Estimate of the Multiplier Effect of the Monetary and Fiscal Policy on Non-Oil Gross Domestic Product in the Iraqi Economy for the Period of 1990-2014

Basem Khamees Ubaid

Department of Banking and Finance, Economic and Administrative College,
University of Baghdad, Baghdad, Iraq

Abstract: The monetary policy is a vital method used in implementing monetary stability through the management of income and adjustment of the price (monetary targets) in order to promote stability and growth of real output (non-cash goals); the tool of interest rate and direct investment guides or movement towards the desired destination and supervisory instruments of monetary policy in both quantitative and qualitative. The latter is very important as a standard compass to investigate the purposes of the movement monetary policy in the economy. The public and businesses were given monetary policy signals by those tools. In fiscal policy, there are specific techniques to follow to do the spending and collection of revenue. This is done in order to actualize the adopted goals by the state and the relative closeness between monetary policy and fiscal policy objectives that requires relationship between two policies. Also, in order to achieve the goal of stability and promote economic growth within the tax multiplier. Multiplier of government spending is aiming at the goal of stability automatically and the allocation or distribution of economic stability through a basic introduction of the aim and objective of allocating resources to the required fields. In this vein, the objectives of the fiscal policy can be brought up spontaneously with the provisions of side and control effects which are in consonant with the outcome received in terms of economic cycle. The research showed that the impact of monetary policy in Iraq is insignificant on non-oil gross domestic product through a multiplier of monetary policy (K) and the flexibility of non-oil gross domestic product for money supply (E). Similarly, the impact of fiscal policy on non-oil gross domestic product through the fiscal policy multiplier (K) and the flexibility of non-oil gross domestic product for the government to spend are insignificant.

Key words: Multiplier of monetary policy, fiscal policy multiplier, dynamic stability, gross domestic product, economic stability, flexible output

INTRODUCTION

The structural imbalances in the Iraqi economy and the weakness of the diversity of sources of national income in the faltering fiscal policy performance are improved in order to achieve economic stability as a prelude necessary for economic growth desired. As it was observed during the period of the economic embargo, the adoption act of the government in fiscal policy is financing cash for issuance policy and monetary policy. This led to deformities of price and the imbalance economy between the monetary sector and the real sector with a reflection in the deepen gap between GDP and money supply to get out of the problem of inflation. This also deepened the economic problems during the economic blockade overlap in cash to impact the fiscal policy and to impact the government spending on the high rate of inflation and raise interest rates and in the removal of private investment. With increase in the money supply from the financial impact of monetary policy there

is increase in toll or resource of the state at the expense of other types of revenue. The impact of cash on the financial policy of the state shows a significant rise in inflation through spending. Policy on consumers is rational in terms of consumer spending; the rate ranges between 78-80% in public budgets for post 2003 as the aggregate demand resulting from government spending in the budget during the year of pressure between 2004 and 2014. This has become stronger through the multiplier role of budget spending as the engine of aggregate demand estimates exceed the limits of expansion in fiscal policy, thereby generating an inflationary gap as the monetary policy using all direct and indirect tools to narrow down worked out.

Problem statement: The lack of coordination between fiscal policy and monetary policy negatively affects the gross domestic product of non-oil level, leading to weakness of result from monetary policie's and fiscal policie's impacts.

Research hypothesis: There is multiplier effect of monetary policy and fiscal policy on gross domestic product at non-oil level.

The significance of the research: The importance of this research is summoned around the relationship between the rates of government expenses and the growth of GDP. Also, in the relationship between growth of money supply and growth of output and the impact of this relationship on the Iraqi economy are of great importance.

Research objective: To highlight the multiplier effects of monetary policy and fiscal policy on gross domestic product at non-oil level.

Research limitation: This study deals with the reality of the Iraqi economy for the period 1990-2014.

MATERIALS AND METHODS

A style of descriptive analysis, chart analysis and record were employed by the researcher to prove the hypothesis.

Research structure: This study also estimates the relationship between money supply growth and the rate of non-oil GDP growth according to the model ARDL.

The concept, tools and objectives of monetary and fiscal policy
The concept of objectives and instruments of monetary policy: This is determined by the traditional concept of monetary policy as a set of measures adopted by the monetary management to regulate the money supply where the organization and management of the money supply represent a phased target down to the ultimate goals. The concept of monetary policy from this point is defined as a set of monetary measures and non-monetary to achieve the objectives of monetary and non-monetary (Yahya, 2000). Majority of the economists agree on a specific number of objectives of monetary policy is trying to achieve. The economists identified the US Federal Reserve set of targets for monetary policy as an enhancement for the ability of the national economy as summarized:

- Price stabilization
- Promotion of crop economic growth
- Financial market stability
- Stable interest rate
- Stability of the foreign exchange market
- Comprehensive utilization

Any monetary policy to sustain monetary stability through monetary requires management and adjustment of price (monetary targets). This is to promote stability and growth of real output (goals non-cash) through the tool of interest rate and direct investments movement towards the desired destination. Monetary policy is one of the economic policy components that have specific tools divided into two main parts: the first one deal with tools that are quantitative indirectly such as discount rate and Open Market Operations (OMO) and cash reserve legal; the 2nd part is the direct qualitative supervisory tools which represented the policy of persuasion literary. This policy determines the size lending to the commercial banks while both parts are taken by a regulatory tools of monetary policy in order to control credit and influence it in accordance with the economic goals. Therefore, the money that the government does not manage itself must be interfered with the monetary authority of the state to manage money (Shamieh, 2010).

