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The Effectiveness of Monetary Policy in Neutralizing Oil Price Fluctuations on the Gross Domestic Product in Iraq for the Period (1990-2019)

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Abstract

The research aimed to measure the reality of monetary policy and its role in neutralizing the impact of fluctuations in total domestic oil prices, through the most important monetary policy variable (money supply). An example of this is using a simple technique in the previous example, turning it into a straightforward user interface by (Judd and Kunee). After estimating the impact of the policy with the domestic gross domestic oil prices in Iraq, the effect of fluctuations in the domestic gross domestic oil prices in the simple regression model, while the morale of oil prices was not proven with a negative sign, while the morale of money supply and their impact on the increase of the domestic was proven in the multiple regression model. Statistically, interpreting this indicates that the participation of other variables to oil prices in the graph of the rate of impact absorption and a negative impact was achieved in the nature of the original variable, and through the analysis of the path and direct graph of oil prices on the GDP, the evaluation of the Iraqi economy is equal to 95% of public revenues. It amounts to 60% of Iraq's GDP. A constant source of shocks because it is associated with cheap prices. In the light of this, the research reached a recommendation to reduce dependence on oil revenues, as it represents a permanent source of shocks due to its association with oil prices, which represents an external variable subject to market price fluctuations and the tendency to rely on other alternative sources of activating other sectors.

Paper Type : Case Study / Iraq
Keywords : monetary policy / oil economy

1. Introduction

Monetary policy is one of the main tools of macroeconomics, through which it aims to achieve the requirements of general economic balance by directing monetary policy by controlling the money supply to achieve the desired goals and address the shocks that any country may be exposed to.

The importance of the study comes from the role that monetary policy can play in influencing the course of the Iraqi economy and advancing and overcoming the problems it suffers from as a result of the oil shocks.

The Iraqi economy is a rentier economy that depends on oil as a main source, whose contribution constitutes a large proportion of the gross domestic product, with the decline of the contribution of other economic sectors, and this is what makes the Iraqi economy vulnerable to oil shocks, resulting from fluctuations in global market prices. This leaves a negative impact on economic activity. Thus, finding a strategy to get out of the current economic situation should focus on achieving the goal of economic stability in light of rentier unilateralism, and accordingly, the problem revolves around the effects, repercussions and roles that politics play in neutralizing the oil crises, because of the negative effects that the latter leave, whose impact is reflected on the variables of the study and then on monetary policy.

2. Methodology

2.1 Hypothesis

1- Monetary policy failed to absorb the negative effects of the oil shocks on the gross domestic product for the period from 1990 to 2003.

2- Monetary policy was able to absorb the negative effects of the oil shocks on the gross domestic product for the period from 2003 to 2019.

2.2 The Concept of Monetary Policy

Interest in the concept of monetary policy appeared in the economics literature during the nineteenth century, and witnessed its development during the twentieth century through interest in applied economics, which economists sought to address the problems related to monetary policy resulting from repeated economic cycles, and thus, this policy became an essential and important part of the policies Macroeconomics.

Most economists went to say that a unified and specific concept of monetary policy must be defined, while the social base showed that social sciences are theoretical sciences whose concepts differ from one period to another and according to the prevailing conditions and developments, and therefore, it is not possible to find a specific definition for each phenomenon. Monetary policy is defined as "all monetary actions and decisions, regardless of their objectives, whether monetary or non-monetary, as well as all non-monetary decisions aimed at influencing the monetary system.(1) A distinction is often made between two concepts of monetary policy; the narrow concept is defined as "a set of procedures and measures undertaken by the monetary authority represented by the Central Bank to control the money supply in line with the needs of economic activity.[(1)] Under this concept, Kent defines it as "the management of expansion and contraction in the volume of money in order to achieve specific economic goals.[(2)]

2.3 Tools of Monetary Policy

Monetary policy tools vary between general tools called the traditional tools set, and special tools that are used in one country without another and differ from one period to another within the same country. These tools are divided into three methods, which are as follows:(3)

1- Quantitative control methods: they are also called in some books the traditional quantitative tools or the indirect methods, which aim to influence the total volume of money and credit regardless of its uses and tools : (4)

-Rediscount price policy: it represents the price charged by the Central Bank from commercial banks in return for re-discounting commercial papers, or the interest rate on loans provided by the Central Bank to commercial banks. The Central Bank can change its discount rate, according to the state of economic activity, which determines the adoption of an expansionary or contractionary policy.(5)

-Open Market Operations Policy

Open market operations mean government intervention in the financial market to buy and sell securities in general and government bonds in particular in order to influence the supply of cash and credit as required by economic conditions, so it keeps large quantities of securities of different terms (short, medium and long). The open market operations are one of the most important monetary policy tools, given that they are the main determinant of changes in interest rates and the monetary base, which is the main source of fluctuations in the money supply.(6)

- Reserve Requirements Policy

The policy of legal reserve requirements is meant as the legal percentage that commercial banks maintain of the value of deposits with the Central Bank, and this percentage is a minimum limit for what the bank maintains of liquid balances to meet the withdrawal of depositors. The Central Bank can change this percentage according to the state of economic activity (inflation or stagnation), and then affect the ability of banks to grant credit.(7)

2- The quality tools: it can be defined as the policy that aims to direct credit to the areas of commodity production and to limit credit in non-productive areas such as speculation in the stock markets and the markets for raw materials.(8) Among the most important and prominent means of qualitative control over credit and managing monetary policy are the following:(9)

- **Determining differential or different interest rates according to the objectives and uses of the credit, as if the interest rate is high for the credit provided for the activities encouraged by the commercial and real estate state, and low for the industrial and agricultural sectors.**
- **Determining specific credit quotas for each type of credit, such as increasing credit directed to industry in countries that aim to build an industrial base, and reducing credit directed to spending on consumption, for example.**
- **Determining different maturity dates for loans according to their uses, as the deadlines for loans provided for development increase and decrease for consumption.**
- **The necessity of obtaining the approval of the Central Bank when the credit exceeds a certain limit.**

3-Direct control methods: monetary authorities use tools other than the previous ones, as required by the conditions and circumstances of each country, and the extent of their use depends on the extent to which economic dealers respond to accepting these measures. What is meant by it is a set of direct measures and measures taken by the Central Bank towards financial and banking institutions, with the aim of achieving the objectives of monetary policy. The most prominent of these tools are:

- **Regulating consumer credit**
- **Borrowing through bonds with a fixed margin of guarantee**
- **Regulation of credit granted for real estate purposes**
- **Literary influence or persuasion**
- **Direct effect on credit**

