

Measuring the Impact of Fiscal Policy on Economic Diversification in Iraq for the Period (2004-2020)

Prof. Dr. Fadhil Abbas Kadhim(1)

fadhil.abbas@qu.edu.iq

Economics Department College of Administration and Economics
University of Al-Qadisiyah.Iraq

Reserarcher. Dhargham Fadhil Hasan(2)

hdargham24@gmail.com

Abstract:

The Fiscal policy has an "increasing" interest as an inevitable and necessary result of recent developments in light of fluctuations in oil prices and their impact on oil countries with a unilateral economy. The economies of oil-producing countries suffer from economic instability, as a result of the shocks of the oil sector. Contribute to economic diversification, and then indicate the required role of fiscal policy to achieve economic diversification in Iraq, as well as measuring the impact of fiscal policy on economic diversification in Iraq for the period (2004-2020). And converting data from annual to quarterly is justified by the fact that the ARDL model depends on time gaps, as well as reviewing the reasons for the need to pay attention to diversifying the economy.

An introduction:

The economic diversification has received great attention after these countries realized that achieving their higher goals is linked to diversifying sources of income. Therefore, diversification strategies represent at the present time, an important tool for the economy to reduce risks. As a result, the countries of the world have come a long way through the strategy of economic diversification. Achieving this economic diversification comes through activating the financial policy tools, which are one of the most important tools of economic policy in achieving economic development and eliminating the problems that stand in front of the diversity of sources of income, and in the midst of these economic and financial transformations that have occurred in countries, Iraq is not far from price fluctuations. world saw oil.

The research's problem :

The research's problem attempts to answer the following two questions:

- What is the impact of the current financial policy on economic diversification in Iraq?
- What the role is required for fiscal policy to achieve economic diversification in Iraq?

The research objective:

- The statement of the role of fiscal policy in economic diversification.
- Measuring the impact of fiscal policy on economic diversification in Iraq.

The research's hypothesis:

The research stems from the hypothesis that "there is a short and long-term relationship between fiscal policy and indicators of economic diversification."

The research's' procedure :

The spatial research limits represented by the Iraqi economy, and this choice was justified by the keenness to measure the role of financial policy in the possibility of achieving economic diversification in Iraq.

As for the temporal limits, the research covered the period (2004 / 2020).

The theoretical side:**The first requirement: the concept of fiscal policy :**

The fiscal policy is part of the economic policy that is included in the economic system and is important to the state. Fiscal policy is the use of public revenues, public expenditures and public debt to achieve a balance between the two sides of the general budget of countries and to achieve high levels of economic diversity and prevent economic imbalances (1).

The fiscal policy is defined as the totality of changes in government spending and revenue behavior in an attempt to influence economic results, as the government can affect the level of economic activity in the short term by changing the level of its spending and tax revenues. Or a decrease in tax revenue, or a combination of the two - stimulates economic activity, while contractionary fiscal policy - a decrease in government spending, or an increase in tax revenues, or a combination of the two is expected to slow economic activity. (2)

Arthur and others defined it as the set of changes that occur in both taxes and government spending, which would affect the gross domestic product, and it was also defined as the use of expenditures and taxes to change the overall economic output (3).

The second requirement is the objectives of fiscal policy :

Based the point of view of politicians and economists, the objectives of the fiscal policy are an effective tool to achieve the objectives of economic and social policies, as it bears the greatest burden in achieving the overall goals and objectives, and this importance came from the breadth of its impact, which extended to include aspects of economic and social life. Whereas, the fiscal policy aims to achieve a set of objectives, which are: (4)

- 1- Achieving optimal use of economic resources and enhancing economic efficiency by using financial tools in order to achieve economic and social well-being.
- 2- Achieving economic stability and addressing the problem of unemployment by increasing job opportunities in the public sector and encouraging the private sector, as well as striving to address the problem of inflation.
- 3- Achieving high economic growth, which is expressed in an increase in the per capita GDP, which is an indicator of economic prosperity and reflects the level of economic well-being of individuals.
- 4- Achieving optimal operation of the economic resources and production capacities available inside the country, and then the government has a catalytic role in the event of a shortage in aggregate demand.

5- Achieving economic development by mobilizing all financial, human and material resources and providing all the necessary requirements to achieve this goal (5).

The third requirement: the concept of economic diversification

The economic diversification has diverse concepts that differ according to the different vision through which it is viewed. The truth is part of the concept of economic diversification and an essential part of diversification of production structures. Therefore, economic diversification does not necessarily mean an increase in non-oil exports only, but can also include the substitution of imports.

On this basis, there are many definitions that dealt with economic diversification, as it was defined as the process of transforming the state from a single income and production to its dependence on oil to a state characterized by multiple sources of income as a result of the high rates of contribution of other sectors to the formation of the gross domestic product (6).

The diversification of the national economy means that the state depends, for its revenues, mainly on the development of the physical production sectors on the one hand, and on legislation and tax collection on the other.

