The impact of structural changes in the Iraqi economy for the period 2004-2023

Waleed Ibrahim Sultan^{1*}, Mohammad Omer Shareef², Ahmed Hashim Ali¹, Yahya Qasim Ali¹, 5.Rasha Amir Abdullah¹, Israa Akram Ahmed¹

¹University of Mosul, College of Agriculture and Forestry, Mosul, Iraq.

²University of Tikrit, College of Agriculture, Tikrit, Iraq.

*Corresponding Author: Email: waleedsultan 502@uomosul.edu.iq

Abstract

The Iraqi economy boasts a vast amount of land, water, human, and capital resources, yet its contribution to economic development is not commensurate with the size of these resources. The research was based on the hypothesis that there were structural imbalances within the structure of this sector during the study period (2004-2023). Unstable economic and political conditions and interconnected effects with other sectors contributed to the activation of these imbalances, and agricultural policies failed to mitigate their severity. Therefore, the research aimed to evaluate the impact of these policies and conditions on the patterns of structural changes in the Iraqi agricultural economy and their contribution to secondary structural changes in the national economy. The research reached a set of conclusions consistent with the research hypotheses, and that there are structural imbalances in the Iraqi economy, the main reason for which is the nature of the interconnectedness between the agricultural sector and other sectors. It was found that the oil sector covers a large percentage of the gross domestic product, and the trade, industry, and agriculture sectors declined in terms of their contribution to the gross domestic product increasing inflation rates and unemployment especially disguised unemployment. Therefore, the researchers recommend that addressing these imbalances be done. The imbalances in the productive structure of the Iraqi economy should be addressed in order to increase the relative contributions of the agricultural industrial and service sectors and to consider them as the basic for changing the structure of the gross domestic product not just the oil sector.

Keywords: structural changes, contribution ratio, agricultural output, inflation, trade exchange

Introduction

At the end of World War II, after most of the Third World countries gained their political independence, the capitalist thought prevailed to eliminate the manifestations of backwardness in these countries by raising the rates of investment of foreign capital in developing countries in addition to providing a degree of aid from developed countries to them. However, studies that addressed development issues revealed the truth, the gist of which is that capitalist

thought eliminate did not aim to backwardness, but rather to perpetuate it in exchange for accelerating the rates of economic growth in capitalist countries. In addition to the increasing dependence of developing countries on capitalist countries that deepens backwardness and dependency. This means that the growth of some countries effectively leads to backwardness of other countries, and that backwardness in developing countries is the other side of

growth and development in the global capitalist system. Developing countries were unable to reach what the advanced industrial countries in Europe and America reached through stages of natural and automatic growth due to the different circumstances of both groups, represented first by the conditions of the scientific and technological revolution and second by the existence of different patterns of development prevailing in underdeveloped countries. These two factors constitute a difficult situation for underdeveloped countries compared to advanced industrial countries in the preearly take-off stage, especially in the conditions of monopolistic control over the economies of Third World countries. Thus, economic thought is full of different opinions regarding the appropriate strategy for development, as it differs from one country to another and from one stage to another and according to the economic, political and social conditions. For the country.If we take sectoral planning into consideration, we find that the gap between estimation and actual achievement is less wide in the industrial sector than in the agricultural sector, as the latter is affected by natural factors that are difficult to quantify compared to the industrial sector. In terms of priorities, the sector in which the social benefit value and an investment resources value used in it is superior is given priority in priorities schedule while observing balance between sectors.

Importance of research

The importance of the study lies in the importance gained from the importance of

both the agricultural sector in particular and the Iraqi economy in general, especially in what they face of repercussions and tremors due to the current circumstances and future challenges.

Research hypothesis

The research is based on the hypothesis that the Iraqi economy during the period 2023-2024 suffers from structural imbalances at all economic levels, including agricultural sector. The research seeks to prove or disprove this hypothesis.

Research objectives

The research aims to:

- 1.Study the reality of the Iraqi economy over the research period of more than twenty years, particularly since 2003.
- 2.Measure the impact of structural changes on the agricultural sector and the economy as a whole during the study period (2004-2023).
- 3.Develop solutions and strategies necessary to advance the Iraqi economy.

