policy and unemployment:

Countries intervene to get out of economic recession crises and the resulting unemployment using fiscal policy tools as follows:

A- **Through public spending policy:** If unemployment and economic stagnation accompany a particular economy, governments, by increasing public spending, are providing employment opportunities for thousands of unemployed by employing them in government administrative jobs in the field of health, education, the judiciary, and security, or through public projects such as: building roads, building bridges, building schools and hospitals, or, in turn, will provide entry for new employees and workers, increasing consumption and their demand to buy products, which works to open factories from The expansion of public spending through the provision of social benefits such as unemployment benefits, poverty and old age, increasing in personal incomes and consumer spending for them, and then leads to a rise in aggregate demand and increases the incentive to invest, increasing the demand for labor, reducing unemployment rates (Ali A., 2017, p. 28)

B- **Through tax policy:** Tax policy is used to get out of the recession and unemployment crisis by reducing the escalation in the tax applied to different income segments, which contributes to increasing their consumption and then increasing aggregate demand, which increases the incentive to invest, and low-income groups are the ones that can increase demand due to the high marginal tendency to consume and fiscal policy can also increase investment by using the tax part on profits, as in the case of reducing them and giving long exemption periods leads to This is to increase the incentive to invest and then the demand for labor and thus get rid of the crisis of recession and unemployment. (Al-Jubouri and Abdulkhaleq, 2015, p. 207)

The second topic

Analysis of the reality of monetary and financial policies in the Iraqi economic environment

(2005-2022)

3112 Analysis of the Impact of Some Monetary and Fiscal Policy Variables First: the behavior of monetary policy variables:

Years	M2 Cash Supply	Growth rate %	Official interest rate	Parallel exchange rate
2005	14684000		7.0	1492
2006	21080000	43.56	16.5	1475
2007	26956076	27.88	20.0	1267
2008	34919675	29.54	16.75	1203
2009	45437918	30.12	8.83	1182
2010	60386086	32.90	6.25	1185
2011	72177951	19.53	6.0	1196
2012	77187497	6.94	6.0	1233
2013	89512076	15.97	6.00	1232
2014	92988876	3.88	6.00	1214
2015	84527272	9.10-	6.00	1,182
2016	90466370	7.03	4.33	1275
2017	92857047	2.64	4.00	1258
2018	95390725	2.73	4.00	1,208
2019	103440475	8.44	4.00	1,208
2020	119743009	15.76	4.00	1,234
2021	139886007	16.82	4.00	1,474
2022	168202340	20.24	4.00	1,483

Table(1) The Evolution of Monetary Policy Variables in the Iraqi Economy (2005-2022)

Source: Central Bank, Directorate General of Statistics and Research, Statistical Yearbooks, for different years.

1- Cash Supply:

Table (1) shows the rise in the money supply in its broad sense during (2006-2010), high growth rates of (43.56%) and (27.88%) was incurred because of the increase in government spending during that period, but in 2012 witnessed a low growth in supplying the money, as the annual growth rate reached (6.94%) compared to the previous years, and the reason for the low growth is a state of monetary stability because the Central Bank obtains a balance in growth in the two sectors. Monetary and real during the period (2014-2015) The money supply has achieved differentiated and negative growth rates respectively, reaching (3.88%) and (-9.10%) This discrepancy is because of the drop in the oil revenues and the occurrence of a state of economic contraction and the government's adoption of an austerity policy, and then witnessed an improvement and a rise in the growth rates due to security stability and high rates of oil prices, as well as the reason for this is due to the correlation between government spending and the money supply, whenever there is a rise in government spending, it is offset by the raise of the money supply.

2- Interest Rates:

Interest rates are the financial link between the monetary sector and the real sector through their impact on investment and spending at the same time, based on the real impact on the cost of capital used (borrowing) that affects the money market intended for borrowing for the private sector. .(Irelan, 2005, pp. 4-3)

Table (1) shows that the monetary authorities made the interest rate (20%) during the years (2007-2008) when the inflation rate was high as shown in Table (3) after

These years, the monetary authority was able to control price fluctuations and reduce inflation rates by one decimal order, and this was reflected in the reduction of the Iraqi central bank in favor of politics, and after 2008, monetary policy was able to impose its measures on monetary variables successfully without its ability to reach the real macroeconomic variables, due to the separation in the behavior of monetary variables from the real variables, due to structural imbalance and economic mismanagement of successive governments in Iraq after 2003.

