



MACROECONOMIC POLICIES AND THEIR IMPACT ON THE AGRICULTURAL SECTOR AND ECONOMIC GROWTH IN SELECTED ARAB COUNTRIES FOR THE PERIOD 1990-2020

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ABSTRACT

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The research aims to study and measure the impact of macro policies (monetary and financial) on the agricultural sector and economic growth in some Arab countries, namely (Saudi Arabia and Jordan), with special reference to Iraq. The research relied on the descriptive approach with quantitative analysis using the statistical program (Eviews10). The research included a time series over a period of thirty-one years (1990-2020), where the co-integration mechanism and the error correction methodology (ECM) were used to find out the impact of some independent financial and monetary economic indicators on the variable value added of the agricultural sector of the sample countries, and then measure the value added of the agricultural sector. Estimated from the first model on the economic growth of the second stage v Using the two-stage method, in order to reach more accurate results, and one of the most important conclusions reached by the research is that all economic variables are stable at the first level and difference, so the ARDL autoregressive vector model was chosen to estimate the relationship between the long and short term variables. This model was used in order to know the nature of the relationship shown by the macro policies (financial and monetary) in the agricultural sector and the economic growth rates of all the sample countries, as it was found that the policies followed by the sample countries were ineffective. Which contributed to the low added value of the agricultural sector and thus reduced economic growth, especially in Iraq and Saudi Arabia as they are oil countries, while in Jordan the added value increased economic growth. The researcher recommended raising the efficiency of fiscal and monetary policies by relying on mechanisms that raise the agricultural added value, which in turn works to raise the economic growth rates of the sample countries.

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INTRODUCTION

The importance of the research comes from the adoption of many policies by most countries, whether Arab or developed, in order to develop their economies. The importance also comes from knowing the effects of some financial and monetary policies on the value of agricultural output. The agricultural sector is of great importance in the economic activities followed in most countries. Macro policies are considered an important part of economic policies, as these policies play an essential and influential role in achieving the multiple goals sought by the national economy in developed and developing countries alike. These policies have varying effects on

the agricultural sector of these countries, especially the Arab countries, which are the focus of our study. It is considered one of the important productive sectors with an important and prominent role in building the national economy. Because it addresses some economic problems, such as the elimination of unemployment, by absorbing vast numbers of the labor force, the availability of foreign exchange through its exports of agricultural crops with a comparative advantage that characterizes it, and it also works to increase the incomes of most workers in this sector, and these policies also have an active role In regulating the money supply, supporting and financing the agricultural sector, and controlling cash and credit, in order to raise the level of efficiency for agricultural development. The research problem lies in the fact that the agricultural sector in most Arab countries (Iraq, Saudi Arabia, Jordan). Reformulating the goal, with regard to the studied research sample only including Iraq, is going through wide fluctuations that have significant effects on the growth rate of agricultural output and the added value of the agricultural sector, which reflects its low impact on economic growth, and the reason for these fluctuations is due to some macro policies adopted by those countries. It was not at the required level, and the imbalance in the work of these policies reflected its impact on the agricultural sector in particular and the government sector in general. The research aims at: Studying the reality of macro policies in the Arab countries, with special reference to Iraq from 1990-2020. Measuring the impact of macro policy variables on the growth rate of agricultural output in the research sample countries (Iraq, Saudi Arabia, Jordan) in the first stage, and then measuring them on the economic growth rate in the second stage. Diagnosing the causes of the deterioration in the overall policies adopted by the countries of the study sample. Developing many possible solutions in order to advance the reality of these policies and the economic growth of the countries of the study sample. The research assumes that is a set of macroeconomic policies that vary in their effects on Arab agriculture and its economic growth and the research will prove the research hypothesis or not. The research relies on the descriptive method in studying ideas and theoretical frameworks concerning macro policies and economic growth. Moreover, the standard approach shows these policies' impact on the agricultural sector and the economic growth of the selected countries (Iraq, Saudi Arabia, Jordan) during the period 1990-2020 these countries were chosen as agricultural arabs.

MATERIALS AND METHODS

Description of the template used:

The model description stage is one of the most important and difficult stages used in estimation in econometric analysis, as it is often the most difficult point of correct formulation of the model applications.

As our research model, it consists of the following main model, the table (1).

The main model of analysis

Table (1): The main model of analysis.

The first stage	
The first dependent variable is Y1	The approved variables (the added value of the agricultural sector) in the sample countries.
The first independent variable is X1	Foreign direct investment in the agricultural sector (foreign investment policies).
The second independent variable is X2	Investment spending (financial policies) (million dollars).
The third independent variable is X3	The volume of agricultural loans (credit policies) (million dollars).
The fourth independent variable is X4	Foreign exchange rate (monetary exchange rate policies) %.
The fourth independent variable is X5	Inflation rate (monetary policies) %.
The sixth independent variable is X6	Trade Turnover (Trade Policies) %.
The second stage	
The second dependent variable is Y2	Economic growth represented by the growth rate of the gross domestic product in percent.
The first independent variable is X1	The value added in the agricultural sector is estimated by \hat{Y}^1 from the first equation.

The conceptual framework of the economic policies and economic growth:

Economic growth receives the attention of economic policymakers, as most countries in the world work to increase the gross domestic product to raise the population's standard of living. To achieve this, governments resort to a set of procedures and measures to increase economic growth. The performance of economic policy in any country As these two policies play an important and effective role in achieving the multiple goals sought by the national economy. Fiscal policy attempts to achieve stability in the economy through changes in taxes or government spending, or both together, while monetary policy achieves stability in the economy through changes in the amount of money in circulation or interest rates, or both. And the relationship between fiscal policy and growth rates is direct, as growth rates depend on the revenues of the state's general budget, especially if we know that public spending is an important part of the components of effective demand, and it affects the volume of economic activity towards achieving public benefits (Musa and Hussein, 2021), As for monetary policy, it is one of the most important means on which economic policies depend in order to influence economic activity and reach certain goals through economic variables such as investment, prices, gross domestic product, savings, etc. Monetary policy plays an important role in the economic system as it affects the amount of money in circulation in economic activities. that society does (Faraj and Saeed, 2021). Work to increase the production of wheat crop facilitates the country's food and economic security, thereby achieving the State's strategy to increase its production and reduce the import that burdens the State budge (Alzubaidi and Almullah, 2022). Among the previous studies that dealt with this topic was the study: (AL-Mashhadani, 2018) to analyse the impact of certain fiscal and monetary policies on the value of agricultural production in selected Arab countries for the period (1990-2010), examining the impact of both inflation and the volume of agricultural loans and the exchange rate on the value of agricultural output, One of the most important findings of the research was that the impact of fiscal and monetary policy was limited by Iraq's economic conditions in the 1990s and beyond 2003, which were unclear and that the CBI's monetary printing policy resulted in high