Both the quantitative and qualitative regulatory tools with indispensable record are used to determine the objective of monetary policy in the economy. The movement of these tools gives monetary policy signals to the public and businesses. Monetary policy is slower internally than the domestic. Fiscal policy is used by the central bank to decide the planning and implementation of monetary policy in a few days and operate monetary policy to change the money supply and interest rates. This in turn affects investment and aggregate demand as long as the private sector put investment plans at a time. This means that the impact of monetary policy is significant on the overall economic activity (Mankiw, 2010). There will be interference in monetary policy and fiscal policy objectives as long as the two policies work adequately as tools of economic stability. The clear way to finance the monetary policy is to assume responsibility for part of the task of economic stability in order to allow the use of monetary policy in a more moderate manner. This is as a result of used taxes in the case of a sudden rise in the level of private and public spending to reduce the restrictive monetary policy in order to prevent inflation pressures case. This idea of hiring two policies is unacceptable due to the fact that public spending and taxation policies are not usually employed as tools of anti-cyclical.

Thus, it is clear that for any monetary policy movement to be effective and able to achieve its mandated goals, it must take into consideration the financial policy movement and general orientations in the management of the economy stability. If there is support targeted by fiscal policy, economic important goal of cash and common policy with fiscal policy can make monetary policy achieve the goal of stability.

The concept, goals and tools of fiscal policy: The fiscal policy according to the US Council of Economic Advisers (CEA) is the discretionary policies that actively reflect the discretionary changes in government spending and taxes to bring about changes in the level of Gross Domestic Product (GDP). McConnell and Brue (2008) presented the fiscal policy program of their planned state and thus got implemented using the resources and programs of the convention. The events raised a desirable economic discourse and avoid triggering unwanted situations on all the economic, social and political activity variables in order to achieve the goals of society. The fiscal policy in advanced concept is developed to use all the tools available to achieve the general goals which are summarized below (Andrew, 2005):

- Full employment
- Justice in the distribution
- Economic stability
- The balance of payments
- Efficiency in resource allocation
- Economic growth

From the previous definition, fiscal policy is the specific techniques to do the spending and the collection of revenue in order to accomplish the adopted goals by the state and to know the relative rapprochement between monetary policy and fiscal policy objectives in addition to the important tasks is the responsibility of fiscal policy. This requires coordination from monetary policy. The government can use fiscal policy tools of taxes and government spending to make the necessary changes to taxes and expenses to adjust the levels of GDP. If the level of GDP declined from the level of full employment or the expected output, the GDP can be used for the state expansionary fiscal policies such as tax cuts and thereby increase the government expenditure. The government can create an economic surplus not only in the provision of public goods but also by organizing economic activity generated by external stimuli; the protection of intellectual property rights, the fight against pollution, provision of education and control of water sources must also be provided by the government (Frank and Bernanke, 2009). This policy is a fiscal expansionary policy and contractionary examples of stabilization policies. The policy is implemented in order to achieve a certain the level of full employment. According to McEachern (2009), fiscal policy is divided into two parts: the automatic preprocessing fiscal policy and arbitrary discretion fiscal policy.

The automatic preprocessing fiscal policy is the techniques applied to automatic work in the economy of its own to offset the financial returns from government expenditure. The programs from the budget are adjustments of automatic income between high classes and categories of low-lying and thus lead to automatic adjustments consumption in Gross Domestic Product (GDP). In addition, fiscal policy is an arbitrary discretion of intrusive management to address the level of government expenses. Therefore, the transfer of payments and taxes enhances the overall objectives of the national economy such as in the price stability and economic growth.

The multiplier tax in government spending are making automatic goal of stability, the allocation and distribution as the economic stability of a basic introduction for the success of the objective of the allocation and distribution of resources in the required fields. In this way, the fiscal policy objectives can spontaneously implemented with provisions to control the side effects of the results where the encounter takes place in the times of the economic cycle. There is a demand stimulated by fiscal policy generally due to the impact on government spending in every planned level through what is known as Pather multiplier. The multiplier of fiscal policy (both the multiplier of government spending and the multiplier tax) can reflect on the quantitative impact of changes in government spending and taxes on real output levels. Also in fiscal policy, stimulating an impact in the display overall reduces taxes on labor income and capital income (interest) and the impact on savings and investment levels (Parkin, 2012).

Monetary policy and fiscal policy relationship: The Model (IS-LM) is one of the first models that discussed monetary policy and fiscal policy used in translating from the relationship between the multiplier of fiscal and monetary policy. This reflects the balance between the real and monetary markets in the national economy as the model explains the relationship between the output and the interest rate through the mechanism of the market cash (supply and demand cash). This model concluded the mechanism of the real market of both planned investment and savings in order to identify the sources of the impact of monetary and fiscal policy on output through what is known as a multiplier of monetary policy and fiscal policy in accordance with the following equations; multiplier of monetary policy:

$$\frac{\Delta y}{\Delta M_s} = \frac{g}{m(1-b+bt)+\frac{gk}{m}} \tag{1}$$

Multiplier of fiscal policy:

$$\frac{\Delta y}{\Delta G} = \frac{1}{1-b+bt+\frac{gk}{m}} \tag{2}$$

It is clear that the multiplier of monetary and fiscal policy will depend on a number of determinants such as: a marginal propensity to consume (b); the marginal propensity to tax (t); the tendency of investment to the interest rate (g); the rate of retention of cash as a percentage of income (cash demand) (K) and the tendency of cash demand for the purpose of speculation about interest rate (m).