Research methodology and data sources:

The study adopted structural analysis to study development due to its realism and compatibility with the conditions of Iraq as a developing country. The processes that are subject to structural change within the framework of this analysis include the actual change in economic variables, relying on two methods: the first is the clarification of previous studies, the introduction to the research and its methodology, and the second is through the quantitative and standard method, relying on statistical programs specialized in this type of analysis. The research relied in collecting its sources

on reliable and internationally approved sites such as the World Bank and the International Monetary Fund, and locally such as the Ministry of Planning and the Central Bank of Iraq, and approved research and theses. The following is a reference to a number of studies and experimental research that dealt with structural changes in the Iraqi economy and the economies of developing countries, and efforts focused on the sectoral structural analysis of the gross domestic product and agricultural production [1] presented a study on the impact of measuring major structural changes poverty in Arab countries, where the researcher used the multiple regression method in the process of describing the standard model using the average per capita income as a dependent variable, and each of the contribution rates to the gross domestic product, agricultural labor as independent variables for both Iraq and Egypt as sample countries, and the researcher concluded that agricultural sector in the sample countries was unable to accept rapid growth, especially in Iraq, which created difficulty in completing the structural transformation process, which is the basis of the challenges obstacles facing development. The researcher recommended relying on the necessity of expanding small and medium enterprises and following sound policies in secondary plans [2] presented a comparative study on the impact of structural changes on the agricultural production function. The study aimed to identify the reasons for the exacerbation of structural imbalances and the unsoundness of the patterns followed by indicators structural related to agricultural sector, or not, relying on the quantitative and standard analytical approach using the agricultural production function between 2003 and beyond. The study concluded that there are structural imbalances in the ratios of agricultural labor

the agricultural area. The recommended the need to pay attention to agricultural expanding the area allocating workers through technological and production developments, stopping the smuggling of capital, and reinvesting it within the country [3]. Also, presented study on the structural imbalances in investment allocations between economic sectors. focusing on the agricultural sector. It became clear that the Egyptian economy is affected by internal imbalances represented by agricultural investments and their proportion to the commodity sector, as it became clear that there was a decrease in investment rates by about 59%. The reason for this is the decline in the proportions of commodity, production and service contributions to the GDP by about 51.6%, 31% and 16.94%, respectively. Accordingly, the researchers put forward a number of recommendations, the most important of which was to develop a future vision to limit structural imbalances and not affect investment demand, which must be stimulated and increased [4] presented study on the role of some manufacturing industries and their impact on the structural changes affecting the Iraqi economy. The study aimed to study and diagnose the role of some economic sectors in the Iraqi economy after 2003. The researchers used the deductive approach using structural analysis to reveal each component of the country's economy using a comprehensive analysis of these components, through which they concluded that changes in the structure of the gross domestic various sectors, which are a source of commodity supply. The reason for this is policies the dumping followed neighboring countries in addition to the lack of interest in strategic and development plans [5]. Also presented a study economic reform policies and their impact on the structure of economic exposure and

the trade balance in Iraq. The research aimed to study the components of reform and analyze them in terms of the effectiveness of these mechanisms to improve the reality of institutional performance of economic sector and lift restrictions on market forces. The researchers reached a short-term functional relationship between economic variables and economic exposure, on the basis of which the researchers recommended the need to benefit from the experiences economic of reform implemented by many countries and also benefit from successful experiences and work to apply their methods in the reality of the Iraqi economy.

Description of the model used

The model specification stage is one of the most important and complex stages used in estimation in econometrics. It is often the most difficult point in econometric formulate applications to the correctly. The Two Stage Least Squares Method (2SLS) is used, as the estimators of the parameters of each equation of the structural form are found individually using the method of kinetic models. Our research model consists of the following main model:

Table (1): Definitions and sources of research variables

variable	Туре	The symbol	Description					
The first phase of this research used data covering the period (2004-2023) Structural variables in the Iraqi agricultural sector								
The percentage of the agricultural sector's contribution to the gross domestic product	dependent	Y ₁	Value of agricultural sector output divided by value of GDP					
The percentage of the industrial sector's contribution to the gross domestic product	independent	X ₁	value of industrial output divided by value of gross domestic product					
Percentage of agricultural labor in total labor	independent	X ₂	Value of service output divided by value of GDP					
The percentage of the service sector's contribution to the gross domestic product	independent	X ₃	Number of agricultural workers divided by total number of workers					

variable	Туре	The symbol	Description
Cultivated agricultural areas	independent	X ₄	Total cultivated area (hectares)
Interest rates	independent	X ₅	Interest rates deducted from agricultural loans
The second phase of this research us	ed data coverii	ng the peri	od (2004-2023)
Structural variables in the Iraqi econ	omy		
economic growth	dependent	Y ₂	Represents the value of GDP growth
The percentage of the agricultural sector's contribution to the	independent	X_1	The first function estimated from the first function (the percentage
estimated GDP			of contribution of the agricultural sector to the estimated GDP)
Inflation rate	independent	X_2	Prices paid by consumers %
unemployment rate	independent	X ₃	Represents the unemployment rate %
rate of trade	independent	X ₄	Represents the rates of trade exchanges and dealings with the outside world %

A stationary time series is one in which the average level does not change for a

relatively long period of time. A time series is completely stationary if the following conditions are met:

- If the average is constant

$$E[t] = u_t$$

- If the variance is constant

$$var(\quad_t) = [(Y_t)^2] = \sigma^2$$

- If the change is equal to zero or not significantly different from zero $cov = [(Y_t - u)(Y_t + k - u)]$

Table (2): Unit root (static) stability test for the economic variables included in the model in Iraq for the period 2004-2023

UNIT ROOT TEST RE		TABLE (A	DF) Null I	Hypothesis	: the varial	ole has a ur	nit root
At Level							
		LOGY1	LOGX1	LOGX2	LOGX3	LOGX4	LOGX5
With Constant	t- Statistic	-2.5872	-2.0848	-4.4089	-3.8172	- 386.469 9	-2.1177
	Prob.	0.1057	0.2517	0.0012	0.0058	0.0001	0.2394
		n0	n0	***	***	***	n0
With Constant & Trend	t- Statistic	-3.3889	-1.5552	-6.5308	-3.0621	-2.0772	-3.2165
	Prob.	0.0697	0.7902	0.0000	0.1333	0.5383	0.1003
		*	n0	***	n0	n0	n0
Without Constant & Trend	t- Statistic	-1.8034	-0.0446	-0.5148	2.0617	-1.0705	-2.7322
	Prob.	0.0682	0.6610	0.4867	0.9893	0.2522	0.0079
		*	n0	n0	n0	n0	***
At First Difference							
		d(LOG Y1)	d(LOG X1)	d(LOG X2)	d(LOG X3)	d(LOG X4)	d(LOG X5)
With Constant	t- Statistic	-3.5220	-5.3704	- 13.4857	-7.0050	-1.8816	-3.2252
	Prob.	0.0136	0.0001	0.0000	0.0000	0.3362	0.0286
		**	***	***	***	n0	**
With Constant & Trend	t- Statistic	-3.7504	-5.5296	- 13.2907	-9.1533	-3.2526	-4.0643

	Prob.	0.0326	0.0004	0.0000	0.0000	0.0931	0.0175
		**	***	***	***	*	**
Without Constant & Trend	t- Statistic	-3.3030	-5.5290	-5.9161	-3.1628	-1.5835	-2.4671
	Prob.	0.0017	0.0000	0.0000	0.0026	0.1052	0.0155
		***	***	***	***	n0	**

Through the analysis results in Table (2) above, it was found that the variables, according to the ADF test, did not stabilize at the level of the original data as a whole, but they all stabilized when taking the first difference of these changes. This is the basic Table (2) is slowdown period (3) according to the five criteria according to the Akaike criterion as shown in Table and Figure (1) below:

Source: Prepared by the researchers based on research data during the study period. reason for choosing a dynamic kinetic model such as the autoregressive model of distributed lag. (Auto Regressive Distributed Lag Models) (ARDL), [6]. The best model was (ARDL(3, 3, 1, 3, 3, 3) and the best slowdown period according

Table (3): Testing the lag period for the economic variables included in the model in Iraq for the period 2004-2023