inflation rates affecting agricultural investments. The researchers recommended the use of clearer fiscal and monetary policies by legislators and the need for the State to intervene in the formulation of such policies in an integrated manner to improve the economy's performance and accelerate development, which is reflected in other sectors, including the agricultural sector. (Wagan *et al.*, 2018) presented a study entitled Evaluating the Impact of Monetary Policy on Growth in the Agricultural Sector and Food Prices in Developing Countries, taking India and Pakistan as a model. Employment of the agricultural sector and productivity. The study concluded that the tight monetary policy significantly reduced food prices' inflation, but also led to an increase in the unemployment rate in the countryside. The study recommended the adoption of a comprehensive monetary policy that leads to price stability, reasonable employment rates, and increased agricultural output growth. The study (Ufoeze *et al.*, 2018) aimed to measure the impact of monetary policy on economic growth in Nigeria during the period (1986-2016). Money supply and a negative relationship between growth and the exchange rate. The study recommended that monetary policy has an effective impact by achieving stability in prices and raising aggregate production. (Ssbeulime and Edward, 2019) The relationship between inflation, economic growth, and money supply in Uganda for the period (1980-2016) The results of the study revealed that there is a long-term equilibrium relationship between economic variables, and the research concluded that the budget deficit does not cause inflation except in In the short term, inflation affects exchange rates and the money supply. And he presented (Ibrahim, 2019) in her study on the role of monetary policy in achieving the goals of economic policy in Egypt for the period 1990-2017, as the study found that monetary policy affected the growth rate of the real monetary mass that led to the creation of investment projects, which increases the value of exports and decreases Imports, as the study recommended the adoption of a monetary policy that works to develop agricultural and industrial production and coordination between the two policies. They explained each of them (Musa and Hussein, 2021). In their studies on the role of macroeconomic policies in economic growth in Iraq for the period (1990-2016), the economic growth rates in Iraq witnessed a clear fluctuation during the study period. Wars and economic blockade, but after 2003 it achieved a positive growth rate that reflects the increase in oil exports in large proportions and does not reflect an improvement in various economic activities. In a study (Mathew, 2021) on the impact of macroeconomic policies on agricultural performance in India, the study found that there is an impact of macroeconomic policies on the agricultural sector and work to raise its contribution to the growth of GDP, and an increase in inflation works to decrease investment in the sector Agricultural, and that there is a negative impact of the interest rate on the agricultural sector, while the increase in government expenditures led to its development.

First Fiscal Policy: Fiscal policy is represented as a set of measures taken by the government, which are reflected in the general budget by allocating public funds to be spent on the goods and services they wish to obtain. It is defined as the totality of procedures and rules that it takes. The government has an influence on financial activity, using the important elements of the public budget such as taxes, fees, loans, and public expenditures to achieve a number of goals during a certain period of time (Bin Umrah and Megrani 2021). The fiscal policy has several tools that the state uses

to influence macroeconomic variables and achieve the desired goals. These tools are divided into three groups:

A- Public Expenditure: Public expenditure is one of the tools that distribute resources and redistribute income among the society groups and thus achieve economic growth. Investment expenditures are used to add new production capacity to the economic structure and direct economic resources towards productive sectors with real production, such as industry and agriculture, to achieve balanced growth. For these sectors to reach any higher level of GDP (Daoud *et al.*, 2019).

B- Public Revenues: Public revenues are an important tool of fiscal policy that has an impact on economic and social activity. Therefore, public revenues are a group of funds obtained by the state in its sovereign capacity or from its activities and self-ownership or external sources, whether taxes or loans. Internal or external to cover public spending during a certain period of time (Bin Kaddour and Berir, 2018).

C- The general budget: The general budget is of great importance in the state as it is an honest mirror of the financial and economic policy of the state. The general economic and social plan. The fiscal policy aims to achieve a number of goals: - achieving economic efficiency in the allocation of resources, equitable distribution of wealth and income, achieving economic stability, and finally achieving economic development.

Second Monetary Policy: Monetary policy is represented as the totality of procedures and provisions, whether monetary or non-monetary, that the government undertakes, represented by the Central Bank in its capacity as the monetary authority authorized to influence the monetary mass and thus economic activity to achieve the objectives of the macroeconomic policy on the part of the government and defined as all the means taken by the government, the central bank, and the treasury to influence the amount, provision, and use of cash, It is an attempt by the Central Bank to control the money supply and interest rates and rein in the banking system in granting credit to support the stability of economic activity (Khalaf, 2018). Monetary policy has a set of quantitative and qualitative tools through which economic growth rates can be increased: Quantitative tools: These tools are represented.

A: by reducing the rediscount rate: which is the price that the central bank obtains in return for providing loans and discounting commercial papers and treasury bills in the short term. Reducing this rate (Bou Amra and Bin Abdel Fattah, 2018).

B: Open Market Operations: It is one of the Central Bank's means that it uses to influence the volume of liquidity in banks in the banking sector to control their credit capacity through the sale and purchase of securities, so the Central Bank buys and sells government bonds using this method, and thus affects the volume of cash in circulation and the money supply. In economics, (Khalaf, 2018).

C: The legal reserve ratio: It is one of the tools used to control the money supply, as commercial banks deposit a certain percentage of their customers' deposits with the Central Bank, and the money ratio is in the form of balances or liquid money (Monnet and Vari, 2019), as The central bank enters as a buyer of securities, treasury bills, and others in the open market, thus increasing the money supply and providing the necessary funds to achieve economic growth (Bou Amra and Bin Abdel Fattah, 2018).

