Saud M. Saleh Joaani[1] *
Basim Fadhel Al-Douri[2]

1- Nineveh Directorate of Agriculture, Iraq

2- Field Crops Dept., College of Agriculture, University of Tikrit, Tikrit, Iraq

Tikrit Journal for Agricultural Sciences (TJAS)   Tikrit Journal for Agricultural Sciences (TJAS)   Tikrit Journal for Agricultural Sciences (TJAS)

An Economic and Measurement Study of the Impact of Government Support and some other variables on Wheat Crop Production in Iraq for the Period (1992-2019)

ABSTRACT

The research came with the aim of analyzing the government support provided by the state to farmers for the purpose of increasing the production of the wheat crop and trying to reach the stage of self-sufficiency, and the time period (1992-2019) was adopted as the basis for this analysis. And as it turned out after applying the corrected least squares model (FMOLS), the results of the model showed that the significant variable (Y) represents the production of the wheat crop and the variable (X1) the support provided to the wheat crop, and the relationship was direct between the amount of support provided to wheat and the amount of production, and its parameter was (0.000708). As for the parameter of the independent variable, the local price of wheat (X2), there was a significant and direct relationship between the local price of the crop and the quantity of production, and its parameter was (0.003796), while the parameter of the independent variable was the global price of wheat (X3), the relationship was significant and negative with the quantity of production, and its parameter was (-8.174128). The parameter of the independent variable (X4) represented the cultivated area and its positive and significant relationship with the amount of production, and its parameter was (0.418500), while the parameter of the independent variable represented the size of loans for wheat crop (X5), its relationship was significant and negative between the size of loans and the amount of production, and its parameter was (0.014039). The analysis proved that the policies that the state operates in Iraq towards the wheat crop had a positive impact on the product and the produced quantities of the wheat crop, and at the same time it achieved a positive impact on the degree of consumer welfare in providing food. He concluded that the government support policy in Iraq played a successful role in stimulating the agricultural production process and increasing the production of the wheat crop, and had a positive role in increasing the quantity supplied of wheat, but it did not reach the level of satisfying the actual demand. The research recommends preventing the arrival of quantities of the wheat crop to Iraq informally or legally and of inefficient quality, which affects the prices of the local product and creates unbalanced competition.

© 2021 TJAS. College of Agriculture, Tikrit University

INTRODUCTION

Many economists believe that the agricultural sector is of great importance in the economies of countries in general, and the economies of non-oil developing countries in particular, so it is considered one of the important sectors in any society because of its large and effective role in their economies, especially as it is related to national food security, and has Contributions to the Gross Domestic Product (GDP), and there are wide intertwines between it and the economic activities of different sectors, knowing that it represents a high relative importance in most developing economies. Therefore, agricultural commodities and grain crops occupy a major role in the lives of

---

* *Corresponding author: E-mail*: saudmohammedsaleh@gmail.com

consumers and producers, and that the economic reality of developing countries indicates That it suffers from a food problem and a shortage of grain crops, and wheat is one of the most agricultural crops that are consumed by citizens in the manufacture of bread as a daily necessity in the lives of peoples, and because of the great importance that countries derive from this crop, it was among the best among Other cereal crops, which are very popular with the Arab and international peoples, and cereal crops are of great importance in developing countries because of their important Food and its entry into its foreign trade and in many industries, as many of these countries are witnessing a deficit in their production and low productivity. Wheat is one of the most important strategic agricultural crops supported in Iraq for several reasons, the most important of which is achieving food security, as the state provides several forms of protection and support for the wheat crop, the most important of all is to provide government support in order to increase local production and then reduce the import of wheat, which leads to alleviating the deficit in the state budget.

Research problem

The problem of the study indicates that the agricultural sector in Iraq suffers from a deficiency in the production of grain crops, especially the wheat crop, which is the focus of our study. And that the amount of government support provided to farmers was not at the level required to increase production and cover the nutritional gap of the wheat crop.

research importance

The importance of the study lies in the importance of grain crops in general and the importance of the wheat crop in particular as it is one of the most important daily consumer goods necessary for the individual, and then the importance of government support for strategic crops is attributed to increasing local production and its importance in achieving economic development, and in order to exploit the possibilities available in the agricultural sector In Iraq and keeping pace with the development in agricultural policies, especially the subsidy policy applied by both developed and developing countries, as government support contributes to reducing grain prices for citizens, which helps to raise their purchasing power, especially those with low incomes, as well as aims to combat inflation and its effects on the economic and social situation of the country In addition to providing support for the income of the agricultural product and encouraging it to increase production.

Research objective

The research aims to achieve the following:

A- Indicating the impact of the factors affecting the production of the wheat crop, primarily government support, and working to increase the effectiveness of the factors affecting the wheat crop and reducing the factors that limit its production.

B - Studying the reality of supporting wheat production and consumption in Iraq during the study period (1992-2019) and developing a number of possible solutions in order to improve the reality of this crop during the study period.

C- Determine the causes of the deterioration in wheat production and its productivity.