It should be noted that through this determinant, the extent of the overlap between monetary and fiscal policy to influence the level of output and that of the multiplier of monetary and fiscal policy is derived from the fundamental output equation by Khalil (1994) as stated:

$$y = \frac{a+bt_0+I+G-\dfrac{gI_0+gM_S}{m}}{1-b+bt+\dfrac{gk}{m}} \qquad (3)$$

Fleming-Mundell, a renowned economist developed a comprehensive analytical framework to study the impact and effectiveness of fiscal policy in the national economy in the sixties of the last century using a form (IS-LM). It was initially put forward by Hicks-Hansen in 1937 before Fleming-Mundell introduced the balance of payments and international market in the Model (IS-LM). It was later become known as a model Fleming-Mundell (IS-LM-BP) and it is used to track the impact of fiscal policy on income, the interest rate and the impact of interest rates on the exchange rate for price changes. It is applicable on the impact of the exchange rate on the balance of payments and on the movement of capital with the assumption that the flexibility of the movement of foreign capital and domestic with these changes go in line with the model Fleming-Mundell (IS-LM-BP) in accordance with the following assumptions by Muhammad (2016):

- The existence of the free movement of capital between countries
- The small size of the national economy
- The national economy without the overall level of operation

The model indicates that Fleming Mandull (IS-LM-BP) averts the futility of monetary policy thus influence the level of economic activity in the light of (the stability) exchange rate. From the degree of liquidity of the capital, the focus is on the fiscal policy being more effective, particularly in light of the high degree of liquidity and flexibility of capital. In contrast, the exchange rate monetary policy become more effective in influencing the Gross Domestic Product (GDP) that is greater than the degree of flexibility of liquid capital. It then increased the ability of the central bank to follow the monetary policy of independence and effectiveness under the floating exchange rate regime (Alwakeel, 2006). It was Fleming-Mandull Model that produces the most accurate and capacity in details of the relationship between monetary policy and fiscal policy after the introduction of interest related to the exchange rate and its impact on the movement of international capital.

In summary, the rapprochement between the two policies is meant to increase the size of the cash flow. Also to reduce them is the most important element in the achievement of common goals between the two policies.

The impact of monetary and fiscal policy on non-oil gross domestic product analysis

The impact of monetary policy analysis on non-oil gross domestic product: Iraqi as a country faced the problem of interruption resources of foreign currencies by the halt of oil exports during the economic blockade. The direction of the state towards expanded expenditure is to meet the requirements of the reconstruction in order to continue to provide support to meet the citizen's requirements pension. This could not have been a corresponding expansion in expenses of any growth as there are traditional sources of revenue such as taxes. This is the depth of the fiscal deficit in the general budget, prompting financial power toward increasing reliance on new monetary issuance which in return led to the growing money supply. Meanwhile, this is not offset by the width of commodity appropriately and a rise in inflation gets the price distorted. This has been a gloomy and significant outlook in impacting and promoting the phenomenon of inflation in order to increase the deterioration in the external value of the currency (Aziz, 2002).

Structural imbalances are very instrumental to the Iraqi economy and to the weakness of the diversity of sources of national income. The distortion in the tax structure and low rate of tax contribute to the formation of imports of public budgeting in tumble fiscal policy performance in order to achieve economic stability as a prelude necessary for economic growth desirable. As we find during the period of the economic embargo, the government's adoption of fiscal policy in funding cash for issuance policy (cheap) monetary policy has caused deformities price in the economy and the imbalance between the monetary sector and the real sector was reflected in the depth of the gap between GDP and money supply. This has led to the problem of inflation and the deterioration of exchange rates of which the real value of interest rates hampered the movement of real investments that can contribute to the narrowing gap of inflationary

Table 1: Multiplier of monetary policy and flexibility of non-oil gross domestic product toward the money supply (1990-2014)

Years	MS (1)	Y (2)	ΔMS (3)	ΔY (4)	%ΔMS (5)	%ΔY (6)	K = ΔY/Δ MS (7)	E = %Δ Y/%ΔMS (8)
1990	15359.3	14315.6	-	-	-	-	-	-
1991	24670.0	8177.1	9310.70	-6138.50000	60.62	-42.88	-0.659295	-0.707357
1992	43909.0	10172.3	19239.00	1995.20000	77.99	24.40	0.103706	0.312861
1993	86430.0	15185.3	42521.00	5013.00000	96.84	49.28	0.117895	0.508881
1994	238901.0	14950.2	152471.00	-235.10000	176.41	-1.55	-0.001542	-0.008786
1995	705064.0	14702.8	466163.00	-247.40000	195.13	-1.65	-0.000531	-0.008456
1996	960503.0	16398.6	255439.00	1695.80000	36.23	11.53	0.006639	0.318245
1997	1038097.0	13791.9	77594.00	-2606.70000	8.08	-15.90	-0.033594	-1.967822
1998	1351876.0	14671.9	313779.00	880.00000	30.23	6.38	0.002805	0.211049
1999	1483836.0	16587.6	131960.00	1915.70000	9.76	13.06	0.014517	1.338115
2000	1728006.0	16628.9	244170.00	41.30000	16.46	0.25	0.000169	0.015188
2001	2159089.0	17816.3	431083.00	1187.40000	24.95	7.14	0.002754	0.286172
2002	3013601.0	18406.6	854512.00	590.30000	39.58	3.31	0.000691	0.083628
2003	5773601.0	13243.6	2760000.00	-5163.00000	91.58	-28.05	-0.001871	-0.306290
2004	10148626.0	22024.6	4375025.00	8781.00000	75.78	66.30	0.002007	0.874901
2005	11399125.0	25342.2	1250490.00	3317.60000	12.32	15.06	0.002653	1.222403
2006	15460060.0	28763.9	4060935.00	3421.70000	35.62	13.50	0.000843	0.379001
2007	21721167.0	27999.4	6261107.00	-764.50000	40.50	-2.66	-0.000122	-0.065679
2008	28189934.0	28920.0	6468767.00	920.60000	29.78	3.29	0.000142	0.110477
2009	37300030.0	31252.2	9110096.00	2332.20000	32.32	8.06	0.000256	0.249381
2010	51743489.0	34044.6	14443459.00	2792.40000	38.72	8.94	0.000193	0.230888
2011	62473929.0	36988.9	10730440.00	2944.30000	20.74	8.65	0.000274	0.417068
2012	63735871.0	41541.0	1261942.00	4552.10000	2.02	12.31	0.003607	6.094059
2013	73830964.0	44560.1	10095093.00	3019.10000	15.84	7.27	0.000299	0.458965
2014	75233733.9	41586.4	1402770.00	-2973.70000	1.90	-6.67	-0.002120	-3.510526