The qualitative tools of monetary policy: These are the direct tools and methods used by the central bank to influence the direction of credit, not its total volume, as in the quantitative tools. In the case of using specific tools, certain economic goals can be achieved by influencing the economic activities that the state wants to encourage or limit (Faraj and Saeed, 2021). Objectives of monetary policy: Monetary policy aims to influence economic activity and achieve the main objectives of economic activity related to each stage of economic growth. Low (price stability), balance in the balance of payments, achieving high economic growth rates (AL-Saadi and Alo, 2019).

The reality of economic policies in the in the iraqi economy and relationship to economic growth and the agricural sector:

Economic policies, including financial ones, have an important role in maintaining the living standards of the Iraqi citizen because of the citizen's dependence on the state in providing basic needs in the nineties decade after the imposition of economic sanctions. Calculation of rising inflation. After the Iraqi-Iranian war, Iraq entered a devastating war that made it succumb under UN Security Council resolutions that froze its assets abroad, including oil, banning imports and destroying infrastructure. The poverty line in light of the large indebtedness (Hashem, 2011). Through its policy, the State supports the provision of wheat in sufficient quantities and maintains the stability of its prices and is not affected by higher prices of wheat as a strategic crop, and affects the security and economic stability of the country (Alzubaidi and Almullah, 2022). Then the economic blockade was imposed in 1991, and public expenditures rose, in addition to the fact that the economic environment in Iraq was repulsive to domestic and foreign investment and real production due to the effects of runaway inflation, which led to the replacement of foreign currency with local currency, as the prevailing trend in Iraq at that time was to use the US dollar as a storage value or a medium of exchange, and this is what is called the phenomenon of dollarization (AL-Khazraji, 2010), This situation reflected the inability of the Central Bank of Iraq to apply the provisions of Article 40 of Law No. 64 of 1976, which stipulates (the Central Bank of Iraq retains assets of gold, silver, bonds and foreign currencies as a cover for the currency, provided that its percentage is not less than 50% of the currency in circulation) (Central Bank of Iraq Law, 1976). This caused significant inflation, and after 2003 monetary policy witnessed a change towards integration with the global economy and openness to the market economy through legislation or amendment of a number of laws, the most important of which is the issuance of the Central Bank of Iraq Law No. (64) of 2004 which granted the bank complete independence On the authority of the government in conducting its central banking operations (Faraj and Saeed, 2021), And that the policies applied by the Central Bank aimed at controlling inflation rates and making the money supply grow at rates commensurate with the expenditures and commodity production capacities of the economy in order to achieve a balance between the commodity and monetary currents, and the Central Bank tried to maintain a stable exchange rate for the Iraqi dinar in order to restore confidence in it and not creating a significant deviation between the official price and the parallel price, As for the inflation rate, it was characterized by fluctuation. In Iraq, external factors played a major role in influencing the inflation rate due to the great openness and the large

number of imports of various commodities, which made the Iraqi economy dependent on global price fluctuations, negatively or positively, (Musa and Hussein, 2021). Table (2) shows some indicators of the Iraqi economy for the period after 2003.

Table (2) shows the fluctuation in the indicators of the Iraqi economy, as the value of the gross domestic product in 2003 amounted to (23793.02) million dollars, while the value of agricultural output for the same year was (1999.95) million dollars, and the percentage of its contribution to the gross domestic product for the same year is (b). 8.4%, and this percentage was its lowest level, while it was the lowest percentage for agricultural output in 2020 at (2.88%). Controlling exchange rates through the policies of setting exchange rates in recent years. The fluctuation in the rate of economic growth is also noted at the level of the public sector. The table also notes the fluctuation in inflation rates and the money supply.

Table (2): Some indicators of performance in the Iraqi economy for the period 2003-2020

Years	Gross Domestic Product (1) at current prices, million dollars	agricultural domestic product (2) At current prices, million dollars	The relative importance of agricultural output (3) %	Exchange prices The US dollar against the Iraqi dinar (4)	money supply (5)	The value added of the agricultural sector as a percentage of GDP (6) %	Inflation rate in Iraq (7) %	Economic growth rate (8) %
2003	23793.02	1999.95	8.4	1936	5773.6	8.41	13.9	33.1-
2004	36638.24	2542.17	6.9	1452	10148.6	6.94	17.3	54.14
2005	49954.89	3440.32	6.8	1472	11399.1	6.89	35.9	4.40
2006	64805.39	3775.58	5.8	1475	15460.1	5.83	23.1	10.16
2007	88840.05	4379.37	4.9	1267	21721.2	4.93	14.4	1.38
2008	124373.40	4785.62	3.8	1203	28189.9	3.85	30.2	8.23
2009	129429.78	6769.09	5.2	1182	3.37700	5.23	19.5	3.38
2010	138516.66	7150.63	5.2	1186	51743.5	5.16	16.6	6.40
2011	185749.66	8477.19	4.6	1196	62473.9	4.56	24.7	7.54
2012	218000.99	8990.95	4.1	1233	63735.9	4.12	2.7	13.94
2013	234637.68	11188.56	4.8	1232	2.73858	4.77	2.1	7.60
2014	228490.90	11259.54	4.9	1214	1.72692	4.90	2.8	0.70
2015	171087.13	6990.95	4.1	1247	65435.4	4.81	30.2	2.48
2016	172478.31	6626.10	3.8	1275	70733.4	3.80	11.1	15.21
2017	190874.31	6268.22	3.3	1258	76986.6	3.30	14.7	2.49-
2018	191983.22	6644.55	3.4	1209	71051.8	2.00	18.2	0.56-
2019	198774.36	6698.89	3.3	1196	72923.9	2.01	2.5	4.4
2020	205230.02	.015923	2.88	1192	70654.3	2.03	15.2	3.5
highest value	234637.68	11259.54	8.4	1936	76986.6	8.41	35.9	54.14
lowest value	23793.02	1999.95	2.88	1182	5773.6	2.00	2.1	33.1-
Average	147425.44	6328.37	4.7	1352.95	49037.8	4.52	16.4	---

-Source for columns (1-2-) Republic of Iraq\ Ministry of Planning, Ministry of Planning and Development Cooperation for the years 2003-2020.