Research Hypothesis

We suppose that the support policy pursued by the state or the government had a positive impact in increasing the production of the wheat crop, as well as the rest of the other variables, during the period (1992-2019).

Description of The Standard Form Used:

The Concept of the Economic Model:

The economic model can be defined to mean the processes that take place between economic variables in a formal form (Sefu et al., 2006: 37). And as it was known that it is a set of economic relations placed in the form of mathematical equations that explain the behavioral relationship of the mechanism of action of a particular economy or a particular sector (Najm al-Din, 2008: 20), and as the economic model was defined as a set of relationships between economic variables to depict a particular phenomenon In a way that is free of complications and details, but represents reality for the purpose of interpreting or predicting and controlling it (Bakhit and Fathallah, 2017: 22), and the economic model can be used as a tool in finding the forecasting

process that is used in evaluating existing economic policies and analyzing the economic structure. Among the foregoing, there are characteristics that should be available in any economic model, and we can mention the following from them (Tohme and Al-Wadi, 2012: 59).

- The conformity of the economic model with the criteria of economic theory is bad in terms of the signs and values of the parameters and its ability to accurately describe the economic phenomenon.
- The model was able to explain the realistic observations as it is consistent with the actual behavior of the economic variables through which the nature of the relationship between these variables is determined.
-The accuracy of the model in estimating the parameters, and that these estimates are a better approximation of the real parameters.
- His ability to predict, so that it gives realistic predictions about the future values of the dependent variables (adopted).
-mic model should be characterized by simplicity, that is, it should describe economic relations as simply as possible.

The economic model in economic theory consists of a set of economic relations or mathematical equations, and the model may consist of a single equation, such as the demand equation or the supply equation, and the model is then called a model with a single equation, or from several equations called simultaneous equations. Like the market model (Bakhit and Fathallah, 2017: 22). The equations contained in the economic model are called structural equations because they explain the basic structure of the model to be built, such as for a specific economy or for the structure of the national economy.

The modeling stage is the most important and most difficult stage used in estimation in econometrics, and it is often the most difficult point of econometrics application to correctly model it.

Our study model consists of the following main model:

$Y1 = B0 + B1X1 + B2X2 + B3X3 + B4X4 + B5X5 + UI$
Since:
Y1 = production (thousand tons)**.**
B0 = fixed limit**.**
X1 = the amounts of support for the wheat crop (million dinars)**.**
X2 = the local price of wheat (JD/ton)**.**
X3 = world price (dollars / ton)**.**
X4 = the area planted with wheat (one thousand acres)**.**
X5 = the volume of agricultural loans (million dinars).
B1, B2, B3, B4, B5 = Coefficients of variables**.**
UI = random variable**.**
The model has been adopted for all its variables at the level of Iraq**.**

Description (formulation) of the chosen econometric model:

The description or formulation of the standard model is the first and basic step in research and studies specialized in the economic field and the variables involved in building the economic structure of the model, and since the variables used in the standard model and the requirements for its formulation are determined in the first, which explains the changes that have an impact on the dependent variable under study, As well as the relationships between the variables and the mathematical formula according to the available information and data on the phenomenon studied.

The standard model for the impact of government subsidies and price policy on the value of the agricultural output of the wheat crop in Iraq can be described, and the model is formulated as follows:

A- The dependent variable (agricultural production):
It is represented in the value of the agricultural output that is generated from the agricultural sector in Iraq, as the agricultural sector is one of the contributors to the gross domestic product, albeit in simple proportions, as the latter expresses the sum of the goods and services that were produced on

the local land of the state during a known period of time, which is a year One, using the factors of production available in that country, and through the economic sectors. Agricultural output is one of the important criteria for knowing and diagnosing levels of economic growth, and the extent of development of the economic situation in the country.

The economic policy of government support attempts to improve the values of the GDP index during the formulation of this policy in order to achieve growth in the local economy, by using the tools of this policy to influence the value of the output of other economic sectors, and that the agricultural sector is one of the most important contributors to the national product where the agricultural sectoral structure The output is distributed over the operating economic sectors, and the added value of these sectors is added after excluding the costs and intermediate necessities involved in the production process (Al-Najafi, 1993: 35).

The agricultural output is defined as the agricultural products of the crops grown within the borders of a particular country. The agricultural products include two-fold plant and animal products, and the plant production consists of the production of grains, fruits, vegetables, legumes and other products that are a basic source of human food. As for animal production, it consists of animal products such as milk, wool, leather and other products, which are inputs that contribute to the food industry (Abdul Ghafour, 2008: 115-116). Values derived from exports resulting from the sale of agricultural output to countries' balance of payments.

The level of development of output is related to the agricultural sector in the economic plan adopted by those in charge of the economic policy in agricultural policies through the policy of government support and subsidies for production requirements. The growth of the value of the total agricultural output is linked to the tools used for that policy that can express its orientations, and these trends can be diagnosed from Through the variables of this policy of the price policy variables, as they activate or discourage the value of agricultural output and the growth rates of its productive activities, this policy with its price tools can provide the appropriate environment for the growth of the agricultural sector and increase its added value in the local economy. The production schedule or the production curve was used to express the relationship between the various quantities produced on the one hand, as well as the corresponding price levels on the other hand, at a particular time and place, with the assumption that all other economic factors remain constant. production unit. (Al-Obaidi, 2009: 65).