He also defined economic diversification as a strategy to transform the economy from using a single source to multiple sources of income distributed over the primary, secondary and tertiary sectors, which include large sectors of the population with the aim of improving economic performance to achieve sustainable growth, such as building resilience against fluctuations in economic activity outside the region. Reducing exposure to income loss due to product price volatility in the international market, creating job opportunities and alleviating poverty.

Economic diversification can be defined as the shift towards a more diversified structure of domestic production and trade with the aim of increasing productivity, creating job opportunities and providing the basis for sustainable growth to reduce poverty. (7)

There is another definition of economic diversification, which is that it is a relative process of empowering the national economy by linking diversification to policies aimed at reducing dependence on a limited number of exported commodities whose price and volume fluctuate, or are subject to chronic deterioration.

According to United Nations experts, economic diversification means reducing dependence on one sector, creating new exports and different sources of revenue other than traditional well-known sources, abandoning the leadership role of the public sector and strengthening the role of the private sector in all. In order to ensure lasting and stable returns. (8)

Fourth requirement: goals of economic diversification :

The economic diversification is one of the most important policies that the world's countries follow, especially the developing ones, with the aim of overcoming the problems related to the fluctuation of financial revenues, which is one of the most important reasons for relying on one rentier economic resource, and this resource is often linked to changes in global demand for it, which negatively affects all sectors of the economy. National, as one of the basic characteristics of underdevelopment is the mis-investment of natural resources. Land, water and primary

mineral resources are not invested efficiently, but most of them are wasted without benefiting from them.

The main objectives of economic diversification can be summarized in the following (9)

1. Reducing the rate of economic risks and the ability to deal with crises and external shocks, such as fluctuations in the prices of raw materials such as petroleum, or drought for agricultural and food materials, or the deterioration of economic activity in global markets in particular in partner countries such as European countries for Arab countries. Economic diversification contributes to reducing the risk of economic exposure resulting from reliance on a single export commodity instead of relying on a wide base of exported commodities.
2. Improving and ensuring the continuation of the pace of development through the development of multiple and diversified sectors as a source of income, foreign exchange and public budget revenues, raising their added value in the gross domestic product and encouraging investment in it. Joseph Schumpeter (1912) sees economic development as a process of structural transformation in which innovation leads to the emergence of new sectors and the obsolescence of some old ones, a phenomenon he called "creative destruction".
3. Raising the rate of trade exchange: which is defined as the ability of the export unit to purchase the import unit, and the decrease in the prices of products exported to world markets, with the stability - or the rise - of import prices to reduce the trade exchange rate, when foreign trade depends on the export of the product, prices will lead Low export prices to import prices, which means this loss means trade due to trade, either when exports differ, low price exports will be distributed over a large number of goods and services, which will reduce losses resulting from fluctuation in the prices of exported goods.
4. Increasing the productivity of human capital: Economic diversification contributes to increasing labor productivity and human capital through savings resulting from diversifying sources of income and enhancing the productivity of final goods.
5. The development of interlocking relations between the various productive sectors, as the economic diversification resulting from the increase in the number of productive economic sectors contributes to the strengthening and strengthening of the intertwined relations among them, which results in many external effects of production.

The fifth requirement: indicators of measuring the degree of economic diversification

The economic diversification measured by many statistical indicators varying in its efficiency and suitability for measurement. Some of these indicators measure the phenomenon of dispersion as deficiencies, or to measure the concentration property as a Jenny's indicator, and others depend on the concept of diversification as the most common Herverndal factors and gives these indicators measurements Convergence in their trends and changes when quantitatively estimating the phenomenon of economic diversification¹, in order to make comparisons with regard to the extent of economic diversification, whether between different countries or in the same country during different periods.

1. HIRSHMAN- HERFINDAL Index: The HIRSHMAN- HERFINDAL index is one of the most famous indicators that measure the degree of economic diversification of any economy, the value of which ranges between zero and one. The indicator approached one. This indicates a lack of economic diversity and tended towards economic concentration. This indicator can be calculated according to the following relationship (10).

$$H.H = \frac{\sqrt{\sum_{i=1}^n (x_i/X)^2 - \sqrt{1/N}}}{-1\sqrt{1/N}}$$

whereas :

X_i : GDP in sector i .

X : gross domestic product (PIB).

N : the number of components of the output (number of sectors).

This indicator can be applied to a number of variables, including constant GDP, exports, imports, government revenue, fixed capital formation and labor force...etc. Although the United Nations Development and Trade Authority has made in its attempt to identify the least developed countries all Contributions of the industrial sector to the gross domestic product, the contribution of labor to the industry, the amount of per capita consumption of electricity and the amount of concentration

This indicator can be applied to a number of variables, including constant GDP, exports, imports, government revenue, fixed capital formation and labor force...etc. Although the United Nations Development and Trade Authority has made in its attempt to identify the least developed countries all The contributions of the industrial sector to the gross domestic product, the contribution of work in the industry, the amount of per capita consumption of electricity and the amount of industrial concentration as elements of economic diversification, but we return to the reality of the Iraqi economy and the availability of data necessary to measure economic diversification.