Compound annual growth rate money supply = 40%; cmpound annual growth rate of GDP of non-oil = 4%; Column 1-represent bulletins and the mnistry of planning and the central bank of iraq-statistical releases for the years 1990-2014 respectively while columns 3-was developed by the researcher

increase in production and in the growing phenomenon to search for quick profits and spread of financial speculation (Obaid, 2013). Economic problems became worse during the overlapping of economic blockade of cash impact in fiscal policy and on the impact of government expenses on the high rate of inflation and interest. The removal of private investment with the financial impact of monetary policy has increased the money supply; the toll or resource of the state at the expense of other types of revenue, prompting fiscal policy to be neglected from the rest of the financing channels. However, the economic cycle processing automatically imposes direct and indirect taxes and economic activity towards acceptable destinations in accordance with certain planning economic frameworks and economic conflict between the goals of fiscal and monetary policies. This is achieved through the feed of inflation and breach of the stability and growth. Also through the expansion of government expenditure financed by cash issuance and declining annual rates of GDP. This occurred when Iraqi economy is in the circle of instability and growth throughout the period of the economic embargo from 1990-2003.

This lacked financial policy to perform positive role in the development of the Iraqi economy through the gate of spending that prevailed upon consumer spending which disrupted the development of economic growth. This also decreased the economic growth meant to boost the matter of economic sanctions, making the Iraqi economy vulnerable to monetary shocks and feeder cash version that are uncontrolled by the monetary policy due to the financial dominance of policy and monetary policy after 2003. Although, the executive administrative was privileged to enjoy the CBI under law 56 of 2004 compared to what it was before 2003 but the conflict between fiscal and monetary policies lost their influence from the non-oil GDP. When the expansion of fiscal policy occurred, public expenditure was compared to the limited overall supply; this then went for independent monetary policy towards the adjustment of the rates of inflation and the stability of the domestic market and that of the external value currency.

It can be seen in Table 1 the demonstration of the impact of the weak GDP of non-oil monetary policy through the multiplier of monetary policy (K) and the flexibility of gross domestic product of the non-oil money supply (E). It equally shows the building on the positive relationship between money supply and GDP of non-oil by multiplier equation of monetary policy from the reference of negative multiplier which indicates the deformation effect and weak positive signal and the weakness of the effect of monetary policy on the non-oil GDP.

RESULTS AND DISCUSSION

Analysis of the impact of fiscal policy on gross domestic product: The fiscal policy tool and the general budget

give a picture of the nature of government expenditure, taxes and public debt structures they serve as the compass that influence the overall facilities and real cash nationalist in the economy through both real and monetary impact of government expenditure and taxes. This is applied in order to achieve the impact of the general budget on the stability and economic growth of the Temple Mosque in regards to policy tools of finance. Some difficulties are faced by fiscal policy in Iraq as a result of external causes which reflected the impact of the economic embargo on oil exports generating foreign currency. The internal cause is due to poor contribution of other economic sectors in the generation of income and the failure of the tax system and the limited participation of the private sector in times of economic crisis (or economic blockade) from the Keynesian theory point of view.

Other reason is deepened monetary effects and real public budget for both operational and investment. This led to deformation of domestic market and price structure, output; the occurrence of the Iraqi economy in economic crises with consecutive coating for economic siege summed up in its entirety in the hyper-inflation crisis in the mid-nineties till 2003. The cash impact of the general budget of the state embodies a significant rise in inflation through expenditure policies of consumer. This is rationalized in terms of consumer expenses; the rate ranges from 78-80% in public budgets after 2003 where the structure of this government on employment decreased in expenditure. It therefore, entails working payments of state agencies and provides social subsidies in terms of spending transformative and external consumer expenses that covers most of the state import and the private sector for goods and services.

This has been the source of funding for local production wheel and building of infrastructure to assist the domestic production account and prompting the dramatic rise in the general level of prices as a result of the rate of inflation destruction incurred. The aggregation demands results from the government spending in the budget due to pressures during the years 2004-2014 it later became stronger through the multiplier role of budget expenditure. This has resulted to an effect of multipliers as the engine of aggregate demand and estimates exceed the limits of expansion in fiscal policy itself. The monetary policy using all direct and indirect tools to narrow can generate an inflationary gap.

The present situation of Iraqi economy in unilateral rent-seeking is prompted in order to keep pace with the general budget cycle and outer stretch of the economic cycle. The operational trend continues in order to harden the dynamic and unilateral installer this is free to provide any change in mechanism of high impact on the flow of budgetary resources and expenditures of the Iraqi economy as it grows when it is injected into the financial resources produced by the shock of the external positive supply (rising oil prices) and in a manner beyond leakage in expenditure. There is shrinkage in the economy when it exceeds leakage in expenditure generated from financial resources of oil revenues due to the shock of negative external display (lower oil prices) which the domestic economic appeasement abroad clearly reflects. The fiscal policy controls the degree of exposure from economic passive dependence and sole financial resource to economic fluctuations (Saleh, 2010).