3- Exchange Rate:

The escalating price trends have produced serious repercussions on the purchasing power of the Iraqi dinar, misbalancing the forces entrusted with the supply and demand for the Iraqi dinar and foreign currency, and then a significant deterioration of this price in the parallel market, as the increasing monetary issuance arising from financial factors, which and banking pressures as a result of the increasing deficit in the public budget, led to the growing supply of the Iraqi dinar very widely, and it coincided with the strong demand for foreign currencies, especially the dollar, to cover the costs of Imports or motivated by hoarding, speculation and smuggling at a time when the dollar witnessed a scarcity of the market due to the cessation of oil export, depleting foreign reserves as well as the freezing of Iraqi balances of foreign currency deposited abroad, has worked the window of selling the currency to stabilize the price of the Iraqi dinar against the US dollar, the daily auctions have worked to stabilize the exchange rate and raise the value of the Iraqi dinar as an intermediate goal for monetary policy in controlling price fluctuations, and is noted through the table data (1) The decline in the exchange rate from 2009-2011 as a result of the increase in foreign reserves held by the Central Bank by approximately 60 billion dollars, and the the exchange rate rise is noted in the last years of research as a result of measures of the Central Bank because of disturbances in the currency auction.

Second: Analysis of the evolution of fiscal policy variables:

When a government wants to increase its influence or size, it goes to the Ministry of Finance (General Budget) to adopt the expansionary trend using its financial tools, and on the contrary in the process of reducing the government role, and the trends of fiscal policy variables in the Iraqi economy can be clarified as follows:

Years	Public revenues	Growth Rate %	Overhead	Growth Rate %	Total public debt	Growth Rate %
2005	40502890		26375175		135070652	
2006	49055545	21.11	38806679	47.13	111518120	-17.437
2007	54599451	11.30	39031232	0.57	91980090	-17.520

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2008	80252182	46.89	59403375	52.19	80265989	-12.735
2009	55209353	-31.20	52567025	-11.50	60559880	-24.551
2010	70178223	27.11	70134201	33.41	61641779	1.786
2011	108807392	55.04	78757666	12.29	65538340	6.321
2012	119817224	10.11	105139576	33.49	61457023	-6.227
2013	113840076	-4.98	119127556	13.30	61044886	-0.671
2014	105364301	-7.44	115937762	-2.67	56988845	6.644-
2015	66470253	-36.91	70397515	-39.27	61969675	8.740
2016	54839219	-17.49	75055865	6.61	87675456	41.481
2017	77422173	41.18	75490115	0.57	103707051	18.285
2018	106569834	37.64	80873189	7.13	137984326	33.052
2019	107566995	0.93	111723523	38.14	91225076	33.887-
2020	63199689	-40.24	76082443	-31.90	96219998	5.475
2021	109081464	172.5	102849659	13.5	125744352	30.684
2022	161697437	148.2	116959582	113.7	128854213	2.473

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Table (2) Evolution of Fiscal Policy Variables in the Iraqi Economy (2005-2021)

This is based on the Programs Department, Investment Budget Section of Iraq, values at current price.

- The growth rate of the work of researchers.