2. Index Ogive: This model can be summarized as follows:

$$\sum_{i=1}^n (i-1)^n ((s_i - 1/n)^2) / (1/n)$$

whereas :

N : is the number of economic sectors

S_i : the share of sectorial economic activity in employment from one sector, and it is often expressed as (the share of employment).

This indicates the distribution of economic activity among the various sectors. If the value of the indicator is equal to the correct value, then this indicates an increase in economic diversification, and with n of sectors, the equitable distribution s_i is equal to $1/n$ and this means that the share of each sector of the labor force is perfect, but if the value of the indicator is zero, then this indicates On the completion of economic diversification, the increase in the value of this indicator indicates the inequality in the distribution of economic activity between the various sectors.

The sixth requirement: the role of fiscal policy in economic diversification

Diversifying the economy is a more sustainable solution to avoid rentier resources. Diversifying revenue sources and generating multiple economic capabilities is one of the sure ways to correct economic paths and help protect the economy from external shocks. To take advantage of the available advantages to diversify the economy and achieve sustainable development.

Therefore, following economic diversification strategies is one of the most important procedures and methods that must be followed by rentier countries to reduce dependence on these resources. The most important economic diversification strategies are as follows: (11)

1 . The big push strategy:

These are on the idea of hiring a huge volume of ways, transportation and means, transportation, engine and training forces, and these huge projects that will create external economic savings, which are the provision of low cost services, necessary for industrial projects that have been established without availability these services; Rosennchen-Rodan proposes to focus investments in a broad front of light consumer industries, which support each other, earning the economic feasibility of its establishment at one time, taking into account the balance between infrastructure projects and the consumer industries, as well as the need to take advantage of attracting foreign capital and importing goods productivity.

2- Manufacturing strategy:

This strategy is based on giving priority to intermediate and heavy commodity industries, focusing on the experiences of advanced countries in industrial development and correcting the structural imbalance in the economy.

3- Balanced and unbalanced growth strategy:

There are two basic documents in the economic diversity and development strategy, the balanced growth and unbalanced growth, the first sees the tight market weakens investment incentive, and here is looking for an investment program stimulating and expanding the market, ie, a quantity of investment to a broad front of the integrated industries represents each market for other industries; The second doctrine is unbalanced growth

Which is led by Hirschman, believes that the implementation of the balanced growth strategy will lead to the revival of the phenomenon of economic dichotomy, ie the existence of an advanced industrial sector and a backward traditional sector that is not related to the other.

4- The appropriate strategy for the circumstances:

The choice of a development strategy is linked to the appropriate circumstances. The strong impulse is the optimal solution to the problem of underdevelopment, and balanced growth requires the provision of large resources necessary to achieve balanced growth, and from here we conclude that the selection of strategic development strategies and strategies that need to be taken advantage of. The investment resources available to it and the state of the main sectors, particularly the state of the infrastructure.

The practical side:

The second topic: measuring the impact of fiscal policy on the indicator of economic diversification

In this topic, we try to build a model to measure the impact of fiscal policy on economic diversification in Iraq for the period (2004-2020), then estimate it and test its quality, and then analyze the results of the evaluation of the model.

Firstly . Building a search form

By characterizing the variables and analyzing the results of the silence test for these variables. And then formulating the appropriate model with defining the indication of the parameters of the independent variables in the model.

1. Variable characterization:

Relying on quarterly data for four variables, collected from national sources: the Ministry of Finance, the Iraqi Ministry of Planning and Development Cooperation, and they are as follows in the table below:

Statement	variable symbol	variable name	Notes
financial policy	IEX	public investment spending	As a percentage of public spending
	IMD	internal public debt	internal public debt
	TR	tax revenue	As a percentage of public revenue
economic diversification	IHH	Economic Diversification Index	Hirvendahl-Hirschmann coefficient

Since:

Independent variables: IEX, IMD, TR.

Dependent variable: IHH.

2. Statistical description of the data:

Table (2) shows that the IHH economic diversification index achieved its highest value of (0.7) points in the first quarter of 2004 and its lowest value (0.18) in the first quarter of 2020, with an arithmetic mean of (0.37) and a median of (0.38) and the deviation was Its standard is (0.09) and has a zero probability. As for public investment spending, it achieved its highest percentage of (14.9) in the third quarter of 2011.