2.5 The oil price shock and its impact on the GDP (10)

The mechanism of shock transmission in the importing countries, which is transmitted through the supply chain, differs from that in the developing oil-exporting countries, which are on the demand side. On times of boom and deflation in the prices of these revenues, the occurrence of changes in aggregate demand is the main reason for changes in the gross domestic product, which is one of the most expressive indicators of the state of economic growth in any country. However, since oil revenues usually represent the largest percentage of total revenues in oil-exporting countries, especially developing ones. It is a government revenue that is determined within the framework of the state's general budget, and its management is through fiscal policy. Therefore, the impact of the demand side by oil price shocks depends on the behavior of the fiscal policy. If the fiscal policy does not respond to changes in oil prices by increasing and decreasing spending, then the demand side. Thus, the overall economy is not affected by oil prices. Accordingly, the impact of macroeconomic variables depends on whether the fiscal policy is pro-cyclical or non-cyclical. Therefore, any increase and/or (reduction) in government spending leads to an increase and/or reduction in (aggregate demand), which is reflected in the macroeconomic variables, which can be seen by the increase in aggregate demand when it is not matched by a corresponding increase in aggregate supply, due to the weakness and stagnation of the productive sector, which leads to a rise in the general level of prices and thus inflationary pressures, which is explained by the traditional approach to explaining the impact of oil price changes on output growth; in the exporting countries it is (Dutch disease theory). The rise in oil prices has negative effects on the economic performance in these countries because they move resources in favor of non-traded sectors (such as infrastructure) and not in favor of traded sectors, especially manufacturing industries. However, this increase and/or (decrease) in government spending is not a condition that coincides with an increase and/or (decrease in oil prices). An increase in government spending may occur as a result of political or economic reasons concurrent with the decline in oil prices, which occurs through resorting to surpluses. That was saved when prices rose, and thus affect the overall economy in the opposite direction of oil prices, and the opposite may happen. The increase in government spending in countries where the latter represents a large share of the economy will lead to an increase in the cyclicality of output, whether or not the timing of this increase coincides with the rise in oil prices.

On this basis, fiscal policy is the main channel for the transmission of price shocks. Oil in the exporting countries, if it is pro-cyclical, here the transmission of oil price shocks to the economy is through the demand channel and vice versa.

3. Results and Discussion

3.1 Analysis of the reality of monetary policy and GDP in Iraq for the period (2019-1990)

Monetary policy is an important part of economic policy as it plays an important and effective role in regulating the money supply and controlling cash liquidity and credit. Through this, the monetary authorities represented by the Central Bank can achieve specific vital goals according to priorities in light of the economic problem that the economy suffers from. Monetary policy was exposed to many economic and social problems in the nineties, due to the conditions that Iraq was suffering from, such as the shocks of war and economic sanctions. After 2003, monetary policy took a new approach in its approach, after (4/9/2003) when the regime changed. A number of laws and procedures were taken, and one of the most prominent of these laws was the independence gained by the Central Bank under the new Law No. 56 of 2004. According to Paragraph No. (2) of Article Two, the Central Bank is granted complete independence from the government in facilitating its banking operations, and thus not obligating the monetary authority to adopt certain procedures and means dictated by the government, which gave him complete freedom to adopt a new philosophy in line with the aspirations of the market economy and economic freedom. In addition to Iraq obtaining foreign exchange from export revenues of Iraqi oil, after the cessation of these revenues since the nineties, which gave him the ability to control the size of the monetary mass through a set of monetary tools, most notably the establishment of the (Currency Window), in which the central bank is the supervisor and the controller, through controls and special instructions in light of the general economic goals. In addition to giving a greater role to indirect monetary tools, which resulted from these extended measures for the period (2007-2011) a golden triangle of economic stability, the pillars of which were the decline in prices or inflation rates to one decimal place and the stability of the exchange rate after more than two decades of deteriorating stability economic and rebuilding the foreign reserves of the Central Bank of Iraq, which grew to nearly (60) billion dollars in (2011) as a cover for the local currency, which is the highest in the country's economic history after it was (4) billion dollars in 2004, and thus, monetary policy was able to restore the dinar The Iraqi has his strength in generating the impact of wealth (Wealth Effect), which formed a model of strong success in achieving the objectives of monetary policy in controlling prices and providing a major incubator for launching development in Iraq and pushing economic growth rates.(11) On the basis of this, the monetary policy objectives represented by the Central Bank were embodied in the new phase in achieving domestic price stability and maintaining a stable, competitive financial system based on the market. In comparison with the previous law that emphasizes the realization of the socialist system within the framework of the state's general financial policy by ensuring the stability of the Iraqi currency, achieving internal and external balance and contributing to accelerating economic growth by providing the necessary financial and monetary resources for development plans.

Within the framework of monetary policy in Iraq for the period (2012-2019), as this policy laid down a set of foundations and rules, as well as taking many measures at the monetary level as a result of economic reform programs, the aim of which was to enhance economic and monetary stability to create an economic environment, it depends on the mechanism of supply and demand.(12) The development of the most important key variables that explain the effects of monetary policy on macroeconomic variables in Iraq will be analyzed for the period (1990-2019) as follows:

3.2 Analysis of the reality of money supply in the Iraqi economy for the period (1990-2019)

The money supply is the most important tool used by the monetary authority represented by the Central Bank to influence macroeconomic variables, as some economists call it (monetary mass). It is defined as all types of payment methods available and circulating in the national economy during a certain period of time and which are in the possession of individuals and various institutions, which represent (M1, M2, M3). It is a relative concept that is not fixed in that the components that change with the change of time and place, so the determination of the money supply varies from one country to another. While there are common denominators that cannot be overcome and there are no differences in its monetary concepts, these differences appear as a result of the increasing degree of economic development and the development of means of payment. Then to electronic money, and vice versa, the lower the level of development, the greater the cash payment in transactions.(13) Accordingly, our study will be limited to the broad concept of money supply, because money supply in the narrow sense does not accurately express the quantities available within the economy, which consists of currency in circulation and current deposits, while it includes the broad concept of money supply in the narrow sense (M1) in addition to time deposits and savings deposits with commercial banks, and this concept makes an appropriate framework for the total volume of money in it. It is illustrated by Table (1) and Chart (1). The money supply was characterized by expansion through the application of the cash-issue financing policy (Cheap Money Policy), which represents the policy of reducing the cost of financing at a specific nominal interest rate, which is carried out through the mechanism of linking the expansion of the money supply and financing the budget deficit. As the treasury's indebtedness through its transfers has become a source of issuance or what is called (monetizing the internal public debt), it leads to the creation of basic cash (liabilities) as a reflection of the Central Bank and the banking system's possession of the accumulated assets of public debt instruments that acquired most of its investment portfolio. This resulted in the growth of the money supply and the expansion of the monetary base, and this is clearly evident in the 1990s for the period (1990-2002), as the money supply in the broad sense achieved an increase from (24.9) billion dinars in 1990 to (3673.0) billion dinars in 2002, achieving the highest annual growth rate, a compound of (56.76%) for the same period. The annual growth rates of the money supply also increased even with the signing and entry into force of the 1996 memorandum of understanding and the achievement of foreign revenues. The reason for the rapid rise in the money supply is due to the adoption of the deficit financing mechanism through the large expansion of credit provided by the banking system (the Central Bank and commercial banks).