1- General Revenues:

Table (2) shows that (2005-2010) witnessed a relative decline in public revenues due to the fact that the Iraqi economy is one-sided and depends deeply on oil revenues, when global oil prices decline, total revenues decrease, and then returned to rise during the years 2011 and 2012 recorded a positive growth rate of (55.04%) and (10.11%) respectively due to the rise in international oil prices, but the Iragi economy has suffered crises starting from the crude oil price drop in the middle In 2013, followed by the terrorist control over Iraqi provinces in 2014, and the subsequent events that caused the deterioration of the economic and political conditions in the country, it is noted through the table data that the revenue growth rate recorded a deficit during the period (2013-2016) as it reached (-4.98%) and (-17.49%) respectively, and as a result of the political and economic stability of the country, it is noted that revenues increased during the period (2017-2019), as it recorded a positive growth rate of (41.18%) and (0.93%) because of the enhancement in oil prices, and revenues returned to The decline to record a negative growth rate in 2020 by (40.24%) as a result of the Corona pandemic, which caused a decline in oil prices globally, and then returned to rise, and we conclude from the above that the movement of revenues is going in a consistent manner with oil prices, so it rises and decreases with its decline.

2- Overheads:

This rise in expenditure growth came because of the rise in the production capacity of crude oil and its rise in its export to the global market, after the lifting of economic sanctions, which improved the financial position of the government, and the expansion of government policies in the issue of employment and employment in the government sector, and the increases adopted by the government employees and workers to enhance the standard of living, increasing government spending in the non-productive direction of the government to enhance the standard

of living, increasing government consumer spending against weak spending. Public or government spending during 2014 witnessed a decline, because of the oil price drops in the global markets, which was accompanied by an increase in military spending due to the recent developments in the stable political arena of origin, the control of terrorist groups (ISIS) represents on many provinces of Iraq and their destruction and sabotage of the infrastructure of these provinces, as they recorded a negative growth rate of-2.67%), and the reduction in public expenditures in 2020 is also noted, as the growth rate reached (-31.90%) due to the (Covid-19) pandemic, which cast a shadow on the economies of the whole world, as a result of which oil prices fell globally.

3- Public debt:

Iraq suffers from a high volume of public debt due to the wars it has been subjected to that led to many economic crises, as well as the economic sanctions on it, and because Iraq depends oil in the gross domestic, so the country suffers from its inability to schedule these debts and their continuous rise, and through Table (2) on which figure (2) is made, it is noted that the volume of public debt rose during the study period, especially during the period (2014-2018) due to the high volume of military expenditures and the high budget deficit that It no longer covers the volume of public spending, prompting the state to borrow in order to pay the deficit in the operating budget, cover the cost of the war and pay the salaries of employees.



Figure (1) Evolution of Fiscal Policy Variables in the Iraqi Economy Between 2005-2021

Third: Analysis of the evolution of unemployment and inflation rates in the Iraqi economy during the period (2005-2022):

1- Unemployment:

As for the unemployment data, it is noted through Table (3) that the unemployment rate reached (12.0%) during 2010 and then began to decline during the years (2011-2012), reaching (11.1%, 11.9%) respectively, because of the security situation enhancement in the country, and the state's employment of many unemployed in government institutions, especially the security services, as well as the relative improvement in sectoral growth, especially the services sector, then the unemployment rate rate recorded a significant increase during 2017, reaching (13.0%) due to the effects of the war that the country witnessed against terrorist groups and the fall of three governorates to the hands of (ISIS), and this caused most citizens to lose their jobs and crafts, as well as the decrease in government spending and the country's adoption of an austerity policy, and in 2020, the unemployment rate rose to (13.7%) as a result of the health crisis (Covid-19), then the unemployment rate continued to rise during the period (2021-2023), reaching (16.2%) and (16.8%) respectively, due to the increase in population and their high growth rates, as well as the decline in Growth rates of economic activities because the economic performance, rates of economic growth and the investment drops, weakening the ability to generate new job opportunities.

3116 Analysis of the Impact of Some Monetary and Fiscal Policy Variables **2-Inflation:**

The stability of prices is the economic stability core, in particular in a unilateral economy that depends on one resource to finance its economic activity, and the data of Table (3) indicate that the inflation rate recorded in 2005 a high growth rate of (37.1%), then rose to (53.1%) in 2006 and the reason for this rise is due to the high prices of oil derivatives, which caused a deficit in fuel and energy processing, which negatively affected production costs, yet, the rise in aggregate demand and total spending on goods and services economic sectors, inflation during the years (2021 and 2022) rose significantly to reach (6.0%) and (5.0%) respectively as a result of the repercussions of the Russian-Ukrainian war, which contributed to the rise of industries and energy to the highest levels, and the high inflation rate was due to the high services, the volume of cash circulation and the monetary mass circulating in the markets.