Table (2) Statistical description of the variables of fiscal policy and economic diversification

TR	IMD	IEX	IHH	
2.339231	13.80691	8.528971	0.373529	Mean
2.100000	6.750000	8.512500	0.381250	Median
6.000000	55.20000	14.90000	0.700000	Maximum
0.500000	0.770000	5.600000	0.180000	Minimum
1.176835	13.58969	2.079623	0.095958	Std. Dev.
0.990045	1.446009	0.948256	0.732800	Skewness
3.681687	4.466095	3.993751	4.772310	Kurtosis
11.87727	29.78741	12.98884	14.98568	Jarque-Bera
0.002636	0.000000	0.001512	0.000557	Probability
152.0500	938.8700	579.9700	25.40000	Sum
88.63621	12373.54	289.7638	0.616928	Sum Sq. Dev.
68	68	68	68	Observations

Source: Eviews.10 statistical program results

The lowest percentage was (5.7) in the first quarter of 2004. Its arithmetic mean was (8.52) and the median was (8.51), and its standard deviation was (2.07), and with a probability less than (0.05) it reached (0.001).

3. Unit Root Test (Sleep)

The stability test of the time series of the variables IHH, IEX, IND, TR is done with respect to the presence of the unit root, by applying the tests of each of the Dickey Fuller Developer - Extended - (ADF), and Philips - Peron (PP), at the level (level) and at the first difference (Differences1) and under the assumptions without a categorical, categorical, categorical and temporal direction.

Table (3) Results of the Extended-Developed Dickey Fuller Test (ADF)

Variable	Level		1 st Difference		Critical Value		
	ADF test	Prob.	ADF test	Prob.	1%	5%	10%
TR	-2.368	0.155	-3.441**	0.013	-3.441	-2.911	-2.593
IEX	-2.737	0.073	-3.715**	0.005	-3.533	-2.905	-2.590
IMD	0.338	0.978	-2.998**	0.048	3.540-	-2.909	-2.592
IHH	-2.964**	0.047			-3.533	2.906-	-2.590

Source: Eviews.10 statistical program results

Variable	Level		1 st Difference		Critical Value		
	PP test	Prob.	PP test	Prob.	1%	5%	10%
TR	-2.3257	0.167	-3.422**	0.013	-3.582	-2.908	-2.591
IEX	-1.9175	0.325	-3.934***	0.003	-3.533	-2.906	-2.590
IMD	0.6259	0.989	-4.067***	0.002	-3.533	-2.906	-2.590
IHH	-3.241**	0.012			-3.531	2.905	-2.590

Table (4) Results of the Philips-Perron (P-P) test

Source: Eviews.10 statistical program results

Table (3) and (4) show the results of the ADF and P-P test, and the critical value at the level of significance (1%), (5%), and (10%). The results obtained from the (ADF) test showed: that the

time series for the variable TR is not static at its original levels, based on the expanded Dickey-Fuller test, as the estimated value for it was greater than the tabular values, which means accepting the null hypothesis: H_0 which says that the variable is not static in its level to contain The string is on the root of the unit. When taking the first difference, the series became static, as the estimated value (-3.441) was smaller than the tabular value of (-2.911) at a significant level (5%) and with a probability of (0.013), which means acceptance of the alternative hypothesis: H_1 which says that the variable remains at the first differences, i.e. The tax revenue time series does not contain the unit root. When conducting the test at the level (level) and using all the first assumptions, it becomes clear that the estimated value of the variable (IEX) of (-2.737) is greater than the tabular values of (-2.593) at a level of significance of 10%, which means accepting the null hypothesis that the variable is not static in Its level and temporal direction. When taking the first difference for it, the alternative hypothesis that the variable remains in the first differences with a secant and a time direction was accepted. It is clear from the above that the variable IEX is an integrated first degree $I \sim 1$.

- The time series of the original IMD variable, as the estimated value for it was greater (or the absolute value is smaller) than the tabular values at the level of significance of 5% and the probability is greater than (0.05) as it reached (0.978), which means accepting the null hypothesis that the variable does not remain in its level i.e. The variable's time series does not have a unit root. When conducting the test with the first difference and using all the first hypotheses, it becomes clear that the estimated value is smaller than the tabular value at a significant level (5%) and with a probability of (0.048), which means accepting the alternative hypothesis that the variable remains in the first difference with a secant and a time direction. It is clear from the above that the variable is integrated of the first degree.

- The variable series IHH is stationary at the level, as its estimated value was smaller than the tabular values at a significant level of 5% and a probability of 0.047, meaning that the series of the economic diversification indicator variable is integrated from zero degree. To support the results of the expanded Dickey-Fuller test, the Phelps-Peron test was adopted in the time-series static test for model variables, because of its better and more accurate dynamic statistical ability, especially in small samples. The results of this test show that the time series of the variable: IHH are static at the level and with all the assumptions, as the calculated values for these series were smaller than the tabular values at a significant level of 5%, which means the possibility of accepting the alternative hypothesis that there is no unit root. While the variables: IEX and IMD and TR were not static at the level and with all assumptions. When conducting the test by taking the first difference and using all the first assumptions, it becomes clear that the estimated value of the variables: TR, IEX, IMD is less than the value estimated at a significant level with a probability of (0.13), (0.003), (0.002) respectively.