This deepens the absence of self-stabilizing factor, such as those enjoyed by the developed nations. As seen in Table 1 and 2: the impact of the weak GDP of non-oil fiscal policy through the multiplier of fiscal policy (K); the flexibility of non-oil gross domestic product for government spending (E). The reference for negative multiplier indicates the deformation effect and weak positive signal indicating the effect of fiscal policy on the non-oil GDP. This is on the basis of the positive relationship between government expenditure and non-oil GDP equivalent by a multiplier of fiscal policy.

Application tests of VECM Model of a causal relationship between government expenses and the GDP growth rate: This is the non-oil GDP growth rate from autoregressive model to slow distributor ARDL between money supply growth and the growth rate of non-oil gross domestic product.

Augmented Dicky and Fuller and Philips-Perron test on gross domestic product growth rate: The test of stillness time series for the rate of growth of government expenses and the growth rate of money supply and that of the non-oil gross domestic product under the Augmented Dicky test-fuller and Philips-Perron testing are considered in this study.

Augmented Dicky-Fuller test: To show the stillness time series, the researcher must rely on the unit root test. The unit root test is one of the most important tests to examine and identify the stillness time series for each economic variable when conducting Augmented Dicky-fuller test and testing (Philips-Perron) on the time series of economic variables. Those variables have been tested for stability of the chain to the growth rate of government expenditure and the rate of money supply of non-oil gross domestic product. There is the first difference growth rate up to a constant in a steady trend when the moral level is 5% as it is the time series of the rate of growth in government

Table 2: Multiplier of fiscal policy and flexibility of non-oil gross domestic product toward government expenditure (1990-2014)

Years	MS (1)	Y (2)	ΔMS (3)	ΔY (4)	%ΔMS (5)	%ΔY (6)	K = ΔY/Δ MS (7)	E = %Δ Y/%ΔMS (8)
1990	141791	14315.6	-	-	-	-	-	-
1991	17497	8177.1	-124294	-6138.50000	-87.66	-42.88	0.049387	0.049387
1992	32883	10172.3	15386	1995.20000	87.94	24.40	0.129676	0.129676
1993	68954	15185.3	36071	5013.00000	109.69	49.28	0.138976	0.138976
1994	199442	14950.2	130488	-235.10000	189.24	-1.55	-0.001802	-0.001802
1995	960784	14702.8	761342	-247.40000	381.74	-1.65	-0.000325	-0.000325
1996	542542	16398.6	-418242	1695.80000	-43.53	11.53	-0.004055	-0.004055
1997	605802	13791.9	63260	-2606.70000	11.66	-15.90	-0.041206	-0.041206
1998	920501	14671.9	314699	880.00000	51.95	6.38	0.002796	0.002796
1999	1033552	16587.6	113051	1915.70000	12.28	13.06	0.016945	0.016945
2000	1498700	16628.9	465148	41.30000	45.00	0.25	0.000088	0.000088
2001	2079727	17816.3	581027	1187.40000	38.77	7.14	0.002044	0.002044
2002	2518285	18406.6	438558	590.30000	21.09	3.31	0.001346	0.001346
2003	4901961	13243.6	2383676	-5163.00000	94.65	-28.05	-0.002166	-0.002166
2004	32117491	22024.6	27215530	8781.00000	555.20	66.30	0.000323	0.000323
2005	26375175	25342.2	-5742316	3317.60000	-17.88	15.06	-0.000578	-0.000578
2006	38806679	28763.9	12431504	3421.70000	47.13	13.50	0.000275	0.000275
2007	39031232	27999.4	224553	-764.50000	0.58	-2.66	-0.003405	-0.003405
2008	59403375	28920.0	20372143	920.60000	52.19	3.29	0.000045	0.000045
2009	52567025	31252.2	-6836350	2332.20000	-11.51	8.06	-0.000341	-0.000341
2010	70134201	34044.6	17567176	2792.40000	33.42	8.94	0.000159	0.000159
2011	78757666	36988.9	8623465	2944.30000	12.30	8.65	0.000341	0.000341
2012	105139576	41541.0	26381910	4552.10000	33.50	12.31	0.000173	0.000173
2013	119127556	44560.1	13987980	3019.10000	13.30	7.27	0.000216	0.000216
2014	83556226	41586.4	-35571330	-2973.70000	-29.86	-6.67	0.000083	0.000083

Compound annual growth rate money supply = 29%; Compound annual growth rate of GDP of non-oil = 4%; Column 1-2 represent the bulletins and the Ministry of Planning in the Central Bank of Iraq-statistical released for the years 1990 to 2014 while column 3-8 represent the results found out by the researcher

expenditure and the growth rate of non-oil gross domestic product. At the level I(0), any time series does not suffer from any unit root problem, thus the null hypothesis (H_0: B = 0) is rejected in view of the presence of unit root problem and accept the alternative hypothesis (H_0: B≠0).

Any time series suffers from the problem of unit root, the null hypothesis (H_0: B = 0) is accepted while the time series of the rate of money supply growth is still at the level I(0). In the presence of unit root problem, the alternative hypothesis (H_0: B≠0) is rejected while the time series of growth rate of static money supply is in the first difference I(1) at any time series that does not suffer from the problem of unit root. The null hypothesis (H_0: B = 0) is rejected in view of the presence of unit root problem and the alternative hypothesis (H_0: B≠0) is accepted as it is shown in Table 3-5.