Year s	Unemployme nt %	Year s	Unemployme nt %	Year s	Annual Inflatio n Rate %	Year s	Annual Inflatio n Rate %
2005	29.6	2014	16.4	2005	37.1	2014	2.2
2006	17.50	2015	10.72	2006	53.1	2015	1.4
2007	11.70	2016	10.4	2007	30.9	2016	0.5
2008	14.7	2017	13.02	2008	12.7	2017	0.2
2009	14.00	2018	12.87	2009	8.3	2018	0.4
2010	12.00	2019	12.76	2010	2.5	2019	0.2-
2011	11.10	2020	13.74	2011	5.6	2020	0.6
2012	11.92	2021	16.5	2012	6.1	2021	6.0
2013	12.10	2022	15.5	2013	1.9	2022	5.0

Table (3) Unemployment and Inflation Rates (2005-2022)



Figure 3: Unemployment and Inflation Rates in the Iraqi Economy (2005-2022)

The third topic:

The measurement of the influences of some financial and monetary variables on the rate of inflation and unemployment in Iraq

For measuring some monetary and financial variable effect on inflation and unemployment, data from the bulletins of the Central Bank of Iraq on the official website (https://www.cbi.iq/) were relied upon, including monetary policy variables and fiscal policy as follows:

Dependent variables		Independen	t variables
Variable code	Significance	Variable	Significance
		code	
Unemployment	UN	Money	M2
rates		supply	
Inflation	INF	interest	R
		rate	
		Exchange	EX
		rate	
		Revenue	TR
		expenses	PS
		Total	PD
		public	
		debt	

First: Unit Root Test (Dickie Fuller Extended)

It is noted from Table (4) of the Dickie Fuller that the dependent variables (inflation rate, unemployment) are stable in the level (at a fixed limit and a time trend) as well as some independent variables (public debt, exchange and interest rates) are also stable in the level and at a fixed limit, while other independent variables such as (total revenues, total spending, broad money supply) are not stable in the level, but settled in the first differences and without a fixed limit.

Since some variables stabilized at one level and others at that difference, we use a distributed deceleration autoregressive model (ARDL).

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			UNIT ROOT TES' TABLE (ADF)	г					
10.545	<u>At Level</u>	INF	UN	TR	PS	PD	M2	EX	R
Constant	t-Statistic Prob.	-2.0745 0.2555 n0	-4.5725 0.0004	-1.4822 0.5368 n0	-1.9773 0.2959 n0	-2.7396 0.0729	1.1850 0.9978 n0	-3.1511 0.0273	-3.3418 0.0166
With Constant &									
Irend	Prob.	0.0478	0.0018	-2.3043 0.4260 n0	-2.4400 0.3561 n0	0.0619	-2.7824 0.2092 n0	-3.1303 0.1075 n0	0.0235
Without Constant &									
Irend	Prob.	0.7803 0.8795 n0	-1.2014 0.2081 n0	0.4433 0.8073 n0	0.2900 0.7667 n0	-0.5829 0.4612 n0	0.8157 0.8856 n0	-0.6659 0.4252 n0	-2.6745 0.0081
	<u>At First</u> Difference								
		d(INF)	d(UN)	d(TR)	d(PS)	d(PD)	d(M2)	d(EX)	d(R)
Constant	t-Statistic	-2.6454	-4.5573	-3.6403	-2.1648	-4.2530	-4.5662	-3.6212	-3.7426
	Prob.	0.0889	0.0004	0.0072	0.2210 n0	0.0011	0.0097	0.0077	0.0054
With Constant &									
Trend	t-Statistic Prob.	-2.1233 0.5238 n0	-4.5758 0.0025	-3.6947 0.0292	-2.1562 0.5049 n0	-4.0508 0.0116	- 4.7898 0.0033	-3.8293 0.0206	-3.4092 0.0583
Without Constant &									
Trend	t-Statistic Prob.	-2.7460 0.0067	-4.5597 0.0000	-3.5110 0.0007	-2.0087 0.0435	-4.3225 0.0000	-4.4860	-3.6459 0.0004	-3.7698 0.0003

Table (5) Unit Root Test (Dickie Fuller)

Source: Table of work by researchers based on the outputs of the statistical program (12EViews.).