Secondly. Cointegration test using the boundary approach:

And there is a joint integration between the economic diversification index, investment public expenditures, internal public debt and tax revenues according to the boundary approach if the calculated F value is greater than the upper limit of critical values. . But if the calculated values are less than the minimum critical values, we reject the alternative hypothesis and accept the

null hypothesis which says that there is no co-integration between the model variables according to the limits approach. Table (5) shows the results of the limits test.

Table (5) results of the boundary test for the first model

Null Hypothesis: No levels relationship			F-Bounds Test	
I(1)	I(0)	Signif.	Value	Test Statistic
	Asymptotic: n=1000		4.75751	
3.2	2.37	10%	7	F-statistic
3.67	2.79	5%	3	K
4.08	3.15	2.5%		
4.66	3.65	1%		
	Finite Sample: n=60		60	Actual Sample Size
3.346	2.496	10%		
3.91	2.962	5%		
5.25	4.068	1%		

Eviews.10 Source: Statistical Program Results

It is evident from Table (5) that the calculated F-statistic value was greater than the value of the upper bound (Bounds test) as determined by Pesaran in the case of a fixed term for the function, and therefore we reject the null hypothesis and accept the alternative hypothesis that the variables are integrated together and achieve a long-term equilibrium relationship when Morale levels are 1%, 2.5%, 5% and 10%.

1- Estimation of the optimal deceleration period

Since there is a co-integration relationship between the variables, the long-run relationship is estimated, so the long-term coefficients represent trends. In light of this, the optimal model that gives the lowest value for the AIC criterion is the ARDL model (3,8,8,6) for estimating the equilibrium relationship in the long run.

Table (6) shows the results of estimating the model, as it becomes clear that most of the estimated transactions were significant to indicate the explanatory power of the model. We also find that the model explains 97% of the changes that occurred in the economic diversification indicator, which is a high percentage that reflects the quality of the estimated model, and the results agree to a large extent. With the economic theory and its assumptions, an increase in the internal public debt by 1 leads to an increase in the economic diversification index by (0.002). As for an increase in tax revenues by 1, the indicator will be raised by (0.009). And an increase in public investment spending by one true amount leads to a rise in the economic diversification index by (0.006), with an emphasis on the statistical significance of the three parameters, with a probability of less than (0.05), reaching (0.04), (0.02) and (0.04), respectively. The above figures show the weakness or absence of the impact of fiscal policy variables on economic diversification during the period (2004-2020).

Table (6) Long-term relationship coefficients for the first model for the period (2004-2020)

Dependent Variable: IHH				
Method: ARDL				
Date: 30/2/2022 Time: 22:10				
Sample (adjusted): 2006Q1 2020Q4				
Included observations: 60 after adjustments				
Maximum dependent lags: 8 (Automatic selection)				
Model selection method: Akaike info criterion (AIC)				
Dynamic regressors (8 lags, automatic): IMD TR IEX				
Fixed regressors: C				
Number of models evaluated: 5832				
Selected Model: ARDL(3, 8, 8, 6)				
Prob.*	t-Statistic	Std. Error	Coefficient	Variable
0.0000	8.037853	0.174076	1.399200	IHH(-1)
0.0084	2.816880	0.282839	0.796725	IHH(-2)
0.0743	1.847076	0.171938	0.317583	IHH(-3)
0.5003	0.681942	0.000754	0.000514	IMD
0.3685	0.912555	0.001488	0.001358	IMD(-1)
0.5881	0.547271	0.001520	0.000832	IMD(-2)
0.8402	0.203316	0.001482	0.000301	IMD(-3)
0.0006	3.799597	0.001644	0.006245	IMD(-4)
0.0001	4.666944	0.002397	0.011188	IMD(-5)
0.0720	1.862904	0.003085	0.005747	IMD(-6)
0.0466	0.463059	0.002661	0.001232	IMD(-7)
0.0462	2.076900	0.001292	0.002684	IMD(-8)
0.0465	0.463178	0.004279	0.001982	TR