Test (Philips-Perron)

Test for the joint integration of the rate of growth of government spending (g) and the growth rate of non-oil gross domestic product (y): In the language of econometrics, any two complementary variables will be integrated jointly only if they are in long-term relationship and the joint integration tests rely heavily on unit root tests (Khalaf, 2015) (Fig. 1-4). It is sensible when there is no equilibrium in the long term relationship between the variables. These variables lack common integration which has been proven from Unit Root test for reposeful time series for the rate of growth in government expenses and

Table 3: Test D.F time series in the 1st level and the difference (2014-1990)

Time series (Δ%)	Different 1/Level		Integration
	Constant	Constant liner trend	
G	4.599573	4.823167	I(0)
MS	2.124155	3.681278	I(0)
Y	6.411238	6.199998	I(0)
MS	4.089920	4.193315	I(1)
Critical values (%)			
1	3.752946	4.571559	-
5	2.998064	3.690814	-
10	2.638752	3.286909	-

Table 4: Test P.P time series in the 1st level and the difference (2014-1990)

Time series (Δ%)	Different 1/Level		Integration
	Constant	Constant liner trend	
G	4.600016	4.912784	I(0)
MS	2.124636	2.761950	I(0)
Y	6.812397	6.727104	I(0)
MS	7.141773	4.193315	I(1)
Critical values (%)			
1	3.769597	4.440739	-
5	3.004861	3.632896	-
10	2.642242	3.254671	-

Table 5: Co-integration test for (g-y) period (1990-2004)

H_0	H_1	Trace λ	Critical value 95%	Prob.
Trace λ				
r = 0	r = 1	29.80969	15.49471	0.0002
r = 0	r = 2	9.356282	3.841466	0.0022
Max λ				
H_0	H_1	max λ	The critical value 95%	Prob.
r = 0	r = 1	20.45341	14.26460	0.757051
r = 0	r = 2	9.356282	3.841466	0.006927

Fig. 1: Stationary of time series in level for g period (1990-2014)
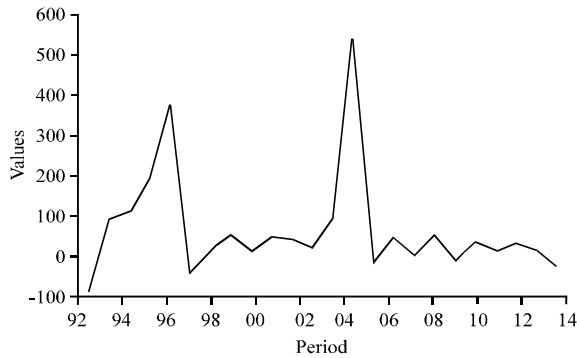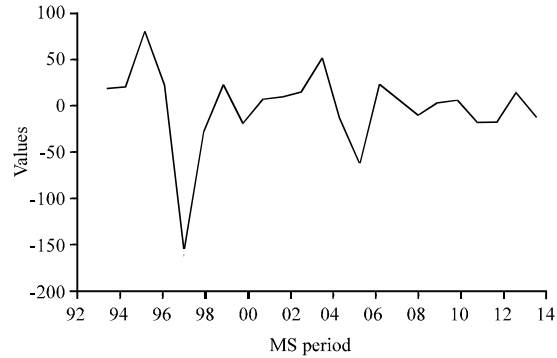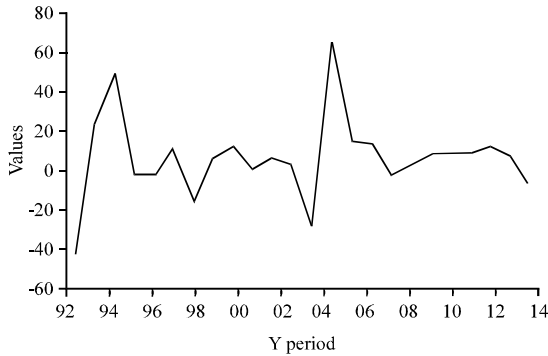

Fig. 2: Stationary of time series in level for y period (1990-2014)

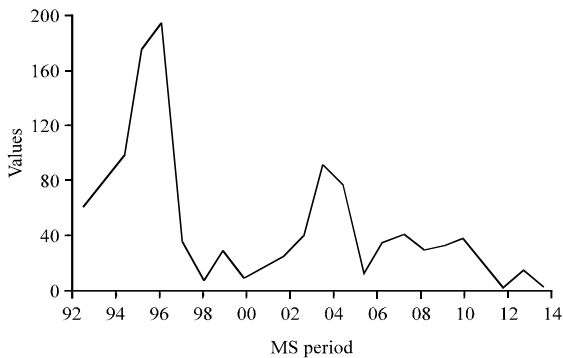Fig. 3: Stationary of time series in level for MS period (1990-2014)

Fig. 4: Stationary of time series in 1^{fi} difference for MS period (1990-2014)

Table 6: (G-Y) vector error correction estimates

Explanatory variables	G Δ%	Y Δ%
C	-15.87620	-2.996398
	(30.3119)	(3.61864)
	[-0.52376]	[-0.82805]
Et-1	-8.164736	
	(3.94068)	
	[-2.07191]	
Ut-1		-1.794766
		(0.47044)
		[-3.81508]
Y (-1) Δ%	1.832896	0.240449
	(2.83907)	(0.33893)
	[0.64560]	[0.70944]
Y (-2) Δ%	4.432940	0.203083
	(1.87319)	(0.22362)
	[2.36651]	[0.90815]
G (-1) Δ%	-0.191446	0.029796
	(0.22494)	(0.02685)
	[-0.85108]	[1.10958]
G (-2) Δ%	-0.278110	0.017408
	(0.20676)	(0.02468)
	[-1.34510]	[0.70525]
R^2	0.639689	0.762517
SE	138.2086	16.49937
F	5.326140	9.632461

used to estimate the vector of joint integration based on the impact trace test (trace λ) and Maxium Eiganvalues test (max). These illustrate the existence of a long-run equilibrium relationship between economic variables of the research sample.