Second: Measuring some monetary variable effects on the inflation and unemployment rates in Iraq

- 1. Measuring the impact of some monetary variables on the inflation rate in Iraq
- Model Appreciation:

The statistical tests of Table (5) indicate the quality of the model estimated by the modified (R2) coefficient of (99.9%), as well as the F-statistic (16753.33) and a significant level of (0.000000), while the standard tests showed that the model has zero problems in autocorrelation in terms of the Durbin-Watson stat test of (2.083333). Also, the next table is the results of the model, as all the estimated flexibilities were significant and indicate the strength of the explanation of the changes in the inflation rates and thus reflect the strength of the quality of the assessed model.

Selected Model: ARDL(2, 2, 1, 1)								
Note: final equation sample is biggen than chosen sample								
Variable	Coefficient	Std.	t-Statistic		Problem.*			
		Error						
INF(-1)	1.424148	0.108273	13.15333		0.0000			
INF(-2)	-0.485462	0.101454	-4.785034		0.0000			
M2	-1.80E-07	5.51E-08	-3.269680		0.0018			
M2(-1)	3.41E-07	1.04E-07	3.279330		0.0017			
M2(-2)	-1.27E-07	5.97E-08	-2.135088		0.0368			
EX	0.006775	0.003080	2.199837		0.0317			
EX(-1)	-0.005983	0.002988	-2.002219		0.0498			
R	-0.099716	0.163474	-0.609982		0.5442			
R(-1)	0.173945	0.148819	1.168842		0.2471			
С	4.982458	2.692513	1.850486		0.0692			
R-squared	0.999602	Mean dependent var 134.3739						

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Adjusted R-squared	0.999543	S.D. depender	nt var	26.11656
S.E. of regression	0.558576	Akaike info cr	riterion	1.804712
Sum squared resid	18.72043	Schwarz criter	rion	2.125925
Log likelihood	-53.16491	Hannan-Quint	n criter.	1.932302
F-statistic	16753.33	Durbin-Watson stat		2.083333
Prob(F-statistic)	0.000000			

 Table (6) Estimation of Model (ARDL)

• Boundary test:

According to Table (7), the calculated F value is (4.864598) and when compared with the higher values and the lower values at various significant levels from 1% to 10%, it appears that the calculated (F) values are bigger than the minimum and maximum critical values at the level of 1% so we accept the alternative hypothesis than the otehr one, which states that there is integration between the model variables according to the limits method is zero.

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	4.864598	10%	2.37	3.2
K	3	5%	2.79	3.67
		2.5%	3.15	4.08
		1%	3.65	4.66

The researcher prepared Table (7) Boundary Test Source according to outputs of the statistical program (12EViews.).

• Long-term equation.

In the long term, an equation below indicates a long-term positive relationship between the broad money supply (M2) and interest rate (R) model variables with the inflation rate (INF). The reason for this is that the p-value is less than 5%. As for the exchange rate variable not the inflation because the p. value of the variables is greater than 5%.

Levels Equation									
Case 2: Restricted Constant and No Trend									
Variable	Coefficient	Std. Error	t-Statistic	Prob.					
M2	5.36E-07	6.91E-08	7.756578	0.0000					
EX	0.012923	0.026442	0.488744	0.6268					
R	1.210635	0.644176	1.879355	0.0451					
С	81.26068	29.01356	2.800783	0.0069					
EC = INF - (0.0000*M2 + 0.0129*)	EX + 1.2106*F	R + 81.2607)							

Table (8) Long-Term Equation

2- Measuring the some monetary variable effects on the unemployment rate in Iraq

• Model Appreciation:

The statistical tests of the model in Table (9) indicate the quality of the model estimated by the modified (R2) coefficient of (94.3%), as well as the value of F-statistic of (124.4004) and a

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significant level of (0.000000), while the standard tests showed that the model during the problem of self-correlation in terms of the Durbin-Watson stat test of (2.074218). The next table is the results of the model and the estimated significant elasticities indicate that the changes in the unemployment rate are strongly explained which reflects the strength of the estimated model.