With the aim of financing the wide and continuous government financial deficit according to the increasing requirements of public spending, this mechanism resulted in an increase in the cash liquidity of commercial banks and the public, in addition to the fact that the money supply in the narrow sense witnessed an increase from (15.36 billion dinars) in 1990 to (3013.60) billion dinars in 2002, in spite of the fluctuation of the components of the money supply in the value of the net currency in circulation between the rise and fall from the period (1990-2002).(14) However, the phenomenon of hoarding increased and, on the other hand, deposits with the banking system decreased ,which was accompanied by humility in the performance of monetary policy and the impact on the total domestic liquidity, and this is an indication of the weak performance of the interest rate and its ineffectiveness in attracting savings and reducing the liquidity of individuals, which was reflected in the increase in inflation rates. Hence, the interest rate becomes ineffective and negative in real value, in addition to the absence of effective monetary tools through which the Central Bank can transfer its effect. The same applies to the volume of current deposits, which witnessed an increase and decrease as a result of the pessimistic expectations of depositors to withdraw their deposits from commercial banks. In the light of this, direct borrowing from the Central Bank has become a way to bridge the budget deficit, which has accelerated the growth of the money supply, emphasizing the dependence of the Central Bank, monetary policy and its balance sheet on the effects of fiscal policy and the requirements of the general budget, regardless of the implications and consequences of following such measures represented by high inflation rates and exchange rate fluctuations. The situation did not differ during the period (2003-2011), as the money supply in the narrow and broad sense continued to rise despite the efforts of monetary policy to control and control the money supply, which was one of the first concerns of the Central Bank according to the changes it witnessed after the issuance of Law No. (56) for the year 2004, which gave the Central Bank independence in managing monetary policy, in the light of which the reform package was taken. However, the money supply continued to suffer from a defect in controlling the size of the monetary mass, as the money supply in the narrow sense M1 increased from (5773.60) billion dinars in 2003 to (6243.93) billion dinars in 2011. It recorded the highest annual growth rate in 2003, reaching (91.6%). As for the components of the money supply, it formed an increase in the net currency in circulation, as well as the increase in current deposits for the same period, and the same thing for the broad money supply, it also increased from (6953.4) billion dinars in 2003 to (72178.0) billion dinars in (2011). With an annual growth rate of (89.3%) in 2003 and a compound growth rate for the period (2003-2011) of (38.76%); this is due to the occurrence of many developments that have led to maximizing the confidence of individuals in the Iraqi dinar after it deteriorated in the past years, as well as the efficiency of the monetary authority through its indirect monetary tools (including the currency window) in controlling the size of the monetary mass as a dynamic stabilizer that aims to mitigate fluctuations in the Iraqi dinar exchange rate. The Central Bank was also able for the first time to achieve positive real interest rates by using the monetary policy rate signal as a tool to attract deposits and encourage monetary savings and financial intermediation.

In addition to many reasons, such as replacing the old national currency with the new currency in 2004, as (4) trillion Iraqi dinars of the old currency were replaced by a new currency, in addition to the increase in foreign cash reserves as a result of the rise in oil prices. Then the money supply in the narrow sense returned to increase for the period from (2012-2019). As it amounted to (63735.87) billion dinars in 2012 to (86771.00) billion dinars in 2019; this is attributed to its main components, namely, the net currency in circulation and current deposits, as current deposits rose from (33142.2) billion dinars in 2003 to (39791,567) billion dinars in 2011. As for the net currency in circulation, it increased by (30593.65) billion dinars in 2003 to (47638.60) billion dinars in 2011, while the broad money supply recorded an increase by (75466.0) billion dinars in 2003 to (103440.5) billion dinars in 2011. This increase in domestic liquidity (M2) came as a result of the growth of its main components, namely, money supply in the narrow sense and quasi-money (fixed deposits, savings, postage and insurances) by (15.5%) in 2003 to (16.1%) in 2011. The reason is due to the Central Bank's continued use of monetary policy tools through working with investment windows and the development of new financial products represented by the issuance of medium-term securities and the issuance of Islamic certificates of deposit for the purpose of achieving its objectives in maintaining local price stability and controlling and managing liquidity levels in proportion to demand and aggregate supply. This is in addition to continuing to adopt the interest rate of the monetary policy rate of (4%) and resorting to internal debt by issuing two types of bonds and treasury transfers in order to meet the budget financing needs.(15) As for the years 2014 and 2015, they witnessed a decrease in the money supply in the narrow sense, with a negative annual growth rate of (1.5%), and -10.3%, respectively, as a result of the general liquidity contraction resulting from the sharp and exceptional decline in oil revenues, which was represented by the drop in global oil prices, starting from the second half of 2014, while the broad money supply recorded a decrease of (84527.3) billion dinars in 2015 with a negative annual growth rate of (-9.1%) compared to (90728.0) billion dinars in 2014, due to the decrease in the balance of net foreign assets as a result of the decline in oil revenues, which is the main source of government spending, which reflected the expansionary effect of the broad money supply on the decline in government deposits, as well as the expansionary effect of net government debt and the debt of the private sector and other sectors.(16) It should be noted that the money supply is an internal variable that is indirectly constrained by fiscal policy, and therefore, the relationship between government spending and money supply confirms the strong impact of the government demand function on government income derived from rentier oil resources according to a mechanism called (positive retroactive effect feedback), and thus, money enters into spending through the general budget and evidence of this is the growth rates in the money supply that are steadily increasing, which is dependent on the growth of public spending rates (financial dominance), that is, the exchange of Central Bank money as liabilities for foreign exchange within the bank's balance sheet The central buyer of the government as assets, which is in line with the new view in monetary thought that sees money as an internal variable (Endogenous) that is subject to the function of demand for money by virtue of the dominance of the government sector in influencing the components of the gross domestic product (GDP) in general and oil resources in particular, which are a third of that

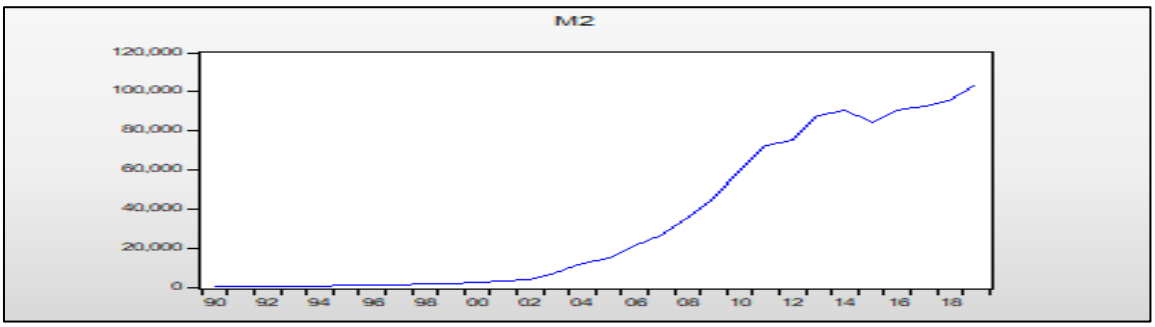
output.[17] In the light of this, the rentier dominance of the Iraqi economy made the money supply one of the variables of fiscal policy as a result of government spending on oil resources, and evidence of this is that its rate reaches (95%), and then the process of converting (monetization) of foreign currency into the Iraqi dinar is done through the exchange rate of the dinar determined by the central bank and the second dynamic stabilizer represented by the currency window. Therefore, the inflation of the monetary mass is only a reflection of the increase in government demand for the local currency to fill the chronic hypothetical deficit in the general budget, which explains the state of monetary policy that has become restricted by fiscal policy through public spending and its components, that is, the concept of independence is limited and its quality is limited only by law according to spending indicators and pressure. What remains of the fiscal policy is only its name, due to the inability of the Central Bank to have absolute control over the monetary basis. [18] Because it is the issued currency and the reserves of the banks, and since the issued currency is the outcome of two operations, namely, the current government spending reinforced by its sales of foreign currency to the Central Bank, because it is the issued currency and the reserves of the banks, and since the issued currency is the outcome of two processes, namely, the current government spending that is reinforced by its sales of foreign currency to the Central Bank and foreign currency sales to the private sector, and because the Central Bank cannot avoid the accumulation of foreign assets it has because it is governed by oil resources and disposed of this situation is known as oil financial dominance, that is, it is a double domination that reflects the characteristics of the oil economy and is not related to the laws governing the work of the Ministry of Finance or the Central Bank, and therefore, it cannot be affected by legislation and regulations. Rather, it is only by radically changing the structure of the economy by diversifying the production structure.[19]