- The source of columns (3) is calculated by the researcher based on the following law:

- Percentage of contribution of agricultural output to GDP = (agricultural output) / (gross domestic product) x 100

- The source of the column (6) is the Central Bank of Iraq, various annual releases: (UNCTAD, WIRLD INVESTMENT REPORT, 2003-2020).

-The source of columns (4-5-7-8) Republic of Iraq\ Central Bank of Iraq Various annual publications, website:

RESULTS AND DISCUSSION:

The results of the stability test for the study variables a unit root test for the stability of the time series of the sample countries:

Before conducting any standard study, the appropriate methodology must be determined, as the stability of all the variables under study must be studied, through the unit root test using the expanded Dickie Fuller method for the sample countries, as shown in the following table: The unit root test aims to examine the properties of the time series for each of the variables of the function under study using the Expanded Dickey-Fuller (ADF) method for the variables of the function under study in the sample countries for the period (1990-2020), and based on the above stability results, as all The variables have stabilized at the first difference of the data, so it is possible to use the methodology of auto regression with a lagging distribution, which passes through three basic first stages, by determining the optimal slowing period as a first stage, then testing co-integration, as a second stage through testing limits. In the case of co-integration, the transition to the third stage which is the application of the vector error correction methodology.

Table (3): Unit root test using the Extended Dickie Fuller (ADF) method (Iraq)

Rank	ADF stability test of the original level of the data						ADF stability test of the original level of the data						Variants
	The Republic of Iraq												
	Without categorical and general direction		categorical and general direction		Categorical		Without categorical and general direction		categorical and general direction		Categorical		
1(1)	Prob.	Prob.	Prob.	Prob.	Prob.	Prob.	Prob.	Prob.	Prob.	Prob.	Prob.	Yi	
1(1)	***	0.0001	**	0.0181	***	0.0036	No	0.1087	*	0.0954	No	0.1638	Y1
1(1)	***	0.0000	***	0.0001	***	0.0000	**	0.0320	*	0.0522	**	0.0137	X1
1(1)	***	0.0000	***	0.0005	***	0.0006	No	0.9461	*	0.0707	No	0.5727	X2
1(1)	***	0.0000	*	0.0908	**	0.0269	No	0.7365	No	0.3058	No	0.3165	X3
1(1)	**	0.0208	***	0.0022	***	0.0004	No	0.8919	No	0.1780	No	0.3503	X4
1(1)	***	0.0000	***	0.0002	***	0.0003	No	0.5823	No	0.3708	*	0.0974	X5
1(1)	***	0.0000	**	0.0449	**	0.0149	No	0.2473	No	0.6794	No	0.3847	X6
1(1)	***	0.0000	***	0.0002	***	0.0001	***	0.0002	***	0.0012	***	0.0002	Y2
1(1)	***	0.0023	***	0.0012	***	0.0031	***	0.0003	***	0.0062	**	0.0304	X1

Note:(*) Significant at the (10%) (**) Significant at the (5%) (***) Significant at the (1%).

Source: Prepared by the researcher based on the outputs of the Eviews10 program.

Table (4): Unit root test using the Extended Dickie Fuller (ADF) method (Saudi Arabia)

Rank	ADF stability test of the original level of the data						ADF stability test of the original level of the data						Variants
	Saudi Arabia												
	Without categorical and general direction		categorical and general direction		Categorical		Without categorical and general direction		categorical and general direction		Categorical		
1(1)	Prob.	Prob.	Prob.	Prob.	Prob.	Prob.	Prob.	Prob.	Prob.	Prob.	Prob.	Yi	
1(1)	***	0.0032	**	0.0135	***	0.0022	No	0.1415	No	0.1476	No	0.8397	Y1
1(1)	***	0.0003	**	0.0159	***	0.0029	No	0.1310	No	0.6047	No	0.7668	X1
1(1)	***	0.0004	***	0.0001	***	0.0000	**	0.0431	***	0.0006	***	0.0001	X2
1(1)	***	0.0000	***	0.0003	***	0.0002	**	0.0211	*	0.0776	***	0.0052	X3
1(1)	***	0.0012	***	0.0001	***	0.0000	*	0.0921	***	0.0002	***	0.0000	X4
1(1)	***	0.0032	**	0.0122	***	0.0019	No	0.3104	No	0.1279	No	0.3327	X5
1(1)	**	0.0312	***	0.0001	***	0.0002	**	0.0214	***	0.0037	*	0.0869	X6
1(1)	***	0.0000	***	0.0031	***	0.0000	*	0.0813	**	0.0115	**	0.0142	Y2
1(1)	***	0.0032	***	0.0070	**	0.0193	No	0.1732	No	0.9744	No	0.8610	X1

Note:(*) Significant at the (10%) (**) Significant at the (5%) (***) Significant at the (1%).

Source: Prepared by the researcher based on the outputs of the Eviews10 program.

Table (5): Unit root test using the Extended Dickie Fuller method (ADF) (Jordan)

Rank	ADF stability test of the original level of the data						ADF stability test of the original level of the data						Variants
	Jordan												
	Without categorical and general direction		categorical and general direction		Categorical		Without categorical and general direction		categorical and general direction		Categorical		
1(1)	Prob.	Prob.	Prob.	Prob.	Prob.	Prob.	Prob.	Prob.	Prob.	Prob.	Prob.	Yi	
1(1)	***	0.0004	**	0.0016	**	0.0167	*	0.0921	No	0.7597	No	0.4210	Y1
1(1)	***	0.0000	***	0.0002	***	0.0000	**	0.0351	**	0.0140	**	0.0192	X1
1(1)	***	0.0003	***	0.0055	***	0.0025	No	0.1242	No	0.1357	No	0.1484	X2
1(1)	***	0.0000	***	0.0040	***	0.0010	***	0.0043	***	0.0020	No	0.9539	X3
1(1)	**	0.0432	*	0.0502	**	0.0111	No	0.1231	No	0.2320	No	0.6855	X4
1(1)	**	0.0421	no	0.326	**	0.0097	No	0.1325	No	0.7992	No	0.9620	X5
1(1)	**	0.0304	**	0.0119	***	0.0027	No	0.0721	No	0.3142	No	0.6404	X6
1(1)	***	0.0001	***	0.0002	***	0.0001	***	0.0041	**	0.0150	**	0.0321	Y2
1(1)	***	0.0001	***	0.0000	***	0.0000	No	0.2173	No	0.1175	No	0.1637	X1

Note:(*) Significant at the (10%) (**) Significant at the (5%) (***) Significant at the (1%).
 Source: Prepared by the researcher based on the outputs of the Eviews10 program.