Selected Model: ARDL(3, 0, 2, 0)									
Note: final equation sample is larger than selection sample									
Variable	Coefficient	Std. Error	t-Statistic	Problem.*					
UN(-1)	1.255361	0.123425	10.17103	0.0000					
UN(-2)	-0.272167	0.187974	-1.447898	0.1529					
UN(-3)	-0.157850	0.101234	-1.559255	0.1242					
M2	-9.50E-11	5.29E-09	-0.017970	0.9857					
EX	0.015999	0.004225	3.786939	0.0004					
EX(-1)	-0.020786	0.007619	-2.728237	0.0083					
EX(-2)	0.007063	0.004873	1.449535	0.1524					
R	0.031190	0.037785	0.825439	0.4124					
С	-0.753308	1.317024	-0.571978	0.5695					
R-squared	0.943139	Mean depende	ent var	13.50432					
Adjusted R-squared	0.935557	S.D. dependen	nt var	2.553753					
S.E. of regression	0.648284	Akaike info cr	riterion	2.092131					
Sum squared resid	25.21632	Schwarz criter	2.383537						
Log likelihood	-63.17853	Hannan-Quinn criter. 2.207742							
F-statistic	124.4004	Durbin-Watson stat 2.074218							
Prob(F-statistic)	0.000000								

Table (10) Estimation of Model (ARDL)

• Boundary test:

Table (10) shows that the calculated F value is (4.561109) and when compared with the higher values and the lower values at various significant levels from 1% to 10%, it appears that the calculated (F) values are bigger than the minimum critical values at 1%, accepting the alternative hypothesis not the null, stating no common integration between the model variables according to the boundary method.

F-Bounds Test	Null Hypothesis: No levels relationship			
Test Statistic	Signif.	I(0)	I(1)	
			Asymptotic: n=1000	
F-statistic	4.561109	10%	2.37	3.2
K	3	5%	2.79	3.67

Table (11) Boundary Test

• Long-term equation.

In the long term, an equation below indicates a long-term positive relationship between the EX and the UN because the p-value of the variables is less than 5%.

Levels Equation								
Case 2: Restricted Constant and No Trend								
Variable	Coefficient Std. Error t-Statistic Prob.							
M2	-5.44E-10	.44E-10 3.02E-08 -0.017996 0.9857						
EX	0.013031 0.007838 1.662545 0.0016							
R 0.178577 0.228058 0.783035 0.4367								
С	-4.313094	7.224382	-0.597019	0.5527				
EC = UN - (-0.0000*M2 + 0.0130*EX + 0.1786*R - 4.3131)								

Table (12) Long-term Equation

Third: Measuring the influence of some financial variables on the rate of inflation and unemployment in Iraq

- 1. Measuring the impact of some financial variables on the inflation rate in Iraq
- Model Estimation

The statistical tests of the model in Table (13) indicate the quality of the model estimated by the modified (R2) coefficient of (99.9%), as well as the value of F-statistic of (14347.33) and a significant level of (0.000000), while the standard tests showed that the model has zero problem of autocorrelation in terms of the Durbin-Watson stat test of (2.204262) model in the next table shows all the significant estimated elasticities indicating the strength of the explanation of the changes in the unemployment rate and thus reflect the strength of estimated model.