VAR Lag Ord	VAR Lag Order Selection Criteria											
Endogenous variables: LOGY1 LOGX5 LOGX4 LOGX3 LOGX2 LOGX1												
Exogenous va	Exogenous variables: C											
Sample: 2004	S1 2023S2											
Included obser	rvations: 35											
Lag	LogL	LR	FPE	AIC	SC	HQ						
0	0 -1313.067 NA 2.19e+2 75.3752 75.6419 75.46732 5 8 1											
1	-1184.357	205.937 3	1.13e+2 3	70.0775 2	71.9439 4	70.72181						

2	-1113.788	88.7148 9*	1.90e+2 2	68.1021 7	71.5683 7*	69.29870
3	-1059.110	49.9909 0	1.14e+2 2*	67.0348 8*	72.1008 7	68.78366*

Source: Prepared by the researchers based on research data during the study period

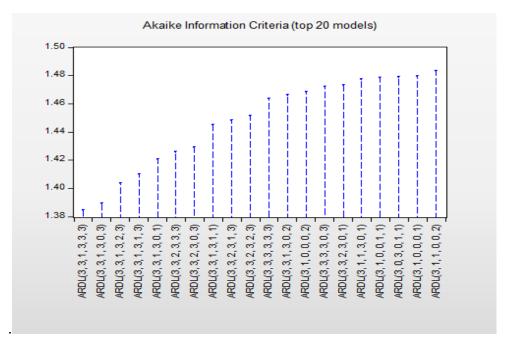


Figure (1): The lag period for the economic variables included in the model in Iraq for the period 2004-2023

In general, ARDL models can be employed to conduct joint integration between variables whose time series are stationary at the level, which allows us to use the ARDL methodology. After the joint integration does not appear [7]. We can use the Vector of

Error Correction Model, as shown in Table No.(4) which explains the variables included in the first stage of the analysis of the variables affecting percentage of agricultural production as a percentage of the gross domestic product.

Table (4):(ECM) model for the economic variables included in the model in Iraq for period 2004-2023

ARDL Error Correction Regression

Dependent Variable: D(LOGY1)

Selected Model: ARDL(3, 3, 1, 3, 3, 3)

Case 2: Restricted Constant and No Trend

Sample: 2004S1 2023S2

Included observations: 35

ECM Regression

Case 2: Restricted Constant and No Trend

Variable	Coefficien t	Std. Error	t-Statistic	Prob.
D(LOGY1(-1))	0.199639	0.14510 5	1.375825	0.1921
D(LOGY1(-2))	1.023772	0.20373 0	5.025139	0.0002
D(LOGX1)	-0.000177	2.06E- 05	-8.563878	0.0000
D(LOGX1(-1))	4.30E-05	2.71E- 05	1.589340	0.1360
D(LOGX1(-2))	0.000175	5.95E- 05	2.931424	0.0117
D(LOGX2)	2.60E-05	1.37E- 05	1.897811	0.0012
D(LOGX2(-1))	-5.82E-06	7.15E- 06	-0.814699	0.4299
D(LOGX2(-2))	2.96E-05	1.79E- 05	1.654769	0.1219

D(LOGX3)	0.001048	0.00424 5	0.246947	0.8088				
D(LOGX3(-1))	0.003145	0.00249 0	1.263139	0.2287				
D(LOGX3(-2))	0.017625	0.00392 1	4.494967	0.0006				
D(LOGX4)	0.001019	0.00021 2	4.799858	0.0003				
D(LOGX5)	-0.256963	0.05008 3	-5.130753	0.0002				
D(LOGX5(-1))	0.006736	0.02891 0	0.233000	0.8194				
D(LOGX5(-2))	0.183938	0.05370 9	3.424690	0.0045				
CointEq(-1)*	-0.304708	0.10376 3	-2.936589	0.0116				
R-squared	0.890498	Mean var	dependent	-0.103651				
Adjusted R-squared	0.854050	S.D. de	pendent var	0.790631				
S.E. of regression	0.349983	Akaike criterion	info	1.041512				
Sum squared resid	2.327274	Schwar	z criterion	1.752529				
Log likelihood	-2.226468	Hannar criter.	n-Quinn	1.286955				
Durbin-Watson stat	2.858795							
* p-value incompatible with t-Bounds distribution.								

Source: Prepared by the researchers based on research data during the study period.