The optimal delay period was determined according to the (AIC) standard, and it was found that the ARDL models, and that the best delay periods are (3), and this rank was determined through the (VAR) model and for all sample countries, and the limits of co-integration are tested through table (6) As the results indicated according to the limits test method, the F statistic was calculated in the light of the test, as the estimated (F) statistic was compared with the tabular values that were higher than the upper, lower and upper limits of the critical values in the model at the four levels (2.5%, 5%, 10%). This means that it indicates the existence of a long-term equilibrium relationship between the variables under study for the sample countries, as shown in the table below:

Table (6): results of the cointegration test using the limits test in the sample countries.

Iraq			Saudi Arabia			Jordan		
Test Statistic	value	K	Test Statistic	Value	K	Test Statistic	Value	K
F- Statistic	8.467882	6	F- Statistic	5.83988	6	F- Statistic	5.951064	6
Critical Value Bounds			Critical Value Bounds			Critical Value Bounds		
Significance	I ₀ Bound	I ₁ Bound	Significance	I ₀ Bound	I ₁ Bound	Significance	I ₀ Bound	I ₁ Bound
10%	1.75	2.87	10%	2.53	3.59	10%	1.85	2.88
5%	2.32	3.24	5%	2.87	4.00	5%	2.14	3.34
2.5%	2.32	3.59	2.5%	3.19	4.38	2.5%	2.42	3.19
1%	2.66	4.05	1%	3.60	4.90	1%	2.67	4.15

Source: Prepared by the researcher based on the outputs of the Eviews10 program, based on the data of the study.

As for the diagnostic tests, it is noted from Table (7) that the model has exceeded the standard problems, as it was found that the model is free from the problem of instability of variance, homogeneity, diagnostic accuracy, normal distribution of errors, and autocorrelation problems, as shown in the table below:

Table (7): Diagnostic tests of the model in the sample counties

Iraq	Saudi Arabia	Jordan
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standard problem	the test	the value	Possibility	standard problem	the test	the value	Possibility	standard problem	the test	the value	possibility
self-association	Breusch - Godfrey LM Test	0.517005	0.4804	self-association	Breusch - Godfrey LM Test	0.266696	0.6142	self-association	Breusch - Godfrey LM Test	0.145428	0.7066
Diagnostic accuracy	Ramsey Reset Test	7.081128	0.0750	Diagnostic accuracy	Ramsey Reset Test	0.303515	0.5872	Diagnostic accuracy	Ramsey Reset Test	0.033803	0.8552
Contrast instability	ARCH Test	0.273439	0.6050	Contrast instability	ARCH Test	0.032165	0.8581	Contrast instability	ARCH Test	0.038779	0.8457

Source: Prepared by the researcher based on the outputs of the Eviews10 program, based on the data of the study.

Based on the foregoing, the existence of the counteraction relationship allows us to move to the third stage to perform the ECM error correction methodology, as Table (7) shows that the CointEq (1-) error limit was significant and negative, and they are the two basic conditions for this methodology and in all sample countries (Iraq, Saudi Arabia and Jordan), where the variables were interpreted in the long term, since this term represents the direct and indirect effect on the variables.

Quantitative analysis of the impact of variables of macroeconomic policies on the value added of Iraq agricultural sector for the period 1990-2020:

After confirming the existence of a cointegration relationship, i.e., a long-term balancing relationship, the results show that the best model is ARDL (3.1.1.1.0.1.0), where the possibility of applying the error correction methodology after all its conditions are available, as shown in the following table (8):

Table (8): the results of estimating the error correction model (ECM) for the added value of the Iraqi agricultural sector for the period 1990-2020.

cointegration Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(Y1(-1))	0.791426	0.061588	12.85035	0.0000
D(Y1(-2))	-0.802170	0.063291	-12.67437	0.0000
D(X1)	4.44E-05	8.58E-06	5.182440	0.0001
D(X2)	1.58E-06	2.72E-06	0.578831	0.5695
D(X3)	6.68E-05	1.06E-05	6.332363	0.0000
D(X5)	-0.045067	0.005740	-7.851323	0.0000
CointEq(-1)*	-0.362864	0.033588	-10.80339	0.0000
EC = Y1 - (0.0000*X1 -0.0000*X2 + 0.0000*X3 + 0.34822*X4 -0.0205*X5-0.0842X6)				
Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
X1	5.16E-05	4.55E-05	1.022224	0.1575
X2	-3.31E-05	1.32E-05	-2.514785	0.0211
X3	5.52E-05	2.58E-05	2.143260	0.0452
X4	34.82249	4.258845	8.176509	0.0000
X5	-0.020470	0.008727	-2.345568	0.0300
X6	0.084194	0.020717	4.063950	0.0007

Source: prepared by the researcher based on the data of the study and using the Eviews10 program.