Selected Model: ARDL(2, 1, 1, 0)						
Note: final equation sample is larger than selection sample						
Variable	Coefficient	Std. Error	t-Statistic	Problem.*		
INF(-1)	1.669362	0.089106	18.73453	0.0000		
INF(-2)	-0.690432	0.083143	-8.304166	0.0000		
TR	3.41E-08	1.47E-08	2.321205	0.0236		
TR(-1)	-3.48E-08	1.60E-08	-2.169181	0.0339		
PS	-1.92E-08	1.69E-08	-1.136953	0.2599		
PS(-1)	2.47E-08	1.74E-08	1.416432	0.1617		
PD	-9.71E-07	3.95E-06	-0.246005	0.8065		
С	2.950807	0.996049	2.962512	0.0043		
R-squared	0.999383	Mean dependent var		134.3739		
Adjusted R-squared	0.999313	S.D. dependent var		26.11656		
S.E. of regression	0.684340	Akaike info criterion		2.186487		
Sum squared resid	29.03593	Schwarz criterion		2.443458		
Log likelihood	-68.52705	Hannan-Quinn criter.		2.288559		
F-statistic	14347.33	Durbin-Watson stat		2.204262		
Prob(F-statistic)	0.000000					

Table (13) Estimation of Model (ARDL)

• Limit test.

According to Table (14), the calculated F value is (3.953534) compared with the higher values and the lower values at different significant levels from 1% to 10%, the calculated (F) values are

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greater than the minimum and maximum critical values at 5% supporting the alternative hypothesis than the null hypothesis with no common integration between the model variables according to the limits method.

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	3.953534	10%	2.37	3.2
К	3	5%	2.79	3.67
		2.5%	3.15	4.08
		1%	3.65	4.66

Table (14) Boundary Test

• Long-term equation.

In the long term, long-term relationship between financial variables and inflation rate (INF) is not found.

Levels Equation						
Case 2: Restricted Constant and No Trend						
Variable	able Coefficient Std. Error t-Statistic Prob.					
TR	-3.18E-08	2.93E-07	-0.108398	0.9140		
PS	2.62E-07	3.77E-07	0.694870	0.4897		
PD -4.61E-05 0.000192 -0.240320 0.8109						
C 140.0484 31.11319 4.501256 0.0000						
EC = INF - (-0.0000*TR + 0.0000*PS - 0.0000*PD + 140.0484)						

Table (15) Long-Term Equation

- 2. Measuring the impact of some financial variables on the unemployment rate in Iraq
- Model Estimation

The statistical tests of Table (16) indicate the quality of the model estimated by the modified (R2) coefficient of 96.4%), as well as the value of F-statistic of (182.3559) and a significant level of (0.000000), while the standard tests had zero problem of self-correlation in the Durbin-Watson stat test of (1.996581) and the next table is the model as all the estimated elasticities were significant and indicate the strength of the explanation of the changes in the unemployment rates and thus reflect the strength of the estimated model.

Selected Model: ARDL(2, 1, 2, 1)							
Note: final equation sample is larger than selection sample							
Variable	Variable Coefficient Std. Error t-Statistic Problem.*						
UN(-1)	1.337899	0.101260	13.21255	0.0000			
UN(-2)	-0.414441	0.089145	-4.649057	0.0000			
TR	8.50E-09	1.21E-08	0.705406	0.4833			
TR(-1)	-2.09E-08	1.37E-08	-1.521989	0.1333			
PS	6.62E-08	1.69E-08	3.912902	0.0002			

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PS(-1)	-7.01E-08	2.40E-08	-2.920852	0.0049
PS(-2)	2.04E-08	1.30E-08	1.568227	0.1221
PD	2.35E-05	1.05E-05	2.241481	0.0287
PD(-1)	-2.52E-05	1.03E-05	-2.451803	0.0171
С	0.793118	0.490821	1.615901	0.1114
R-squared	0.964731	Mean dependent var		13.70421
Adjusted R-squared	0.959440	S.D. dependent var		3.037130
S.E. of regression	0.611660	Akaike info criterion		1.986282
Sum squared resid	22.44765	Schwarz criterion		2.307496
Log likelihood	-59.51987	Hannan-Quinn criter.		2.113872
F-statistic	182.3559	Durbin-Watson stat		1.996581

Table (16) Estimation of Model (ARDL)

• Limit test.