The table shows that the variables are interpreted on a short-term basis, as it shows

that (89%) of the variables included in the model and that four variables were _ISSN 2072-3857

significant out of five variables if (X3) the percentage of contribution of the service sector to the (GDP) did not appear significant, while all other variables were significant, as it showed the significance of (X1), the percentage of contribution of the industrial sector to the (GDP), with a negative inverse relationship that does not conform to the concept of economic theory, as its elasticity reached (0.0000206). So that by the amount of this elasticity, the dependent variable will decline, and the reason for this is due to the decline of the industrial sector significantly and the reliance on imported technology which is characterized by its high costs, which burdens farmers and the decline in the percentage of contribution of agricultural production, while the elasticity of the second variable (X2), the percentage of contribution of agricultural labor to the total labor, showed the opposite and with a positive sign, as the higher the percentage of contribution of agricultural labor, dependent variable will increase by an amount of elasticity amounting to (0.000026 This is consistent with the concept of economic theory, which states that the more

skilled agricultural workers there are more agricultural production will increase, and consequently the contribution of this sector to the gross domestic product will increase. The third variable, the service sector, was not significant, while the positive elasticity showed a natural direct relationship between cultivated areas (X4) and the dependent variable. This is consistent with the concept of economic theory, which states that increasing agricultural areas will increase agricultural output by the amount of its elasticity parameter (0.001019). The sign of the last variable, interest rates (X5), showed that the dependent variable will decrease by the amount of its elasticity parameter (-0.256963). Reducing interest rates leads to a reduction in the cost of agricultural loans, which reflects its effect in reducing production costs and the prices of goods and services. This increases the ability of locally produced goods to compete with their foreign counterparts and thus contribution of agriculture to the gross domestic product increases [8]. It is also noted that the model is free of all standard problems and measurement errors, as shown in Table (5).

Table (5): Standard problems included in the model used

Breusch-Godfrey	Type of problem			
F-statistic	1.650163	Prob. F(2,11)	0.1344	The problem of self-correlation
Obs*R-squared	3.03479	Prob. Chi-Square(2)	0.0743	
Heteroskedasticity	Type of problem			
F-statistic	0.387322	Prob.	0.5381	variance instability

Obs*R-squared	0.406608	F(1,32) Prob. Square(_	0.5237	problem	
Ramsey RESET T	Test				Type of p	roblem
Equation: UNTIT	LED					
Omitted Variables	s: Squares of	fitted va	lues			
	Value	df	Prob	ability	Model	diagnostic
t-statistic	0.54072 3	12	0.59	86	quality	
F-statistic	0.29238 1	(1, 12)	0.59	86		

Source: Prepared by the researchers based on research data during the study period. Estimating structural changes in the Iraqi economy for the period 2004-2023: test (unit) through the ADF test, it became clear that not all variables included in the

Time series stationarity testing and unit root testing: (Phase II)

Before starting to measure the economic variables, it is necessary to conduct a unit root test in order to know which economic and standard models we need are the best. By observing (table 6) for the stationarity

research data during the study period. test (unit) through the ADF test, it became clear that not all variables included in the model are stable at the level that requires taking their first difference, at which point all variables are stable. This is the main reason for choosing a dynamic model such as the (Auto Regressive Distributed Lag Models) (ARDL). The best model was (ARDL(3, 0, 0, 0, 0), as shown in Table (6).

Table (6): Unit root (static) stability test for the structural variables included in the model of Iraq for the period 2004-2023

UNIT ROOT TEST R	ESULTS	TABLE (ADF) Nul	1 Hypothes	sis: the va	riable has a unit
root						
At Level						
		LOGY2	LOGX1	LOGX2	LOGX3	LOGX4
With Constant	t- Statistic	-2.5958	-1.7044	-3.7022	-0.8460	-1.9756
	Prob.	0.1024	0.4192	0.0080	0.7945	0.2959