The results of estimating the error correction model (ECM). As for the indication of the parameters that reflect the nature of the relationship between the dependent variable and the independent variables, it can be interpreted as: The results of the analysis indicate that the variable is not significant (foreign direct investment values X1) This is due to the weak percentage in this sector, which does not reach

1% of the total inflows of foreign direct investments in the Iraqi economy, and indicates a significant parameter (investment spending X2) and the negative sign of this parameter contradicts the concepts of economic theory and is due to the misuse of resources Economic granted by the state in the agricultural sector As these exploit non-agricultural fields, which are often real estate or consumer, which made this variable not associated with a positive relationship with the dependent variable (the added value of the agricultural sector). The results of the analysis indicate a positive parameter for (agricultural loans X3), and the positive sign of the parameter of this variable agreed with the concepts of economic theory. Agricultural investments, which contribute to the agricultural development process and increase the added value of the agricultural sector. It also showed the significance of the variable (foreign exchange rate X4) and the positive sign of this variable parameter means that raising the exchange rate of the local currency (devaluation of the currency) It makes local agricultural products cheap compared to their counterparts in foreign and neighboring markets, so the quantities exported therein increase, and this is followed by the increase in the country's foreign currency revenues that are used to expand the scope of investment spending, especially from crops with export prospects. These commodities included dates and surplus vegetables and grains for some years. And some animal products such as leather and wool. The results of the analysis also indicate the significance of the variable (inflation rate x5) and the negative sign of the parameter of this variable agreed with the concepts of economic theory. The country in foreign currencies that contribute to increasing agricultural added value. The results of the analysis also indicate the significance of the variable (trade exchange rate x6), and the positive sign of the parameter of this variable means that Iraq's policies before 2003 did not allow foreign products to enter Iraq as much as they allowed local agricultural products in the markets, which made them contribute to increasing the agricultural added value, which is the period long search period.

The second stage: $y_2 = 34.5 - 12.9 X_1$, T (4.58) (-3.6).

The results of the analysis showed that the best function is the following function Likewise, the results of the analysis of the variable (X1) showed that the added value of the Iraqi agricultural sector estimated from the first equation on the economic growth rate (Y2) and the elasticity of the agricultural value added was (-0.104), and the negative sign of the parameter of this variable came as a result of neglecting the Iraqi agricultural sector under economic policies Completely neglected by successive governments, which explained the negative impact in reducing the role of this variable in reducing the rate of economic growth.

Quantitative analysis of the impact of variables of macroeconomic policies on the value added of Saudi agricultural sector for the period 1990-2020:

After it was confirmed that there is cointegration, that is, the existence of a long-term equilibrium relationship, and it was shown through the results of the analysis the best model, which is (3,1,1,1,1,0,1) ARDL, where the possibility of applying the error correction methodology after the availability of its conditions all, as shown in the following table (9):

Table (9): The results of estimating the error correction model (ECM) for the added value of the agricultural sector in Saudi Arabia for the period 1990-2020.

Cointegration From				
Variable	Coefficient	Std.Error	t-Statistic	Prob.
C	-6.124291	0.306843	-19.95902	0.0000
@TREND	0.020543	0.000901	22.80654	0.0000
D(Y1(-1))	0.353990	0.037981	9.320115	0.0000
D(Y1(-2))	0.408319	0.048063	8.495474	0.0000
D(X1)	-0.000907	0.000264	-3.435692	0.0049
D(X2)	0.001675	0.000775	2.160981	0.0516
D(X3)	-0.004332	0.000580	-7.464423	0.0000
D(X4)	5.825723	1.924921	3.026474	0.0105
D(X6)	-0.002709	0.000134	-20.13974	0.0000
CointEq(-1)*	-0.284100	0.014471	-19.63254	0.0000
EC = Y1 - (-0.0063*X1 + 0.0357*X2 -0.0043*X3 + 77.3590*X4 + 0.0687*X5+0.0049*X6)				
Long Run Coefficients				
Variable	Coefficient	Std.Error	t-Statistic	Prob.
X1	-0.006253	0.002456	-2.546416	0.0256
X2	0.035678	0.012734	2.801758	0.0160
X3	-0.004279	0.003334	-1.283483	0.2236
X4	77.35900	23.32133	3.317093	0.0061
X5	0.068739	0.026712	2.573325	0.0244
X6	0.004870	0.003103	1.569317	0.1426

Source: prepared by the researcher based on the data of the study using (Eviews10) program.

The results of the analysis indicate the significance of the variable (the values of foreign direct investment X1), and the negative sign of this variable parameter means that the policies directed investment companies towards the development of other projects represented in the oil sector, and that foreign investments target investment projects with quick financial return. The results of the analysis indicate the significance of the variable (investment spending X2), and the positive sign is logical and consistent with the concept of economic theory. Governments often provide support to increase investment for both agriculture and farmers by subsidizing soft and interest-free agricultural loans. Which contributes to increasing investment and thus increasing production and its agricultural added value. It did not appear significant (agricultural loans X3), as this is due to the fact that this country often concentrates its loans towards non-agricultural projects, which led to the insignificance of this variable in raising the agricultural added value. While the results of the analysis showed a significant parameter (foreign exchange rate x4) and the positive sign of the parameter of this variable agreed with the concepts of economic theory, which finds its explanation in that raising the exchange rate of the Saudi currency (devaluation of its currency) It makes the prices of Saudi agricultural products low in price, thus increasing the quantities required of them in foreign markets, and accordingly increasing the revenues of their exports of foreign currencies, which are used to expand the scope of investment, which reflects its impact on increasing the agricultural added value. Also, the results of the analysis showed significant (inflation rate x5) and the positive sign of this variable parameter It contradicted our expectations and the concepts of economic theory, and its interpretation lies in the fact that high inflation rates mean an increase in inflation rates accompanied by an increase in the support values granted to farmers, which made this variable contribute to raising the added value of the agricultural sector in Saudi Arabia. While the results of the analysis showed insignificance (trade exchange rate x6) and the explanation for this lies in the low values of Saudi agricultural exports

and the high values of its imports, which concealed the significance of this variable in affecting the agricultural added value.

The second stage: $y_2 = 52.5 - 10.X_1$, T (3.22) (-2.7).

Likewise, the results of the analysis of the variable (X1) showed that the added value of the Saudi agricultural sector estimated from the first equation on the economic growth rate (Y2) reached flexibility of the agricultural added value, and the negative sign of the parameter of this variable violated the concepts of economic theory and its change lies in the fact that its policies directed the path of foreign investment companies Direct towards non-agricultural sectors, which reflected its impact on the low contribution of the agricultural sector and its added value in raising the rate of economic growth.