0.0356	0.248273	0.007525	0.001868	TR(-1)
0.0247	1.238937	0.006947	0.008607	TR(-2)
0.0362	1.715595	0.007784	0.013354	TR(-3)
0.0818	0.149890	0.008765	0.001314	TR(-4)
0.0584	1.151414	0.010169	0.011709	TR(-5)
0.0391	0.335997	0.010549	0.003544	TR(-6)
0.0519	0.679485	0.009789	0.006651	TR(-7)
0.0211	1.743995	0.005143	0.008969	TR(-8)
0.0452	0.522197	0.003008	0.001571	IEX
0.0638	0.045747	0.005598	0.000256	IEX(-1)
0.0122	0.372258	0.005448	0.002028	IEX(-2)
0.0533	0.759453	0.005072	0.003852	IEX(-3)
0.0506	1.473876	0.005300	0.007812	IEX(-4)
0.0455	2.084296	0.005688	0.011856	IEX(-5)
0.0494	2.045489	0.003051	0.006241	IEX(-6)
0.0367	1.979153	0.023455	0.046421	C
<hr/>				
0.350833	Mean dependent var	0.985204	R-squared	
0.069597	S.D. dependent var	0.970872	Adjusted R-squared	
-6.882318	Akaike info criterion	0.006649	S.E. of regression	
-5.870051	Schwarz criterion	0.001371	Sum squared resid	
-6.486365	Hannan-Quinn criter.	235.4695	Log likelihood	
2.036831	Durbin-Watson stat	229.7452	F-statistic	
		0.000000	Prob(F-statistic)	

Eviews.10 Source: Statistical Program Results

We will conduct a number of tests on the model used to measure the long-term parameters:

1. Variance heterogeneity test: Table (7) indicates that the model is free from the heterogeneity problem, and the calculated F value is not significant with a probability greater than 5%, and the Chi-square parameter is not significant with a probability of (0.505) and (0.445).

Table (7) Heterogeneity test for the first economic diversification model

Heteroskedasticity Test: Breusch-Pagan-Godfrey				
			0.99248	
0.5056	Prob. F(28,31)	2		F-statistic
			28.3617	
0.4454	Prob. Chi-Square(28)	0		Obs*R-squared
			7.51690	
1.0000	Prob. Chi-Square(28)	7		Scaled

Source: Results of the statistical program Eviews.10

2. LM Autocorrelation Test:

Table (8) indicates that the model is devoid of serial correlation if the calculated F value is not significant, with a probability greater than 5%, which is (0.724).

Table (8) the serial correlation test for the first economic diversification model

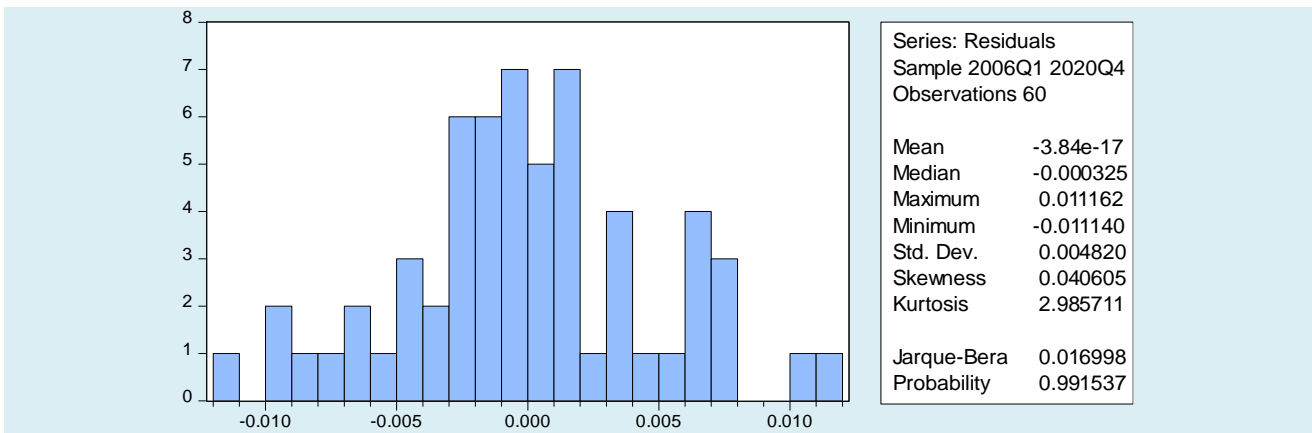
Breusch-Godfrey Serial Correlation LM Test:				
			0.32446	
0.7243	Prob. F(2,56)	2		F-statistic
			0.75604	
0.6852	Prob. Chi-Square(2)	2		Obs*R-squared

Source: Eviews.10 statistical program results

c. Random Error Distribution Test

Figure (1) shows that the statistic does not reject the null hypothesis that the random errors are normally distributed in the estimated model.

Figure (1) Random Error Distribution Test for the First Economic Diversity Model



Source: Eviews.10 statistical program results

2- Estimating the long and short term parameters and the error correction parameter

The long-term relationship can be extracted from the error correction model. The relationship of the variables at the level reflects this relationship, as shown in Table (9).