Figure (1) The evolution of the broad money supply (M2) in Iraq for the period (1990-2019)

growth rate السنوي%	money supply M2 (4+3)	semi money (4)	%annual growth rate	money supply M1 (3)	current deposits(2)	net currency in circulation(1)	years
-	24.9	9.51	-	15.36	1.9	13.41	1990
41.7	35.2	10.57	60.6	24.67	2.8	21.87	1991
71.3	60.4	16.46	78.0	43.91	7.9	36.02	1992
94.1	117.2	30.73	96.8	86.43	19.3	67.13	1993
139.3	280.4	41.48	176.4	238.90	39.5	199.44	1994
177.5	778.2	73.12	195.1	705.06	120.7	584.40	1995
41.1	1098.1	137.58	36.2	960.50	78.9	881.62	1996
13.7	1248.7	210.62	8.1	1038.10	108.3	929.83	1997
32.3	1652.3	300.48	30.2	1351.88	159.3	1192.53	1998
6.8	1865.4	381.53	9.8	1483.84	208.6	1275.22	1999
19.2	2223.5	495.51	16.5	1728.01	253.7	1474.32	2000
28.2	2849.6	690.51	24.9	2159.09	376.4	1782.69	2001
28.9	3673.0	659.40	39.6	3013.60	449.9	2563.69	2002
89.3	6953.4	1179.82	91.6	5773.60	1143.8	4629.79	2003
76.2	12254.0	2105.37	75.8	10148.63	2985.7	7162.95	2004
19.8	14684.0	3284.88	12.3	11399.13	2286.3	9112.84	2005

43.6	21080.0	5619.94	35.6	15460.06	4492.0	10968.10	2006
27.9	26956.1	5234.91	40.5	21721.17	7489.5	14231.70	2007
29.5	34919.7	6729.74	29.8	28189.93	9697.4	18492.50	2008
30.1	45437.9	8137.89	32.3	37300.03	15524.4	21775.68	2009
32.9	60386.1	8642.60	38.7	51743.49	27401.3	24342.19	2010
19.5	72178.0	9704.02	20.7	62473.93	34187.0	28287.00	2011
4.6	75466.0	9565.32	2.0	63735.87	33142.2	30593.65	2012
16.2	87679.0	11730.13	15.8	73830.96	38835.51	34995.45	2013
3.5	90728.0	13848.04	(1.5)	72692.45	36620.86	36071.56	2014
)9.1(	84527.3	18035.55	)10.3(	69613.15	34757.894	34855.26	2015
7.0	90466.4	14942.42	8.5	75523.95	33448.722	42075.23	2016
2.6	92857.0	15870.46	1.9	76986.58	36643.275	4034.31	2017
2.7	95390.7	17561.74	1.1	77828.98	34330.917	40498.07	2018
8.4	103440.5	16669.48	11.5	86771.00	39791.567	47638.60	2019
2019-1990		2019-2012		2011-2003		2002-1990	compound growth rate
28.40		5.17		38.76		56.76	

Table (1) The development of the money supply and its components in Iraq for the period (1990-2019) (billion dinars)



Source: Prepared by the researcher based on (Eviews10) program based on Table (10).

3.3. Analysis of the evolution of the GDP index at constant prices in Iraq for the period (1990-19).

The gross domestic product is one of the indicators that express the level of economic performance of the state, which reflects the extent of the imbalance in the economy on the one hand, and on the other hand it expresses the growth in the state's economy according to the economic structure and its stability. And what enhances the importance of this indicator is the reflection that it highlights when studying any economy, which is the final value of investment and consumer goods that can be measured in monetary terms during a certain period.[(20)] As well as the contribution of economic sectors to the formation of the gross domestic product. From looking at the index numbers, we find that the GDP index in Iraq takes the structure of the Iraqi economy, and is a unilateral product, as a result of its dependence mainly on the oil sector, which makes it unstable, and since global oil prices are unstable as a result of being affected by global economic conditions, the

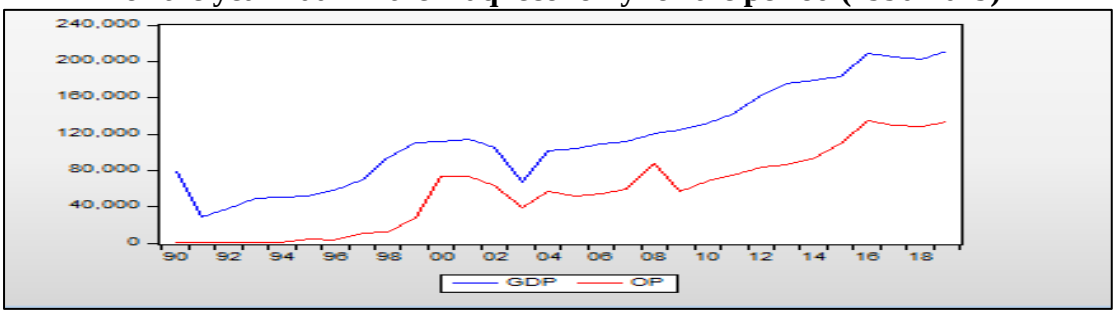
matter which makes this indicator one of the causes of the structural imbalance in the Iraqi economy caused by the shocks of international oil prices. The development of the output can be analyzed by dividing the study period into four phases:

3.4. 3.4 Evolution of the Gross Domestic Product (GDP) for the period (1990-2019)

The first phase of the period from (2002-1990) witnessed a decline in the gross domestic product, specifically in the early 1990s (1991), as it reached (28296.8) billion dinars at constant prices for the year 2007 and at an annual rate of change (-64.04%) after it was (78705.1) billion Dinars in the year 1990. The reason for this is attributed to the Gulf War, which resulted in the imposition of economic sanctions on Iraq. So, it incurred huge losses and expenses, which resulted in the deterioration of the real sector and the decline in growth rates in the gross domestic product to levels below the level of the annual population growth rate, as the state adopted a new approach by issuing legislation and laws that facilitate Arab investment and provided incentives to the private sector and allowed import without external transfer and laid off large numbers of state employees, and prices were released for a large number of goods, which was reflected in the rise in prices, the deterioration of the purchasing power of citizens, and the decrease in their standard of living. Inflation rates rose and the value of the currency deteriorated in a way that Iraq has not witnessed since the founding of its state,(22) while the situation in 1995 differed in terms of the contribution of the oil sector to the formation of the gross domestic product, as the contribution rate reached (8.14%), which is the highest contribution rate for the period of (1990-2003) .And after the conclusion of the Memorandum of Understanding between Iraq and America, which reopened the way for the export of crude oil in exchange for food on May 20 (1996), its output did not appear in the same year, but it crystallized in (1997) to achieve a qualitative leap at the level of the oil sector, as it rose to (11152.8078) billion dinars and an annual growth rate of (200.58%), leading to a rise in the gross domestic product to (69782.2) billion dinars and an annual growth rate of (21.24%) for the same year. The oil sector's contribution to the GDP ranged between (0.046%) and (65.5837%), respectively, for the years (1996) and (2000) to indicate the development of both sectors alike, while the years (2001-2000) witnessed a decline in the level of GDP and the crude oil sector, as the annual growth rate of the oil sector reached (-0.82%), while the gross domestic product amounted to (-13.93%) in (2000), the GDP and the revenue of the crude oil sector became (104822.9) and (62816.8805) billion dinars, respectively, for the same year. This is due to several circumstances, including the economic sanctions on Iraq, the deterioration of the oil sector's production capacity on the one hand and the events of September (2001) on the other. From the data presented in Table (2), we note that the compound annual growth rate of the gross domestic product reached (2.61%) for the period (1990-2002), while the compound annual growth rate of the oil sector reached (86.13%) for the same period, as the table shows the development of the gross domestic product at constant prices, and the contribution of crude oil in Iraq, and as shown in Figure (2) as well, while the second period of (2003-2019), specifically in 2003, witnessed a fierce war by the American occupation forces, and their allies from the countries that directly affected the contribution of the economic sectors contributing to the formation of the gross