Quantitative analysis of the impact of variables of macroeconomic policies on the value added of Jordan agricultural sector for the period 1990-2020:

After it was confirmed that there is cointegration, that is, the existence of a long-term equilibrium relationship, and it was shown through the results that the best model is (2,0,2,2,0,0,2) ARDL, where the possibility of applying the error correction methodology after availability All its conditions, as shown in the following table (10): Table (10): The results of estimating the error correction model (ECM) for the added value of the agricultural sector in Jordan for the period 1990-2020

Cointegration From				
Variable	Coefficient	Std.Error	t-Statistic	Prob.
C	16.46807	1.458155	11.29377	0.0000
@TREND	0.036501	0.004599	7.936948	0.0000
D(Y1(-1))	0.891559	0.051868	17.18909	0.0000
D(X2)	-0.455504	0.095364	-4.776499	0.0001
D(X2(-1))	1.053587	0.098588	10.68677	0.0000
D(X3)	0.003820	0.002698	1.416234	0.1714
D(X3(-1))	-0.012883	0.002419	-5.326918	0.0000
D(X6)	0.029804	0.008831	3.374726	0.0029
D(X6(-1))	-0.037647	0.009383	-4.012131	0.0006
CointEq(-1)*	-0.218261	0.019583	-11.14546	0.0000
EC = Y1 - (0.1513*X1 -2.4438*X2 + 0.0081*X3 -46.1115*X4 0.1595*X5+0.181*1X6)+				
Long Run Coefficients				
Variable	Coefficient	Std.Error	t-Statistic	Prob.
X1	0.151323	0.044807	3.377197	0.0028
X2	-2.443754	0.556379	-4.392248	0.0003
X3	0.008102	0.011054	0.733019	0.4717
X4	-46.11150	91.98248	-0.501307	0.6214
X5	0.159464	0.138233	1.153588	0.2616
X6	0.181109	0.048280	3.751231	0.0012

Source: prepared by the researcher based on the data of the study using the Eviews10 program.

The results of the analysis indicate the significance of the variable (foreign direct investment values x1) in the long term, and the positive sign of this parameter means that the economic policies directed the foreign direct investment companies towards investing in the Jordanian agricultural sector, which reflected its impact on raising the agricultural added value. The results of the analysis also indicate the significance of the variable (investment spending X2), and the negative sign of the parameter of this variable means that the policies of the college, especially the financial policies, suffer from a deficit in the state's general budget and indebtedness.

The significance of the variable (X3 agricultural loans) did not appear, as the reason for this is due to their low value to the extent that they do not contribute to raising the agricultural added value. The variable (exchange rate X4) did not show significance, and the reason for this is due to the stability of the exchange rate throughout the study period. It also did not show any significance. Show a significant (inflation rate x5) bearing back. The reason for this is the low inflation rates in the Jordanian economy to the extent that this variable did not appear significant in affecting the agricultural added value. While the results showed a significant variable (trade exchange rate X6) and the positive sign of this variable means that the policies raised the Jordanian agricultural trade exchange rates to the limit Which made this variable contribute to increasing the rates of trade exchange and the fact that the Jordanian economy is open to the outside world and seeks to join large blocs to take advantage of some of its advantages.

The second stage: $y_2 = 52.5 + 10.4 X_1$, T (4.55) (1.9).

The positive sign of the parameter of this variable is that the agricultural added value. This variable contributed to raising the rate of economic growth. This is explained in the added values achieved by the agricultural sector. It is good because the country is non-oil, which is unlike what was found in both Iraq and Saudi Arabia, which are oil countries, which contributed to raising Economic growth rate and this is a natural result for the Jordanian agricultural sector

CONCLUSIONS

The results of the quantitative and metric analysis showed that all economic variables stabilized at the level and the first difference (Frist Difference) according to the expanded ADF test, so the ARDL self-declining vector model was selected, A methodological model has been used to correct the ECM error and shows that foreign direct investment and investment expenditure have a mixed impact because the funds invested go to areas other than the agricultural sector. As domestic exchange rates have shown to be of great importance to the sample countries towards foreign currencies and have direct implications for the sector's performance. The results also showed that the significant rise in the rate of inflation in the agricultural sector is due to the fact that these countries have turned their attention to monetary trends, neglected trends and finally showed that the rate of trade has a negative impact on the majority of agricultural sector performance variables s policy against developing countries has led to the disruption of most producers from production.

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CONFLICT OF INTEREST

Conflict of interest: the author declares that there is no conflict of interest with regard to the publication of this article.

السياسات الاقتصادية الكلية واثرها في القطاع الزراعي والنمو الاقتصادي في دول عربية مختارة للمدة
2020-1990

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الخلاصة

يهدف البحث الى دراسة وقياس أثر السياسات الكلية (النقدية والمالية) على القطاع الزراعي والنمو الاقتصادي في بعض الدول العربية وهي (السعودية والاردن) مع إشارة خاصة للعراق ، واعتمد البحث على فرضية مفادها أن للسياسات الكلية آثار متباينة تنعكس على القطاعات الاقتصادية الزراعية في دول عينة البحث، كما اعتمد البحث على المنهج الوصفي مع التحليل الكمي باستخدام البرنامج الاحصائي (Eviews10) وتضمن البحث سلسلة زمنية مداها واحد وثلاثون عاما (1990-2020)، حيث تم استخدام الية التكامل المشترك ومنهجية تصحيح الخطأ (ECM) لمعرفة تأثير بعض المؤشرات الاقتصادية المالية والنقدية المستقلة على المتغير القيمة المضافة للقطاع الزراعي لدول العينة، ومن ثم قياس القيمة المضافة للقطاع الزراعي المقدر من النموذج الأول على النمو الاقتصادي للمرحلة الثانية، و باستخدام طريقة ذات المرحلتين، من أجل الوصول إلى نتائج أكثر دقة، ومن أهم الاستنتاجات التي توصل إليها البحث ان كل المتغيرات الاقتصادية استقرت عند المستوى والفرق الاول لذلك تم اختيار نموذج متجه الانحدار الذاتي ذات الابطاء الموزع ARDL في تقدير العلاقة بين متغيرات الاجلين الطويل والقصير، اذ تم استخدام هذا الانموذج من اجل معرفة طبيعة العلاقة التي تبينها السياسات الكلية (المالية والنقدية) في القطاع الزراعي ومعدلات النمو الاقتصادي لبلدان العينة كافة حيث تبين عدم فاعليه السياسات المتبعة من قبل دول العينة مما اسهم في تدني القيمة المضافة للقطاع الزراعي وبالتالي على خفض النمو الاقتصادي لاسيما في العراق والسعودية كونها بلدان نفطية بينما في الاردن عملت القيمة المضافة على زيادة النمو الاقتصادي. وقد اوصى الباحث على رفع كفاءة السياسات المالية والنقدية من خلال معتمدة بذلك على الاليات ترفع من القيمة المضافة الزراعية والتي بدورها تعمل على رفع معدلات النمو الاقتصادي لدول العينة.