Table 6 shows results of trace test used in analyzing the long-term relationship between the growth rate of government expenses and the growth rate of the non-oil gross domestic product. The testing revealed that the calculated value (29.80969) is greater than the critical value of 15.49471 at a level of 5%. This means a rejection of the null hypothesis (H_o: B = 0) in the absence of any vector from joint integration between the growth rate of government expenses and the growth rate of non-oil GDP. The acceptance of the alternative hypothesis shows the presence of the vector or more vectors of the joint integration; it also discloses the test impact (trace λ) for

the rate of gross domestic product from the non-oil growth by testing Augmented Dicky-Fuller and testing (Philips-Perron). The stability of the time series from the rate of growth in government expenses and the rate of GDP growth is the total of non-oil level I(0). Therefore, the joint integration will be selected using a methodology by Johansen-Juselius which is one of the best methods

the presence of vector in the second joint integration for the calculated value of 9.356282 which is greater than the critical value of 3.841466 at 5%.

Thus, there is a relationship of joint integration between growth rate of government expenses and the rate of the non-oil GDP growth. The same table shows the test results of Maxium eigan-values (max) to analyze the long-term relationship between the growth rate of government expenditure and the growth rate of GDP where it is tested that the calculated value of 20.45341 is greater than the critical value of 14.26460 at a level of 5%. This means rejecting the null hypothesis (H_0: B = 0) that lack any vector in joint integration between the growth rate of government expenses and the growth rate of non-oil gross domestic product. The acceptance of alternative hypothesis (r≠0) or (r = 1) as viewed from the presence of a vector or more vectors in joint integration was disclosed by Maxium eigan-values test from the existence of second joint of vector integration as the calculated value is 9.356282 which is less than the critical value of 3.841466 at 5%.

Analysis of the results of testing causal VECM for the period of 1990-2014: This is in accordance with the vector error correction model an end to the rate of growth of government expenditure and the growth rate of non-oil gross domestic product of Iraqi economy for the period of 1990-2014.

Results of vector test show an error in the correction under Table 6 the existence of a long-run equilibrium-term relationship between the growth rate of government expenditure and non-oil growth during the period of study and growth rate of two-way government expenditure to GDP growth rate. Also, where the value of T moral is negative and two-way -2.07191 and -3.81508, respectively in growth rate of GDP and government expenditure. This enhances the nature of the relationship and the knowledge strength between the economic variables in this context from which there is a weakening effect between annual government expenditure of 29% growth rate and 4% growth rate of non-oil GDP. The fact is that the Iraqi economy does not enjoy the productivity of non-oil base.

Structural stillness of the causal relationship between government expenditure and non-oil GDP: This study explains the structural stillness of the causal relationship between the growth rate of government expenditure and non-oil gross domestic product through a test of cumulative sum of the recursive residuals notes. When the graphic between the critical levels is 5% border, depending on the time frame in this case, then the
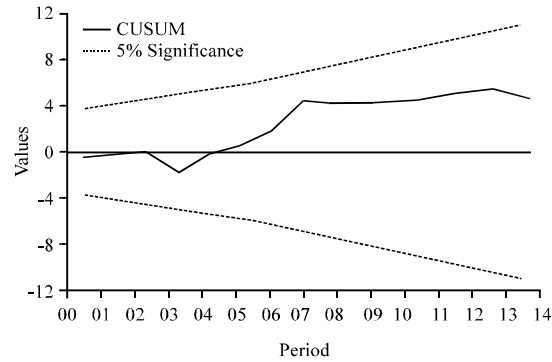

Fig. 5: G-Y structural dormancy

alternative hypothesis theory will be accepted reposefully in time series when the variables are estimated as shown the structural stillness of the relationship between economic variables tested in Fig. 5.

Auto Regressive Distributed Lag (ARDL) Model between money supply growth and the growth rate of non-oil gross domestic product: Due to stillness in time series of non-oil growth rate of GDP during the general level and the stillness of the time series of the rate of money supply growth when the first teams employed the model ARDL to indicate the existence of a long-term relationship and balance between model variables. ARDL Model in terms of economy is to verify the presence and absence of integration relationship and long-term balance between the dependent variables and the independent variables. This will access the relationship between the variables of the model according to the ARDL Model in the following steps.

Estimation of the long-term relationship and balance the non-oil GDP and growth rate of money supply in accordance with the model ARDL rate of growth. Table 7 reveals that there is a balance between the dependent variable (the non-oil GDP growth rate) and the independent variable (supply growth rate cash) as the value of F calculated in the border test using the model ARDL is statistically not greater than the critical value when kept to barest minimum value. This means rejecting the null hypothesis that holds the fact that there is the lack of a long-balance relationship-term between the dependent variable (growth rate of non-oil GDP) and independent variable (growth rate of money supply).