Table (9): The long-term relationship of the economic diversification indicator model

Levels Equation Case 2: Restricted Constant and No Trend				
Prob.	t-Statistic	Std. Error	Coefficient	Variable
0.0025	3.29440	0.00355	0.01172	IMD
	6	9	6	
0.1875	1.34780	0.04208	0.05672	TR
	8	5	3	
0.0456	2.08269	0.01625	0.03384	IEX
	1	2	7	
0.0000	5.00952	0.11591	0.58068	C
	3	5	0	

$$EC = IHH - (-0.0117*IMD + 0.0567*TR - 0.0338*IEX + 0.5807)$$

Source: Eviews.10 statistical program results

The equation below the table is the error correction parameter equation that indicates the long-term relationship between the model variables, as follows:

$$IHH=0.5807+0.0338 IEX+0.117IMD+0.0567TR.....(1)$$

Equation (1) indicates that there is a long-term relationship between the model variables. Where investment public expenditures have a positive relationship with the economic diversification index, its increase by one unit leads to an increase in the economic diversification index by a small 0.03 units, which is close to zero, and this agrees with the economic theory, but the impact of IEX is weak because the largest percentage of public expenditures are current expenditures and more than 70% Including salaries and wages. Despite the positive impact of the internal public debt on diversification and economic growth, the parameter value is close to zero, which indicates that most of the internal public debt is directed to areas of consumption, not investment, and the increase in tax revenues by one unit leads to an increase in the economic diversification index, but the parameter value is very small (0.05) Unity and this is consistent with economic logic and because taxes push towards directing the economy to diversification in the case of its best use. The last step in the ARDL model is to estimate the error correction model (ECM), which represents the relationship between the model variables in the short run, using the ARDL model (3,8,8,6).

Table (10) Error correction model: the short-run relationship of the economic diversification model

ARDL Error Correction Regression				
Dependent Variable: D(IHH)				
Selected Model: ARDL(3, 8, 8, 6)				
Case 2: Restricted Constant and No Trend				
Date: 30/2/2022				
Time: 23:21				
Sample: 2004Q1 2020Q4				
Included observations: 60				
ECM Regression				
Case 2: Restricted Constant and No Trend				
Prob.	t-Statistic	Std. Error	Coefficient	Variable
0.0044	3.06944	0.15610	0.47914	D(IHH(-1))
0.0387	2.15863	0.14712	0.31758	D(IHH(-2))
0.0225	0.81290	0.00063	0.00051	D(IMD)
0.0430	2.11059	0.00084	0.00178	D(IMD(-1))

	1.15952	0.00081	0.00095	
0.2551	9	9	0	D(IMD(-2))
	0.77046	0.00084	0.00064	
0.0469	7	1	8	D(IMD(-3))
	6.75569	0.00102	0.00689	
0.0000	5	0	3	D(IMD(-4))
	2.64524	0.00162	0.00429	
0.0127	3	4	5	D(IMD(-5))
	0.86228	0.00168	0.00145	
0.0452	5	4	2	D(IMD(-6))
	2.56313	0.00104	0.00268	
0.0154	0	7	4	D(IMD(-7))
	0.53586	0.00369	0.00198	
0.0459	0	8	2	D(TR)
	1.08421	0.00407	0.00442	
0.0866	2	8	1	D(TR(-1))
	1.06322	0.00393	0.00418	
0.0359	0	7	6	D(TR(-2))
	1.98870	0.00461	0.00916	
0.0556	2	0	8	D(TR(-3))
	2.03014	0.00516	0.01048	
0.0510	1	3	2	D(TR(-4))
	0.21250	0.00577	0.00122	
0.8331	9	3	7	D(TR(-5))
	0.40442	0.00573	0.00231	
0.6887	2	1	8	D(TR(-6))
	1.91429	0.00468	0.00896	
0.0349	7	5	9	D(TR(-7))
	0.59839	0.00262	0.00157	
0.0539	2	5	1	D(IEX)
	1.22772	0.00327	0.00402	
0.0288	5	5	0	D(IEX(-1))
	2.09163	0.00289	0.00604	
0.0448	9	2	8	D(IEX(-2))
	0.75891	0.00289	0.00219	
0.0436	6	5	7	D(IEX(-3))
	1.80830	0.00310	0.00561	
0.0503	2	5	5	D(IEX(-4))
	2.26968	0.00275	0.00624	
0.0303	7	0	1	D(IEX(-5))
	-	-	-	
	5.18236	0.01542	0.07994	
0.0000	9	6	2	CointEq(-1)*

		0.90262		
-0.003417	Mean dependent var	0	R-squared	
		0.83584	Adjusted	R-
0.015445	S.D. dependent var	5	squared	
		0.00625		
-7.015651	Akaike info criterion	8	S.E. of regression	
		0.00137		
-6.143007	Schwarz criterion	1	Sum squared resid	
		235.469		
-6.674312	Hannan-Quinn criter.	5	Log likelihood	
		2.23683	Durbin-Watson	
		1	stat	

* p-value incompatible with t-Bounds distribution.

Source: Eviews.10 statistical program results

It is evident from Table (10) the following:

A) The speed of modifying the model to the equilibrium state or the error correction parameter was significant and with a zero probability and takes a negative sign as expected, which amounted to (- 00.799), that is, within seven months of the year, the short-term imbalance is corrected, and this increases the accuracy and validity of the equilibrium relationship in the long term.

b) The economic diversification indicator is linked to a short-term but very weak relationship with the internal public debt, tax revenues and investment expenditures because the parameters are close to zero despite their statistically significant morale.