According to Table (17), the calculated F value is (3.684228) in relation to the higher values and the lower values at different significant levels from 1% to 10%, with calculated (F) values greater than the minimum and maximum critical values at the level of 5%. So, the alternative hypothesis is accepted in favor of the null hypothesis with no common integration between the model variables according to the limits method.

F-Bounds Test		Null Hypothesis: No levels relationship			
F-statistic	3.684228	10% 2.37 3.2			
К	3	5%	2.79	3.67	
		2.5%	3.15	4.08	
		1%	3.65	4.66	

Table (17) Boundary Test

• Long-term equation

In the long term, an equation below indicates a long-term inverse relationship between the model variables (public revenue (TR) and the unemployment rate (UN) according to economic theory because the p-value of the variables is less than 5%. The PS has a correlation with the unemployment rate as that of the variable is less than 5%.

Levels Equation							
Case 2: Restricted Co	onstant and No	Trend					
Variable	Variable Coefficient Std. Error t-Statistic Prob.						
TR	-1.62E-07	9.98E-08	-1.625304	0.0093			
PS	2.16E-07	1.27E-07	1.696124	0.0950			
PD	-2.22E-05	4.85E-05	-0.458184	0.6485			
C 10.36189 5.047762 2.052769 0.0445							
EC = UN - (-0.0000*TR + 0.0000*PS - 0.0000*PD + 10.3619)							

Table (18) Long-term Equation

3124 Analysis of the Impact of Some Monetary and Fiscal Policy Variables **Conclusions**

1- After 2003, the Iraqi Monetary Authority was able to reduce inflation rates to reach (-0.2%) in 2019 after it was (37.1%) in 2005 because the Central Bank adopted effective mechanisms and tools.

2- Despite the positive relationship between the interest with inflation rates, it is false and contrary to economic theory, as the Iraqi economy has suffered from financial restraint to this time, and the structure of local interest rates has been characterized by the prevailing rigidity and not taking into account the continuous rise in the prices in those years making the role of the banking system sterile in attracting local savings.

3- Standard analysis shows that monetary authorities have successfully used the partial sterilization mechanism to supply money, which is increasing due to government spending.

4- The fiscal policy variables have achieved positive growth rates in some years of research, and this improvement is not due to fiscal policy discipline as much as it reflects the boom in oil prices as well as production quantities, and this proved the fragility of the country's fiscal situation.

5- Through economic analysis, there was a direct relationship between public spending and unemployment rates, and this is contrary to what the economic theory states, but the reason for this is that public spending in the Iraqi economy is consumer spending only was not directed to the establishment of infrastructure projects or the provision of social services creating new jobs, on the other hand that this spending has contributed to increasing aggregate demand, but offset by an inflexible production apparatus and dependence on imports and this is from It would not help reduce unemployment.

Recommendations

1- Increase transparency and provide accurate monetary and fiscal information helping achieve confidence between the public and monetary authorities contributing to the reduction of tensions and negative expectations increasing inflation and unemployment.

2- The need to emphasize the importance of the local interest rate gradually, starting with the liberalization of interest rates of the Central Bank to commercial banks, and then between commercial banks and between commercial banks, borrowers and lenders, and this is commensurate with the economic logic on which financial reform is based, which is based on a gradual approach in implementation, for achieving economic stability for the country.

3- The efforts made by the Central Bank of Iraq aimed at supporting the national currency and improving its exchange rate must be strengthened through directly controlling the exchange and interest rates for showing the movement of the inflation rate in the country, as without direct control and intervention, it is not possible to link between the rate development of the Iraqi dinar and the movement of inflation rates.

4- Work to diversify and modernize the productive apparatus to ensure that the largest percentage of demand is covered in the national economy, to reduce imports, which may the most important cause of inflation (imported inflation).

5- Work on using financial policies generating investments driving the economic wheel by developing new plans for investment spending in the real sector by moving high-productivity activities that the external sector unable of competing with the open-door policy to attract the

labor force and eliminate unemployment.

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