domestic product, and the phenomenon of the subordination of the Iraqi state budget to the conditions of the economic cycle deepened. In developed countries and the conditions of oil demand in international markets after the process of change that occurred in 2003, as the oil sector remained the main channel that feeds the general budget, which made it a unilateral budget dependent on the changes that occur in oil prices, the oil financial resources generated by the positive external supply shock in a way that exceeds the spending leaks in it. And this growth shrinks when spending leaks exceed the level of injections into the economy. This can be seen from the decline in GDP in (2003) compared to the previous year, which amounted to (66398.2) billion dinars, with a negative annual growth rate of (36.66%) in (2003). The reason for this is the decrease in the revenues of the crude oil sectors, on which the GDP is based, to (39514,1204). One billion dinars with a negative annual growth rate of (-37.10%); however, it can be noted the remarkable development in the gross domestic product, which amounted to (101845.3) billion dinars in 2004 with an annual growth rate of (53.39%), recording the highest annual growth rate during the study period, while the revenues of the oil sector rose to (56219.9664) billion dinars, bringing its contribution to the gross domestic product (55.201%). The growth of the gross domestic product (GDP) and the crude oil sector's revenue continued for the subsequent years. Noting the fluctuation of the oil sector's contribution to the formation of the GDP until the year (2009); it reached (45.092%) compared to previous years, and the reason for this can be seen as a result of the effects that the global financial crisis had on world oil prices, as the decline in the revenues of the crude oil sector amounted to (56231.2427) billion dinars in (2009) after it was (87166.4012) billion for the year (2008). The period from (2013-2016) also witnessed a double shock represented by (the shock of the drop in global oil prices, which is an external shock, coinciding with the shock of the war against terrorism (ISIS), which represents an internal shock to the Iraqi economy, all factors that burdened the Iraqi government on the one hand and the decline in Iraqi oil exports, as a result of the drop in the price of oil on the other hand, which led to an imbalance in the structure of the crude oil sector, which imposed pressures on the public budget by increasing spending on military and humanitarian needs and also threatened the security of oil facilities, which was reflected in the fluctuation of oil's contribution to the composition of the GDP during the same period. Its contribution to the GDP amounted to (49.395%) in (2013) to become the GDP (174990.2) billion dinars, with an annual growth rate of (7.63%) for the same year, while the gross domestic product (GDP) rose in (2016) to (208932.1) billion dinars, with an annual growth rate of (13.79%), as a result of the increase in the revenues of the crude oil sector, which amounted to (135142.9089) billion dinars, with a growth rate of (24.41%) for the same year. Accordingly, the contribution of the crude oil sector increased to (64.683%). After the end of the war with ISIS and the liberation of Iraq from terrorism in 2017 and the improvement in oil prices, we find the decline in the gross domestic product and the revenues of the crude oil sector to (205130.1) and (129589.085) billion dinars, respectively, with negative annual growth rates that amounted to (-1.82%) and for the oil sector (-4.11%) respectively for the same year, and the reason for this is due to the decrease in domestic oil production.

Figure (2) Evolution of the Gross Domestic Product and crude oil at constant prices for the year 2007 in the Iraqi economy for the period (1990-2019)



Source: Prepared by researchers based on (Eviews10) program based on Table (2).

Table (2) The evolution of the gross domestic product and the contribution of crude oil to the output at constant prices in the Iraqi economy for the period ((1990-1990 (billion dinars))

Contribution of crude oil to GDP (%)	annual growth rate (%)	Crude Oi	annual growth rate (%)	gross domestic product	years
0.046	-	36.3264	-	78705.1	1990
0.068	(47.23)	19.1661	(64.0)	28296.8	1991
0.142	177.13	53.1158	32.59	37519.3	1992
0.344	216.19	167.9517	30.29	48883.8	1993
1.753	429.92	890.0144	3.85	50768.1	1994
8.132	373.69	4215.918	2.12	51844.4	1995
6.446	(11.99)	3710.4285	11.02	57558.0	1996
15.982	200.58	11152.8078	21.24	69782.2	1997
12.482	5.32	11746.2429	34.86	94106.2	1998
24.3345	129.23	26926.7539	17.58	110652.2	1999
65.584	173.29	73590.5463	1.41	112208.5	2000
63.914	(0.82)	72984.3038	1.77	114190.8	2001
59.927	(13.93)	62816.8805	(8.20)	104822.9	2002
59.511	(37.10)	39514.1204	(36.66)	66398.2	2003
55.201	42.28	56219.9664	53.39	101845.3	2004
50.278	(7.39)	52063.6176	1.68	103551.4	2005
50.171	5.41	54882.462	5.64	109389.9	2006
52.952	7.54	59018.0945	1.89	111455.8	2007
72.261	47.69	87166.4012	8.23	120626.5	2008
45.092	(35.49)	56231.2427	3.38	124702.8	2009
51.551	21.64	68401.9715	6.40	132687.0	2010
51.987	8.46	74185.7448	7.55	142700.2	2011
51.545	12.97	83805.6942	13.94	162587.5	2012
49.395	3.14	86435.8885	7.63	174990.2	2013
52.423	8.53	93811.8569	2.26	178951.4	2014
59.158	15.79	108624.6484	2.61	183616.3	2015
64.683	24.41	135142.9089	13.79	208932.1	2016

63.174	(4.11)	129589.085	(1.82)	205130.1	2017
63.067	(1.31)	127885.3957	(1.15)	202776.3	2018
62.798	4.00	133000.8115	4.45	211789.8	2019
compound growth rate					
2.61	(2002-1990)			GDP	
86.13				OP	
5.09	(2019-2003)			GDP	
(2.59)				OP	
3.17	(2019-1990)			GDP	
7.911				OP	

Source: Prepared by researchers based on:
- Republic of Iraq, Ministry of Planning, Central Agency for Statistics and Information Technology, Directorate of National Accounts.
The values in parentheses represent negative values.
$$R = \frac{yt - yt\_1}{yt\_1} * 100$$
The annual growth rate was calculated according to the following formula:

$$Y = \left[\left(\frac{Pt}{Po} \right)^{\frac{1}{T-t}} - 1 \right] * 100 \quad .....(1)$$

3.5. 3.5 Measuring and analyzing the impact of monetary policy in neutralizing oil price fluctuations in the gross domestic product in Iraq

3.5.1 The theoretical description of the standard model

1- Describe and formulate the model

The characterization stage is one of the most important stages for preparing the standard model, through an accurate description of the variables included in the model, as well as what it requires from identifying the variables included in the model that must be excluded from it. The process of formulating any quantitative model is generally formulated through the foundations of economic theory or by describing them in the form of linear or non-linear equations and working to transform the described variables into a mathematical form that can be estimated in order to apply statistical and standard tests to it and then analyze and interpret the relationship required to be explained economically.