		n0	n0	***	n0	n0
With Constant & Trend	t- Statistic	-4.0691	-1.1325	-3.7314	-2.0166	-7.2690
	Prob.	0.0145	0.9068	0.0328	0.5743	0.0000
		**	n0	**	n0	***
Without Constant & Trend	t- Statistic	0.8314	-1.9436	-0.4525	0.7255	1.0314
	Prob.	0.8864	0.0509	0.5112	0.8675	0.9177
		n0	*	n0	n0	nO
At First Difference						
		d(LOG Y2)	d(LOG X1)	d(LOG X2)	d(LOG X3)	d(LOGX4)
With Constant	t- Statistic	-4.7818	-3.2390	-4.3641	-6.1103	-6.3704
	Prob.	0.0005	0.0015	0.0016	0.0000	0.0000
		***	***	***	***	***
With Constant & Trend	t- Statistic	-4.7452	-6.0650	-4.2743	-6.0650	-6.5875
	Prob.	0.0028	0.0021	0.0097	0.0001	0.0000
		***	***	***	***	***
Without Constant & Trend	t- Statistic	-4.6552	-4.8919	-4.4270	-6.0828	-6.0828
	Prob.	0.0000	0.0023	0.0001	0.0000	0.0000
		***	***	***	***	***

Source: Prepared by the researchers based on research data during the study period. The best period for slowing down according to Table (6) is slowing down period (3) according to the five criteria according to

Akaike's criterion, as shown in Table (7). This model is considered one of the models high efficiency describing with in ISSN 2072-3857 relationships between economic variables and giving description of these relationships, whether in the short term or the long term.

Table (7): Testing the lag period for the structural variables included in the model in Iraq

for the period 2004-2023								
VAR Lag Order Selection Criteria								
Endogenous variables: LOGX1 LOGX2 LOGX3 LOGX4 LOGY2								
Exogenous variables: C								
Sample: 2004S1 2023S2								
Included observations: 37								
Lag	LogL	LR	FPE	AIC	SC	HQ		
0	- 368.392 3	NA	401.034 4	20.1833	20.4010 6	20.26011		
1	- 229.894 4	232.0775	0.88109 1	14.0483 5	15.3545 0*	14.50883		
2	- 194.511 7	49.7270 3*	0.54350 6*	13.4871 2*	15.8817 3	14.33133*		
3	- 175.336 6	21.76632	0.92046 0	13.8019 8	17.2850 5	15.02992		

Source: Prepared by the researchers based on research data during the study period. To test the existence of a joint integration relationship between the model variables in the long run, the Bounds Test is used, which depends on calculating the statistic (F). Its value was (3.947842), which is greater than

all the lower and upper values, except for the upper value at 1% which indicates the existence of a joint integration relationship, shown in Table (8) below: as

Table (8): Joint integration test for the economic variables included in the model for the period 2004-2023

Ťī								
	F-Bounds Test							
	Null Hypothesis: No levels relationship							
	Test Statistic	Value	Signif.	I(0)	I(1)			
			υ	、 /	()			
	F-statistic	3.9478	10%	2.2	3.09			
		42						
	k	4	5%	2.56	3.49			
			2.5%	2.88	3.87			
			1%	3.29	4.37			
			1 70	3.49	4.37			

Source: Prepared by the researchers based on research data during the study period.

Accordingly, the variables will be interpreted on a long-term basis, as shown in Table (9), which shows the direct and indirect impact of structural variables on the dependent variable [9] economic growth in the Iraqi economy for the research period extending from 2004 until 2023 which showed that (84%) of the structural variables explained these variables and that all four variables had significant impact on the Iraqi economy which varied between negative and positive impact as shown in the table below:

Table (9): Long-term model of structural variables included in the model in Iraq for the period 2004-2023

ARDL Long Run Form and Bounds Test							
Dependent Variable: D(LOGX1)							
Selected Model: ARDL(3, 0, 0, 0, 0)							
Case 2: Restricted Constant and No Trend							
Sample: 2004S1 2023S2							
Included observations: 37							
Conditional Error Correction Regression							
Variable	Coeffic	Std.	t-	Prob.			
	ient	Error	Statistic				