الكلمات المفتاحية: المالية، النقدية، النمو.

REFERENCES

- AL-Khazraji, S., (2010) Monetary Policy in Iraq Between the Accumulations of the Past and the Challenges of the Present, Journal of Economic Sciences, 23, 1-24. <https://www.iasj.net/iasj/article/53215>.
- AL-Mashhadani, A. H. (2018). Analysis of the Impact of Fiscal and Monetary Policies on the Value of Agricultural Output in Selected Arab Countries for the Period (1990-2010) Comparative Study, *Mesopotamia Journal of Agriculture*, 46 (1), 1-10. <http://dx.doi.org/10.33899/magrj.2018.161411>
- AL-Saadi, Z., & Alou, I. (2019). The impact of monetary policy on economic activity in Iraq during the period (1990-2013), Wasit Journal of Human Sciences, 15 (45), 349-372. <https://www.iasj.net/iasj/article/163646>
- Alzubaidi, E., M., & Almollah., A., M., (2022). Estimation of The Added Value of Wheat Crop Production in Nineveh Governorate for The Agricultural Season

- 2019-2020. *Mesopotamia Journal of Agriculture*, 50 (4), 76-89. <http://dx.doi.org/10.33899/magrj.2022.134996.1187>
- Alzubaidi, E., M., & Almollah., A., M., (2022). Estimation of The Added Value of Wheat Grain Milis in Nineveh Governorate for The Year 2020. *Mesopotamia Journal of Agriculture*, 50 (3), 37-49. <http://dx.doi.org/10.33899/magrj.2022.133953.1175>
- Bin Kaddour, A., & Berir M. (2018). Monetary Policy and Macroeconomic Balance, 1st Edition, Jordan, Dar Al-Ayyam for Publishing and Distribution, 1-336. <https://bit.ly/3vIJsBO>
- Bin Umrah, A., & Megrani, A. (2021). The impact of monetary and fiscal policy on some indicators of economic balance in algeria, econometric analytical study during the period (1990-2018), *Al-Bashaer Economic Journal*, 7 (1), 94-113. <https://www.asjp.cerist.dz/en/article/148925>
- Bou Amra, H., & Bin Abdel Fattah, D. (2018). The impact of monetary and fiscal policies on economic growth in the arab countries during the period (1995-2016), *Economic Integration Journal*, 7 (3), 19-31. <https://www.asjp.cerist.dz/en/article/100231>
- Central Bank of Iraq Law No. (64) of (1976). <http://wiki.dorar-aliraq.net/iraqilaws/>
- Daoud, H., S., Zaidan, A., A., & Hamdoun, A. A. (2019). The Impact of some Variables Fiscal Policy In The Food Security (a comparative study), *Karbala Scientific University Journal*, 17 (2), 135-142. <https://www.iasj.net/iasj/pdf/55a9abc34034a58f>
- Faraj, M. M., & Saeed, S. J. (2021). Analyzing and measuring the impact of monetary policy on economic stability in Iraq for the period (1990-2019) using caldor's magic square, *Journal of Human and Social Sciences*, 24 (1), 91-112. <https://doi.org/10.26682/hjuod.2021.24.1.6>
- Hashem, H. A. (2011). The reality of the requirements for sustainable development in Iraq: legacy of the past and necessities of the future, *Journal of the Kufa Studies Center*, 1 (21), 241-286. <https://www.iasj.net/iasj/pdf/7f9f4fa55128f1f3>
- Ibrahim, A. A. (2019). The role of monetary policy in achieving the objectives of economic policy in Egypt using a square like the magic role, *Journal of Financial and Commercial Research*, 20 (3), 118-154. <https://jsst.journals.ekb.eg>
- Khalaf, H. H. (2018). The impact of monetary policy on the variables of economic stability in Iraq for the period (1990-2017), *Tikrit Journal of Economic and Administrative Sciences*, 14 (44), 428-449. <https://www.iasj.net/iasj/article/156443>
- Mathew, M. (2021). Impact of macroeconomic policies on agricultural performance in INDIA: A vector auto regression approach, *Journal International - Conference of Agricultural Economists*, 3 (1), 1-17. <https://doi.org/10.22004/ag.econ.315158>
- Monnet, E., & Vari, M. (2019). Liquidity Ratios as Monetary Policy Tools: Some Historical Lessons for Macroprudential Policy, *International Monetary Fund*, 1-50. <https://www.imf.org/-/media/Files/Publications/WP/2019/wpica2019176-print-pdf.ashx>

- Musa, H. T., & Hussein, K. S. (2021). The role of macroeconomic policies in economic growth in Iraq, *Al-Muthanna Journal of Administrative and Economic Sciences*, 11 (2), 216-225. <https://www.iasj.net/iasj/pdf/637981307440ce3b>
- Ssbulime, K.& Edward, B. (2019). Budget deficit and inflation nexus in Uganda 1980-2016: A cointegration and error correction modeling approach, *Journal of Economics Structures*, 8 (3), 1-12. <https://journalofeconomicstructures.springeropen.com/articles/10.1186/s40008-019-0136-4>
- Ufoeze, L. O., Odimgbe, S. O., & Ezeabalisi, V. N. (2018). Effect of monetary policy on economic growth in Nigeria, an empirical investigation, *Journal Economic Series*, 18 (1), 123-140. <https://ideas.repec.org/a/ris/sphecs/0281.html>
- UNCTAD, World Investment Report, 2003-2020. <https://unctad.org/>
- Wagan, Z. A., Chen, Z., Seelro H., & Shah M. S. (2018). Assessing the effect of monetary policy on agricultural growth and food prices, *Agricultural Economic Journals*, 64 (11), 499-507. <https://doi.org/10.17221/295/2017-AGRICECON>