At this stage, the standard model for the effectiveness of fiscal policy in neutralizing the impact of oil price fluctuations on the GDP in Iraq will be described according to a set of indicators that were used in the model, which were produced by the theoretical and analytical side in both the first and second paragraphs, which can be clarified as follows: GDP = f (M2 , OP)

As the : GDP(gross domestic product) , M2 (Money supply) , OP (oil prices).

2-The time series stationarity test

The condition of static is a prerequisite in the study, processing and use of time series in forecasting operations. Unless the time series is static, sound and logical results will not be obtained, such as the value of the coefficient of determination R2 or (F, T) values. This is because in the event that it is not static, the data will be specific to a specific stage and its results cannot be generalized to other time periods.[23] The time series (Yt) is considered static.

Stationary if the following characteristics are fulfilled:(24)
a- The stability of the average values of the series over time
E (Yt) = μ.... (1)
B - The stability of variance over time.
Var (Yt) = E(Yt−μ) 2 = σ2.... (2)
C- That the covariance between any two values of the same variable depends on the time gap K between the two values (Yt, Yt-k) and not on the actual value of the time that is calculated at the covariance.
E [(Yt - μ) (Yt+k -Yt)] = γk..... (3)
Since:
μ: the arithmetic mean. σ2 = stability of variance. γk = coefficient of covariance.

Therefore, stillness is a prerequisite in the analysis of economic indicators before starting the integration and causation tests, and to achieve this, there are many tests, including (the extended Dickey-Fuller test (ADF) and the Phillips-Peron test).

2-Path analysis method test

Path analysis is one of the methods of multivariate analysis, which is used to examine the relationships between the many variables in the system of linear equations. This analysis was used for the first time by Sewall Wright in 1930 in studies of ecology and what is related to racial lineages, and genetic behavior, and then this analysis was expanded to include other fields related to the necessary human needs. The main objective of studying this method is to try to understand the strength of the direct and indirect relationship between the study variables. The path analysis is the only one that shows the mediating relationships between the set of variables, for example the relationship between three variables (X Y Z), assuming that there is a correlation between them, the goal will be to measure the effect of (X) on (Z) directly and the effect of (X) on (Z) through (Y). Indirectly, it can be pointed out here that the indirect relationship increases the strength of the direct relationship when it is in the same direction and reduce its impact when it is in the opposite direction. Accordingly, the impact of macroeconomic policies will be analyzed and measured in neutralizing the impact of oil shocks on some macroeconomic variables in Iraq, using the (path analysis) method, which is known as (causal modeling).

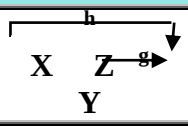
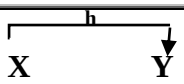
Path analysis is a correlational statistical method based on regression and multiple correlation analysis and is used to develop a probability of the relationship between multiple variables and examine them from a system of linear equations, whether the variables are discrete or continuous.

Sometimes the path analysis method is used to analyze data related to causal models, which obliges researchers to conduct a series of regressions to analyze the effects on the dependent variables in the model, and in many cases, the dependent variables are independent variables in another model related to the study.(25)

The method used to estimate the indirect effect coefficient here is Judd and Kenny's approach: (26)

In this approach, Judd and Kenny suggest calculating the difference between two regression parameters by estimating the following models:

Table (3) Judd and Kenny's Approach to Difference Between Parameters

step	Analysis	graph
Model 1	$Y=b_0+b_1X+ b_2Z+ e$	
Model 2	$Y=b_0+bX + e$	

The above approach involves subtracting the partial regression parameter by which we obtained in the multiple regression model or the first model from the simple regression parameter, which we got in the second model, that is, the indirect effect of X on Y is: Bindirect = b - b1

3.5.2 The standard analysis of the model

1- Time series static test

The quiescence test of the study variables was conducted through the application of the Dickey Fullr Test For Expanded Unit Root using the Eviews12 to show the inactivity of the time series according to the three levels, whether with the presence of a fixed term (a segment) or a fixed term and a general trend or without them, as the calculated value (τ*) is tested and compared with the tabular (τ) at a significant level (1%, 5%, 10%) to find out whether the variables are static or not and that they contain the unit root with determining the rank of co-integration, and after conducting tests for the variables under study, the test's results appeared as shown in the following table:

Table (4) Dickey Fullr Test Results

Variables	Appreciation		Gradient shape	Difference level	Morale level
	t calculated	Probabilities			
M2	-4.793682	0.0001	section	level	%1
GDP	-3.695060	0.0395	section and general direction	level	%5
OP	-3.963821	0.05158	Without section and general direction	level	%5

Source: Prepared by researchers based on (Eviews12) program, based on the tables in Appendix (1).

From the above table, we note that some time series were static at the original level, whether with a segment or with a segment and general direction or without them, that is, they are devoid of a unit root and do not contain false regression. Among these variables (GDP) is stationary at the level with a segment and general direction at the 5% level. As for the oil price variable (OP), it was static at the original level, but without a segment and a general trend (None) at the level of significance (1%), and thus, we accept the alternative hypothesis (H1: B = 1) and reject the null hypothesis (H0: B = 0), which indicates that those variables for the studied period are free from the unit root and are stable. This indicates that the calculated (τ*) values are greater than the critical values (τ) at the level of

significance (1%,5%), as well as the significance of the probabilistic value (Prob). For the extended Dicke-Fuller test statistics, which was less than (0.5%), meaning that the time series are free from a unit root, that is, they are stable, see Appendix (1).

2- Measuring the effectiveness of monetary policy in neutralizing the impact of the shocks of oil price fluctuations on the gross domestic product in Iraq for the period (1990-19).

- The impact of oil shocks on the gross domestic product

When estimating the impact of oil price fluctuations represented by monetary shocks on GDP, the regression estimation results were as follows:

Table (5) The impact of oil price fluctuations on the gross domestic product in Iraq

GDP=65183.35 + 1035.437 OP
T = (4.785389) (4.275692)
R^2 =0.403731 Adjusted R-squared=0.38164
Durbin-Watson= 2.331015
F-statistic= 18.28154

Source: Prepared by researchers based on the Eviews12 program, based on the tables of Annex (1)

The estimation of the above model indicates that both the parameter of the section and the parameter of oil prices represent significant monetary shocks at the level of 1%, and that the coefficient of determination explains 40% of the changes in GDP due to changes in oil prices, and that the other 60% are due to random factors or variables that were not included in the estimate. As for the overall significance of the model, represented by F-Test, it indicates that the model is significant at the 1% level. Also, the DW test does not confirm the existence of the autocorrelation problem in the model, and since the parameter of the oil price fluctuations variable parameter as an expression of oil shocks was positive and very large, and this indicates that the Iraqi economy is a rentier economy that oil revenues constitute about 97% of public revenues, and that the oil sector constitutes more than 60% of the gross domestic product. As we mentioned earlier, the parameter of oil price fluctuations is positive and large, which reflects the impact of the domestic product on the positive shocks of oil prices more than it is affected by the negative shocks, or it may be the continuation of financing the economy by relying on the reserves borrowed from the central bank or from internal and external borrowing or both, which made the effect of oil prices. Oil is positive on GDP and this is the most likely explanation for this phenomenon.