С	1.6524 98	0.58033 0	2.84751 4	0.0080		
LOGX1(-1)*	- 0.1435 37	0.04180 2		0.0018		
LOGX2**	0.0096 36	0.01505 5	0.64002 9	0.5272		
LOGX3**	- 0.0703 22	0.02813		0.0183		
LOGX4**	- 0.0013 06	0.00055 9		0.0267		
LOGY2**	- 0.0215 47	0.00922 7		0.0267		
D(LOGX1(-1))	- 0.3668 53	0.16544 8	- 2.21732 9	0.0346		
* p-value incompatible with t-Bounds distribution.						
** Variable interpreted as $Z = Z(-1) + D(Z)$.						
Levels Equation						
Case 2: Restricted Constant and No Trend						
Variable	Coeffic ient	Std. Error	t- Statistic	Prob.		
LOGX1	- 0.1501 13	0.05551 6	- 2.70396 1	0.0113		
LOGX2	0.0671 32	0.10470 3	0.64116 8	0.5264		

LOGX3	- 0.4899 19	0.10628 8	- 4.60934 8	0.0001
LOGX4	- 0.0090 97	0.00265 9	3.42064 5	0.0019
С	11.512 66	1.44864 4	7.94719 8	0.0000

EC = 0.1501 * LOGX1 - (0.0671*LOGX2 - 0.4899*LOGX3 - 0.0091*LOGX4 - *LOGY2 + 11.5127)

Source: Prepared by the researchers based on research data during the study period.

It is clear from Table (9) for the long term that the impact of the first structural variable, estimated from the first function of (X1) is negative, although significant. The percentage of the agricultural sector in the gross domestic product, estimated at (1%), means that the dependent variable (economic growth) will decrease by its elasticity of (0.150113). The reason for this is due to the decline and decline of the agricultural sector after 2003 due to the great openness of the markets(Alzubaidi&sultan,2023:

115).It is also clear from the table above that the second structural variable (X2) (inflation rates) has a positive moral impact. If this variable increases by (1%), the dependent variable will increase by its elasticity of (0.067132). The positive sign of the parameter is not consistent with economic theories. The reason is the increase in the issuance of new currency in Iraq, which contributed to

raising inflation rates. Many economists confirm that raising inflation rates to rates less than 20% It is a necessary necessity for producers implement development economic paths because the impact of this is reflected in raising the rates of agricultural savings and investment that appear after increases in the rates of agricultural output and surplus [10]. As for the third structural variable (X3) (unemployment rates), its negative sign has proven its inverse relationship with significant dependent variable, meaning that whenever unemployment rates increase by (1%), the economic growth rate decreases by its elasticity of (0.489919). This is considered normal and consistent with the concept of economic theories. (10). Finally, the relationship between the variable (1%) (the rate of trade exchange) has proven the inverse relationship between it and the

dependent variable, economic growth. This means that by increasing the rates of trade exchange by (0.009097)the growth rate will decrease) [11]..This is because the Iraqi economy has suffered in recent

years during the study period from the great trade openness, which must be linked to sound trade policies. It can also be noted that The model is free from standard problems as shown in the table below.

Table (10): Standard problems included in the model used

Standard problems included in the model used								
Breusch-Godf	rey Serial (Correlation LM	Type of problem					
F-statistic	1.68320 8	Prob. F(2,27)	0.1385	The problem of self-correlation				
Obs*R-squared	1.93092 2	Prob. Chi-Square(2)	0.1190					
Heteroskedast	icity Test:	ARCH		Type of problem				
F-statistic	0.33058 0	Prob. F(1,34)	0.5691	variance instability				
Obs*R-squared	0.34665 5	Prob. Chi- Square(1)	0.5560	problem				
Ramsey RESET Test								
Equation: UNTITLED Omitted Variables: Squares of fitted values								
	Value	df	Probabi lity	Type of problem				
t-statistic	0.811907	28	0.4237	Model				
F-statistic	0.659193	(1, 28)	0.4237	diagnostic quality				

Source: Prepared by the researchers based on research data during the study period.