1. Structural stability test of the estimated ARDL model

This test reflects the short- and long-term coefficients that the data used are free from the presence of any structural changes in them over time. Two tests are used for this purpose:

a) CUSUM . test

b) CUSUMSQ . cumulative sum test

If the critical limits with a significant level of 5% fall within the graph of the statistics of the two tests mentioned above for the model, these coefficients are stable, but if the graph of the statistics of the two tests moves outside these limits at the 5% level, these coefficients are unstable.

Conclusions

1- The dominance of current public expenditures at the expense of investment expenditures in the government's general budget during the research period, despite the importance of this type of public spending, which is a source of external savings that stimulates private investment, diversifies the economy and increases growth opportunities in the long run.

2- The weak impact of fiscal policy with its various tools in bringing about the required diversification in the Iraqi economy, because of its suffering from the problem of unilateralism of the oil resource on the side of revenues and expenditures.

3- The existence of a short and long-term positive relationship between the variables of fiscal policy and the indicator of economic diversification.

4- 2. Weak positive impact of fiscal policy on economic diversification in Iraq because the parameters of fiscal policy variables are close to zero despite their statistical significance

Recommendations:

1- Working to direct public expenditures towards areas through which economic diversification is achieved. With the increase in investment expenditures directed to the non-rentier economic sectors with the adoption of changes in the tax system and the striving to increase the tax proceeds.

2- Controlling the public budget deficit, and this is done through reforming the public finances, which are included in public expenditures and public revenues

3- Work to reform the tax situation and diversify revenues that help in enhancing diversity in output.

4- The reform process will focus on reconsidering the reality of fiscal policy, because its general trends are considered as a basis for economic diversification

References :

- [1]. Mustafa Salman, 2000, Principles of Macroeconomics, 1st Edition, Dar Al Masirah for Publishing and Distribution, Amman, Jordan, p. 267.
- [2]. (Lida R. Weinstock, 2021: Fiscal Policy: Economic Effects, Congressional Research Service R45723)
- [3]. 3.Boston, 2003, p: 171 Bradley R. Schiller, The macro economy today, 9th Ed, McGraw.Hill Irwin,
- [4]. Taher Fadel Al.Bayati and Khaled Tawfiq Al.Shammari, Introduction to Economics, Micro and Macro Analysis, Second Edition, Wael Publishing House 2011, pg. 380
- [5]. Tariq Muhammad Al.Hajj, Public Finance, first edition, Safaa Publishing House, Amman, 2009, pg. 206
- [6]. Khaled Hashem Abdel Hamid, Economic Diversification and Balanced Development in the Kingdom of Saudi Arabia, Opportunities and Challenges, Journal of the College of Economics and Political Science, Vol. 19, No. 1, 2018, p. 77).
- [7]. (The concept of economic diversification in the context of response measures, Technical paper, united nations, 2016, p13
- [8]. Aid for trade at a glance 2019: Economic diversification and Empowerment . © OECD, WTO 2019, p142.
- [9]. Look at this :Dominik Hartmann, and Andreas Pyka , Innovation, economic diversification and human development , Leibniz Information Center for Economics, Discussion Paper 65.2013, p4

- [10]. . MardinMahsom Faraj, Measuring and analyzing economic diversification in Iraq during the period (2004.2016), Journal of the University of Human Development / Special issue for the research of the Sixth Scientific Conference held on April 25.26, 2018, p. 167).
- [11]. Asmaa, Bin Abdel.Fattah Dahman, The Strategy of Economic Diversification in Algeria in the Light of Some International Experiences, Journal of Ijtihad for Legal and Economic Studies, Volume 7, Issue 2, 2018, p. 333
- [12]. Ghanem Abdallah, Timmagdin Omar, The Impact of the Economic Diversification Strategy on the Performance of the Economic Institution, Oasis Journal of Studies (University of Ghardaia.Algeria), Vol. 07, Issue 02, 2014, p. 66
- [13]. 12.Kumar, S. (2022). A quest for sustainium (sustainability Premium): review of sustainable bonds. Academy of Accounting and Financial Studies Journal, Vol. 26, no.2, pp. 1.18
- [14]. 13.Allugunti, V.R. (2019). Diabetes Kaggle Dataset Adequacy Scrutiny using Factor Exploration and Correlation. International Journal of Recent Technology and Engineering, Volume.8, Issue.1S4, pp 1105.1110.
- [15]. 14.Viswanatha KKRC, Reddy A, Elango N M (2019). Diabetes Kaggle Dataset Adequacy Scrutiny using Factor Exploration and Correlation, International Journal of Recent Technology and Engineering (IJRTE) Vol. 8.