2- The impact of monetary policy in neutralizing the impact of fluctuations in oil prices on the gross domestic product:

GDP=77518.74 -210.0323 OP+ 1.404988 M2
T =(6.635362) (-0.733688) (7.720146)
R^2 = 0.839119 Adjusted R-squared= 0.812305
F-statistic = 31.29461
Durbin-Watson = 2.640843

Source: Prepared by researchers based on the Eviews12 program, based on the tables of Annex (1)

The results of the statistical tests indicated the significance of the constant as well as the morale of the money supply at the level of 1%, while the morale of oil prices was not proven at statistically acceptable levels, and the modified multiple determination coefficient explains more than 81% of the changes in the gross domestic product due to the changes in the independent variables, and that the other 19% are due to random factors or variables that were not included in the estimate. As for the overall significance of the model represented by F-Test, it refers to the model being significant at the 1% level, and the DW test does not confirm the existence of the autocorrelation problem in the model, despite the lack of significant parameter. The variable oil prices, however, turned out to be negative, which is an expression of the negative impact of oil shocks on the domestic product. It seems that this negative impact of oil price fluctuations appeared in its negative reality in the multiple regression model and did not appear in the simple regression model, but it is to a lesser extent in the multiple regression model and with an opposite sign. This may explain statistically that the participation of other variables with the oil price variable absorbed the positive effect and turned into a negative effect that reflects the nature of the original variable's effect, and this explanation is the most likely for that, just as the effect of the money supply was positive and moral in the sense that in the case of a change in M2 money supply by one unit leads to a change in GDP by (1.404988) one unit, which indicates the importance of monetary policy in influencing GDP.

3- Measuring the neutralization of the impact of oil price shocks on the Gross Domestic Product (GDP)

The impact of oil prices has previously been estimated as an expression of (oil shocks) on GDP in a simple regression model, and the effect of the money supply indicator has been estimated as an expression of monetary policy with oil prices on GDP in a multiple regression model, and by adopting the proposed path approach from before Judd and Kenny, the difference between the two regression parameters is calculated, that is, the partial regression parameter that expresses oil prices in the multiple regression model is subtracted from the oil prices parameter in the simple regression model, that is, to measure the indirect impact of oil shocks resulting from oil price fluctuations on the GDP, as follows:

$$B_{indirect} = B_{Simple\ Reg.} - B_{Multiple}$$

According to the above relationship, the indirect impact of oil shocks is measured, expressing the possibility of neutralizing monetary shocks in influencing the gross domestic product as follows:

$$B_{indirect} = 1035.437 - (-210.0323)$$

$$B_{indirect} = 1245.4696$$

By estimating the indirect impact of oil prices on the gross domestic product, it is clear that the impact is positive and significant, and this reflects the Iraqi economy's dependence on oil, meaning that the overall result of the impact of oil prices on GDP during the studied period 1990-2019 was positive. This does not mean that there are no negative oil shocks after the global financial crisis of 2008,

or the decline in oil prices after 2014, or the decline in oil prices at the end of 2019 and the beginning of 2020 due to the Corona pandemic. It seems that the Iraqi economy in general and the GDP in particular depended on domestic and foreign borrowing to finance expenditures, as well as borrowing from the reserves of the Central Bank at times, which reduced the impact of oil price fluctuations on the gross domestic product. As the economic policy in Iraq uses the public debt to fill the public budget deficit, which occurs as a result of the drop in oil prices, and since the structure of public expenditures tends to operational spending as well as the lack of investment expenditures for the efficiency and effectiveness of investment, as a result of the deterioration of all factors affecting the investment climate in Iraq. This does not cause a change in the GDP, and this may be due to two important things:

- **The rigidity of the productive system, its low flexibility, and its response to changes in investment expenditures financed by public debt.**
- **Economic policy is a policy that goes along with the economic cycle, and when the economy reaches the bottom of the economic recession, it usually resorts to public debt to fill the deficit.**

Therefore, economic policy has a direct and indirect role in neutralizing the impact of the oil shock and its negative impact on the output, and all of these factors mentioned together played a role in transforming the overall negative final effect resulting from oil price fluctuations and neutralizing it to turn into a positive effect.

4. Conclusions and Recommendations

4.1 Conclusions

1- The Iraqi economy was exposed to many negative external shocks (oil price shocks) during the study period, and their impact was severe on the Iraqi economy, in view of the dominance of the oil sector with the decline in the contribution of other economic sectors, and the effectiveness of macroeconomic policies appeared in the presence of a discrepancy in their effectiveness when the shock occurred than it was after the shock. Thus, the hypothesis of the study is realized with the presence of direct and indirect effects of the effectiveness of these policies in neutralizing oil price shocks.

2- When estimating the impact of monetary policy with oil prices on the gross domestic product, the effect of fluctuations in oil prices was positive and significant on the gross domestic product in a simple regression model, while the significance of oil prices did not prove, but with a negative sign, public expenditures and the current account, while the morale of money supply has been proven in terms of their impact on the domestic product in the multiple regression model, and this may explain statistically that the participation of other variables with the oil price variable in the estimated model absorbed the positive impact and turned into a negative effect that reflects the nature of the original variable's impact. Through the analysis of the path, it became clear to estimate the indirect impact of oil prices on the gross domestic product, as the impact was positive and significant, and this reflects the dependence of the Iraqi economy on oil by more than 95% of public revenues and reaches a rate of up to 60% of GDP in Iraq.

3-The monetary policy's tail, as it no longer has any role in directing economic activity on the one hand or facing the inflationary effects of the fiscal policy on the other hand, as it has become dependent on and captive to the expansionary financial policy that provides it with all means of expansion and facilitates the possibilities of bank financing for the deficit.

4- The blurring of the economic laws and legislation that govern the methodology of the Iraqi economy resulting from a clear absence of economic philosophy, and the reluctance of the private sector to take over the management of the economy for security and political reasons. and management of the economic development process.

4.2 Recommendations

1- Reducing dependence on oil revenues, as it represents a permanent source of shocks due to its connection with oil prices, which represents an external variable subject to fluctuations in market prices, and the tendency to rely on other alternative sources of activating other sectors in addition to taxes and fees, taking into account the activities that are imposed on them in order to avoid harming the poor classes, as well as the possibility of developing the tourism sector as it can be a rich source to meet the needs of the government.

2- Orientation towards changing spending policy through its orientation towards looking at the productivity of public expenditure and orientation towards investment fields, due to the importance of the latter in increasing the productive capacities of the economy, as well as its role in providing sufficient job opportunities to reduce unemployment rates.

3- Resorting to diversifying exports and increasing their contribution to foreign trade, as a measure to reduce the volume of economic exposure.

5- The need to find an industrial policy that improves the productivity of the industrial sector through its application of quality and efficiency standards and to ensure economies of scale by assembling and linking industries with each other to benefit from the advantages of large production, as well as the creation of industrial zones and work to develop them in addition to supporting and encouraging small and medium industries .

6- Providing all forms of support from spending towards infrastructure development, as it is considered a catalyst for the emergence of an investment environment that stimulates the establishment of projects aimed at increasing the gross domestic product and providing job opportunities that contribute to reducing unemployment.

7- Following a program to raise productivity and improve quality with the aim of increasing exports in quantity and quality and raising the competitiveness of the local product at home and abroad, protecting the local product against imports by protecting emerging industries, working to follow up on dumping policies that the local market is exposed to and taking preventive measures and measures.