Conclusions and

The oil and mining sector contributed to increasing per capita GDP accompanied by an expansion in the size of the Iraqi market due to population growth. This was in addition to the negative effects of the Iran-Iraq War, which created additional burdens

for the agricultural sector. However, it contributed to covering a significant portion of these burdens through its role in financing agricultural imports, indicating agricultural sector's heavy dependence on oil sector resources. The allocation of resources was

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Recommendations:

not based on economic efficiency criteria at the level of the economy as a whole as reflected in sectoral growth rates and their flexibility, or at the level of the agricultural sector. The ratio of agricultural fixed capital to agricultural labor increased, while the percentage of agricultural land fluctuated. Unemployment rates inflation, and the rise in trade exchange rates had negative impact.Accordingly the researchers recommended addressing the imbalances in the production structure of the Iraqi economy by increasing the relative contributions of the agricultural manufacturing sectors, considering them the basis for changing the structure of the GDP, not the oil and mining sectors. Not to exaggerate the request for investment allocations by the implementing agencies based on the possibility of actual spending, and to work on expanding the method of

self-financing in all production facilities and reducing reliance on central financing except in light of data on added value, fixed capital formation, labor force and their indicators such as flexibility and sectoral growth rates. As well as establishing and completing complementary projects for existing production projects that reduce the volume of agricultural imports and operate production capacities based on sound economic foundations with the aim of ensuring the efficiency of investment decisions in the long term, with the costs they require, as their establishment takes a long time and their returns may take longer than the period allocated to them, as well as working on following macroeconomic policies that work to reduce inflation rates and unemployment rates and following policies. sound customs

References

1

.Zidan,AswanAbdel

Qader, 2012. Measuring the impact of major structural changes on rural poverty in selected Arab countries for the period 1990-2010), Mesopotamia Journal of Agriculture, Volume 40, Issue 4, pp. 197-204.

.2Tawfiq, Ghufran Ali and Imad Ammar Al-Sunbul,.2021. (Structural changes in the agricultural production function, a comparative study between the periods 1971-2002 and 2004-2014), Anbar Journal of Agricultural Sciences, Volume 19, Issue 2, pp. 234-247.

.3Awida, Mohamed Abdel Salam, Mohamed Gabr El-Maghribi, Mohamed Ali Shata, and Asmaa Ismail Abu El-Fotouh,.2022.(Structural imbalance of investment allocations between economic sectors in Egypt with a focus on the agricultural sector), Journal of Agricultural Economics and Social Sciences, Vol. 13, No. 9, pp. 235-243.

.4Al-Rikabi, Ala Ali Abbas and Falah Khalaf Ali Al-Rubaie.2022.The Role of the Manufacturing Sector in Structural Changes in the Iraqi Economy for the Period 2003-

2018.Iraqi Journal of Economic Sciences, Twentieth Year, Issue 75, pp. 123-149.

.5Al-Taie, Anhar M.A., hASANMomen Lazem Yahya, 2021. The Reality of Inflation in the Iraqi Economy and Its Impact on Agricultural Growth for the Period 1990-2018, Master's Thesis, Department of Agricultural Economics, University of Mosul

.6Gujarati, Damodar N. (2004). Basic Econometric Tata Mc Graw-Hill Edition, 4th Edition, New Delhi, India.

.7Thao, Do. Thi and Hua, zhang jian,.2016. ARDL Bounds Testing Approach to Cointegration Relation ship International Trade policy reform and Foreign in Vietnam. (International Journa) of Econmics and Finance Vol. (8) No.(8.(

.8Fischer, S;.1993."The Role of Macroecnomic Factors in Crowth", Journal of Monetary Economis; 32.

.9Ahmed, E.A., Mohammed H. A., Osama L. M., and Ahmed H. A.2023. Estimation of The Technical Efficiency of Wheat Farms Under The Supplementary Irrigation System Using The Stochastic Frontier Approach (Nineveh Governorate- Albaaj District as a Model. Mesopotamia Journal of Agriculture, 51 (1), 14-23.

.10Alzubaidi, E., M., &., Waleed., A. S.,.2023. Macroeconomic Policies And Their Impact On The Agricultural Sector And Economic Growth In Selected Arab Countries For The Period 1990-2020. Mesopotamia Journal of Agriculture, 51 (1),

115-131. https://doi.org/10.33899/magrj.2023.137681 .1215

.11Farhan G. G., Emad A. A., Mohammed H. A. and Waleed I. S. .2023 . Estimating the optimal resource mix for breeding and fattening calves in the northern plain - Nineveh Governorate for the year 2021. 4th International Agricultural Conference (IAC-2023), 1-11. https://iopscience.iop.org/article/10.1088/1755-1315/1213/1/012105