The dormancy of structural model of ARDL for a long and short term relationship between money supply growth and the growth rate of Alajala non-oil GDP tested through a Cumulative Sum of the Recursive Residuals (CUSUM). It is noteworthy that if the graphic between the critical levels is 5% border depending on the time frame,
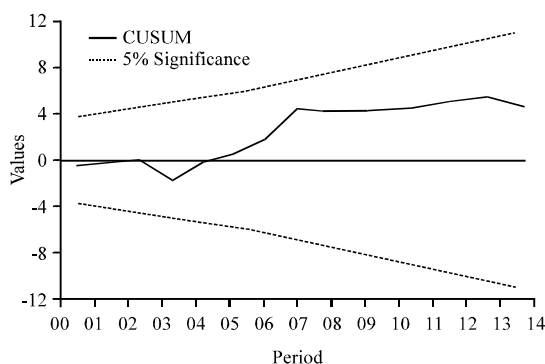
Fig. 6: Dormancy structural model of the long and short-term relationship ARDL test

Table 7: Results of border test model ARDL

Test statistic	Values	K
F-statistic	8.589433	1
Critical value bounds		
Significance (%)	Minimum	Maximum
10	3.02	3.51
5	3.62	4.16
2.5	4.18	4.79
1	4.94	5.58

Prepared by the researcher based on the statistical program (EViews 9)

in this case, there is an acceptance of the alternative hypothesis theory of reposefully time series variables estimated model according to ARDL in Fig. 6 showing structural dormancy of the relationship between economic variables tested.

Summarily, the standard analysis of statistical test is among the three economic variables as estimated by the model in order to determine the strength and the weakness of the relationship between the growth rate of government expenditure and the rate of the non-oil gross domestic product. On the other hand, the growth rate of money supply and the growth rate of the non-oil gross domestic product are in consonant.

CONCLUSION

The multiplier of monetary policy is restricted by financial variables where the monetary policy plays an influential role in the set. This means that the fiscal policy multiplier limits the ability of monetary policy. The multiplier of fiscal policy possesses restrictive monetary variables. The monetary policy plays an influential role in the set this means that monetary policy was limiting the ability of fiscal policy multiplier. The multiplier effect of monetary policy and fiscal policy has been weakened to the non-oil GDP in the Iraqi economy. There is monetary impact on the financial policy of interference with the financial impact of monetary policy due to the dominance

of fiscal policy on monetary policy in Iraq. The coordination and the discrepancy between monetary and fiscal policy tools led to the progress or declination of GDP at non-oil level. The management of the economic cycle straightens the aggregate demand towards the parity with the overall width to minimize the impact of conflict between monetary and fiscal policies on the national economy.

RECOMMENDATIONS

There must be stimulation in monetary instruments of monetary policy by some specific work of the multiplier of fiscal policy such as interest rate and monetary demand for retention purposes and for speculative purposes due to the stability of the cash demand. Stimulation of financial instruments by specific fiscal policy to work doubly in monetary policy such as taxes and government expenses through the control of the marginal propensity to consume economic community from the gate of government expenditure. Creating coordination between monetary and fiscal policy tools in order to strengthen the impact of the monetary policy and fiscal policy multiplier to increase the growth rates. Emphasis on the independence of the Central Bank of Iraq in the cash management market from all indicators. Stability in the short-term and long-term growth between monetary and fiscal policy in order to stimulate the mechanisms and tools stability of the monetary and financial nature. This is meant to achieve the desired results from the functions of the distribution of both policies.

REFERENCES

Alwakeel, N., 2006. The Cash Balance and the Rate of Exchange, Analytical Study of the Money Market and the Exchange Rate. Nass Corporation, Egypt,.

Andrew, A.W., 2005. Fiscal Policy and Stock Markets During the Period of Transition to a Market Economy. Youth University Foundation Publishing, Alexandria, Egypt,.

Aziz, I.A., 2002. Financial Reform Between the Approach of the International Monetary Fund and the Alternative Option. House of Wisdom, Baghdad, Iraq,.

Frank, R.H. and B.S. Bernanke, 2009. Principles of Microeconomics. University of Princeton, Princeton, New Jersey, USA.,.

Khalaf, A.H., 2015. Econometric applications using EViews program (examples-applications-estimating models-the interpretation of the results-predictable). Master Thesis, College of Administration and Economics, Baghdad, Iraq.

Khalil, S., 1994. Macroeconomic Theory. Al-Ahram Distribution Agency, Cairo, Egypt,.

Mankiw, N.G., 2010. Macroeconomic. 7th Edn., Harvard University, Cambridge, Massachusetts, USA.,.

McConnell, C.R. and ?S.L. Brue, 2008. Macroeconomics: Principles, Problems and Policy. 7th Edn., McGraw-Hill College, Pennsylvania Plaza, New York, USA.,.

McEachern, W.A., 2009. Macroeconomics. 8th Edn., University of Connecticut, Mansfield, Connecticut,.

Muhammad, H.A., 2016. The Entrance of the public finances (Economic vision in the public finances and developments of modern science). MBA Thesis, College of Administration and Economics, Baghdad, Iraq.

Obaid, S.K., 2013. The impact of fiscal policy to achieve stability and growth in Iraq for the period 1990-2010. Ph.D Thesis, University of Baghdad, Baghdad, Iraq.

Parkin, M., 2012. Macroeconomics. 10th Edn., University of Western Ontario, London, Ontario,.

Saleh, M., 2010. The rentier state of economic central to a market democracy, the entrance in the political economy of Iraq. The House of Wisdom, Baghdad, Iraq.

Shamieh, A.Z., 2010. Money and Banking. Dar Zahran for Publishing and Distribution, Jordan, Middle East,.

Yahya, D., 2000. Critical Theory (Theories-Institutions-Policies) and the Ministry of Higher Education and Scientific Research. Al-Mustansiriya University, Baghdad, Iraq,.