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Appendix

First: the independent variable / money supply (M2) / segment-level

	Null Hypothesis: M2 has a unit root			
		Exogenous: Constant		
Lag Length: 7 (Automatic - based on SIC، maxlag=7)				
Prob.*	t-Statistic			
1.0000	-4.793682	Augmented Dickey-Fuller test statistic		
	-3.769597		1% level	Test critical values:
	-3.004861		5% level	
	-2.642242		10% level	
	*MacKinnon (1996) one-sided p-values.			
	Augmented Dickey-Fuller Test Equation			
		Dependent Variable: D(M2)		
		Method: Least Squares		
	Date: 11/20/21 Time: 10:14			
	Sample (adjusted): 1998 2019			
Included observations: 22 after adjustments				
Prob.	t-Statistic	Std. Error	Coefficient	Variable
0.0004	4.793682	237.9785	1140.793	M2(-1)
0.3506	-0.968314	611.8374	-592.4507	D(M2(-1))
0.0521	-2.138345	554.0228	-1184.692	D(M2(-2))
0.9850	0.019185	493.1486	9.461047	D(M2(-3))
0.0016	-3.985042	590.2076	-2352.002	D(M2(-4))
0.0396	-2.286480	995.9532	-2277.227	D(M2(-5))
0.7322	-0.349702	1144.786	-400.3346	D(M2(-6))
0.0030	-3.638563	1173.381	-4269.422	D(M2(-7))
0.6324	-0.489923	2395258.	-1173492.	C
4335885.	Mean dependent var		0.931162	R-squared
20316078	S.D. dependent var		0.888801	Adjusted R-squared
34.58738	Akaike info criterion		6774717.	S.E. of regression
35.03372	Schwarz criterion		5.97E+14	Sum squared resid
34.69253	Hannan-Quinn criter.		-371.4612	Log likelihood
2.971285	Durbin-Watson stat		21.98124	F-statistic
			0.000002	Prob(F-statistic)

Second : the dependent variable

1- Gross domestic product stability/level - cross section and general trend

	Null Hypothesis: GDP has a unit root			
	Exogenous: Constant، Linear Trend			
Lag Length: 0 (Automatic - based on SIC، maxlag=6)				
Prob.*	t-Statistic			
0.0395	-3.695060	Augmented Dickey-Fuller test statistic		
	-4.323979		1% level	Test critical values:
	-3.580622		5% level	
	-3.225334		10% level	
	*MacKinnon (1996) one-sided p-values.			
	Augmented Dickey-Fuller Test Equation			
		Dependent Variable: D(GDP)		
		Method: Least Squares		
	Date: 11/20/21 Time: 10:35			
	Sample (adjusted): 1991 2018			
Included observations: 28 after adjustments				
Prob.	t-Statistic	Std. Error	Coefficient	Variable
0.0011	-3.695060	0.144831	-0.535159	GDP(-1)
0.0629	1.946332	6679.858	13001.22	C
0.0006	3.932451	884.4068	3477.886	@TREND("1990")
4431.113	Mean dependent var		0.382284	R-squared
16819.72	S.D. dependent var		0.332867	Adjusted R-squared
21.99468	Akaike info criterion		13738.05	S.E. of regression
22.13742	Schwarz criterion		4.72E+09	Sum squared resid
22.03832	Hannan-Quinn criter.		-304.9256	Log likelihood
1.422355	Durbin-Watson stat		7.735836	F-statistic
			0.002426	Prob(F-statistic)

Third: Stability of the mediating variable (oil prices)

Oil prices/level - without segment and general trend

	Null Hypothesis: OP has a unit root			
		Exogenous: Constant		
Lag Length: 0 (Automatic - based on SIC، maxlag=10)				
Prob.*	t-Statistic			
0.05158	-2.963821	Augmented Dickey-Fuller test statistic		
	-3.679322		1% level	Test critical values:
	-2.967767		5% level	
	-2.622989		10% level	
	*MacKinnon (1996) one-sided p-values.			
	Augmented Dickey-Fuller Test Equation			
	Dependent Variable: D(OP)			
		Method: Least Squares		
	Date: 11/20/21 Time: 14:41			
	Sample (adjusted): 1991 2019			
Included observations: 29 after adjustments				
Prob.	t-Statistic	Std. Error	Coefficient	Variable
0.1839	-1.363821	0.089838	-0.122523	OP(-1)
0.1685	1.415069	5.053154	7.150561	C
1.440690	Mean dependent var		0.064449	R-squared
15.46963	S.D. dependent var		0.029799	Adjusted R-squared
8.351855	Akaike info criterion		15.23740	S.E. of regression
8.446151	Schwarz criterion		6268.815	Sum squared resid
8.381387	Hannan-Quinn criter.		-119.1019	Log likelihood
1.678499	Durbin-Watson stat		1.860009	F-statistic
			0.183887	Prob(F-statistic)

فاعلية السياسة النقدية في تحييد تقلبات أسعار النفط على الناتج المحلي الإجمالي في العراق للفترة (1990 – 2019)

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مستخلص البحث

استهدف البحث قياس وتحليل واقع السياسة النقدية ودورها في تحييد اثر تقلبات أسعار النفط في الناتج المحلي الاجمالي وذلك من خلال اهم متغير للسياسة النقدية (عرض النقد) . واختبار فاعلية هذه الأدوات في تحييد الصدمات التي يتعرض لها الاقتصاد العراقي وذلك باستخدام أسلوب تحليل المسار المقترح من قبل(Judd and Kunee) والذي يوضح الفرق بين أثر متغير السياسة النقدية (عرض النقد الواسع) في الناتج المحلي الاجمالي قبل حدوث الصدمة وبعد حصولها. فبعد تقدير أثر السياسة النقدية مع أسعار النفط على الناتج المحلي الإجمالي في العراق، كان تأثير تقلبات أسعار النفط موجباً ومعنوياً على الناتج المحلي الاجمالي في أنموذج الانحدار البسيط ، في حين لم تثبت معنوية أسعار النفط ولكن بإشارة سالبة، بينما اثبتت معنوية عرض النقد واثرهم على الناتج المحلي في أنموذج الانحدار المتُعدَد، وقد يفسر ذلك إحصائيا إلى أن اشتراك متغيرات أخرى مع متغير أسعار النفط في النموذج المقدر امتص الأثر الايجابي وتحول إلى أثر سلبي يعكس طبيعة تأثير المتغير الاصلية، ومن خلال تحليل المسار اتضح تقدير الاثر غير المباشر لأسعار النفط على الناتج المحلي الإجمالي، إذ كان الاثر موجباً وكبيراً ، وهذا يعكس اعتماد الاقتصاد العراقي على النفط بنسبة أكثر من 95% من الإيرادات العامة ويصل إلى نسبة تصل إلى 60% من الناتج المحلي في العراق وفي ضوء ذلك توصل البحث الى توصية بتقليل الاعتماد على الإيرادات النفطية ، كونها تمثل مصدراً دائما للصدمات وذلك لارتباطها بأسعار النفط والذي يمثل متغير خارجي عرضة لتقلبات أسعار السوق ، والتوجه للاعتماد على مصادر بديلة أخرى من تفعيل القطاعات الأخرى.

نوع البحث: دراسة حالة / العراق

المصطلحات الرئيسة للبحث : سياسة نقدية / اقتصاد النفط

*البحث مستل من رسالة ماجستير