B - independent variables:

The independent variables included in the economic model that express the policy of government support for wheat production in Iraq, which will affect the value of Iraqi agricultural output, will be clarified. These variables are:

1-Amounts to support the wheat crop:

By increasing production, most governments that resort to giving subsidies to producers in order to motivate them to increase their production of some commodities, and the subsidy is represented by cash payments that reduce production costs, thus increasing the profits of producers, which pushes them to increase production (Al-Samman, et al., 1998: 101). The variable subsidy amounts indicates a positive (direct) relationship, meaning the greater the subsidy amounts provided to the wheat crop, the more it leads to the increase in the production quantity of this crop, thus reaching self-sufficiency, which is in accordance with the economic logic. And then move to the export stage when production is greater than consumption.

2-The local price of wheat:

The local price of the wheat crop is the price set by the state to receive the quantities marketed by farmers and at the price that was set by the state at the beginning of the production process, and the amount of production depends on the price level. The relationship between domestic price and production is positive.

3-The world price of wheat

The world price is the price of agricultural crops at border prices converted to local prices through exchange rates, and the intervention by the state through drawing up agricultural policies in an integrated manner is very important because it has a significant impact on the redistribution and

allocation of economic resources and building the price base complementary to agricultural policy as well as For its role in protecting producers and improving the level of trade exchange between the agricultural sector and other economic sectors and paying attention to the level of relative prices of agricultural crops and the negative relationship between the world price and production. (Al-Najafi et al., 2010: 67)

4-The cultivated area of wheat

The strategic plan for any agricultural development in developing countries depends on two frameworks, the first is to achieve horizontal development by expanding the area of cultivated lands by reclaiming new lands and cultivating them, and the second is to achieve major development by raising productivity per unit area by raising production efficiency Production factors contribute to agricultural production, so the cultivated areas mean all arable lands used in the field of production, and the relationship is positive between the cultivated area and production. (Ismail, 2008:49).

5-Amount of agricultural loans

It expresses the financial needs that economic units operating in the agricultural sector may require, in order to contribute to the implementation of the productive program for those units, as this is due to the scarcity of capital invested within the agricultural sector, in light of the increasing need to finance the productive side, and the increase in the use of The technological field in order to improve the level of production, so agricultural loans are used for the purpose of maximizing agricultural output, or to maximize the revenues generated from agriculture, in addition to raising the efficiency of using the intermediate resources involved in the productive process of agriculture and thus reducing the risks of agricultural investment (Al-Najafi, 1999: 141).

The demand for agricultural loans is related to the level of need for owners of existing and new investment projects in the agricultural sector of all shapes and sizes on capital and the extent to which these projects are sufficiently self-financing (as it is one of the important production elements). External sources of financing, which contributes to raising the productive capacity in the agricultural project. As for the quantity supplied of agricultural loans, this is related to the desire and ability of credit institutions and banks that may wish to provide the loan to units operating in the agricultural sector, within terms agreed upon between the two parties, both the creditor and the debtor, with the aim of providing capital to increase agricultural production (Al-Najafi, 1999: 142).

The volume of loans is affected according to the directions and objectives of the economic policy, especially the agricultural policy that uses its price tools to influence the credit capacity of banks in order to control the level of economic activity. The agricultural sector is affected by these measures taken by those in charge of that agricultural policy.

Just as the government may seek to revitalize agricultural production, it is based on providing agricultural loans to investors in the agricultural sector, in a way that increases the level of agricultural output in the field of the agricultural sector, and which may negatively affect the rest of the partial and total variables, and it goes without saying that loans are provided by the state to Farmers are considered another form of support, especially if they are without interest (as happened in the Iraqi agricultural initiative), or at a low interest rate, meaning subsidized.

Standard test results:

The results of the static tests of the variables of the linear function of production of wheat in Iraq for the period (1992-2019):

Figure (1) shows the time series of the variables included in the study, which is the dependent variable (Y) the value of the agricultural output of the wheat crop in Iraq and the independent variables are (X1) the amounts of support for the wheat crop, (X2) the local price of the wheat crop and (X3) the world price of wheat And (X4) the cultivated area of the wheat crop and (X5) the size of agricultural loans. Before the time series is subject to any of the tests, it is necessary to represent it graphically by the time indication for the purpose of knowing the type and nature of the relationship in that series, and it shows the time series curve, which is a preliminary indication of The potential nature of the time series, if the curve appears in the general direction up or down, then this indicates the change of the average over time, which indicates that the series is unstable, and it is noted that some variables are (Y, X1, X2, X3, X4, X5) is unstable at the level as

shown in Figure (1), but all variables become stable after taking the first difference for them, as shown in Figure (2), and from the diffuse forms it becomes clear that all the variables were not stable at the level until after taking the first differences for them And then it became stable, that is, it is integrated rank I (1).
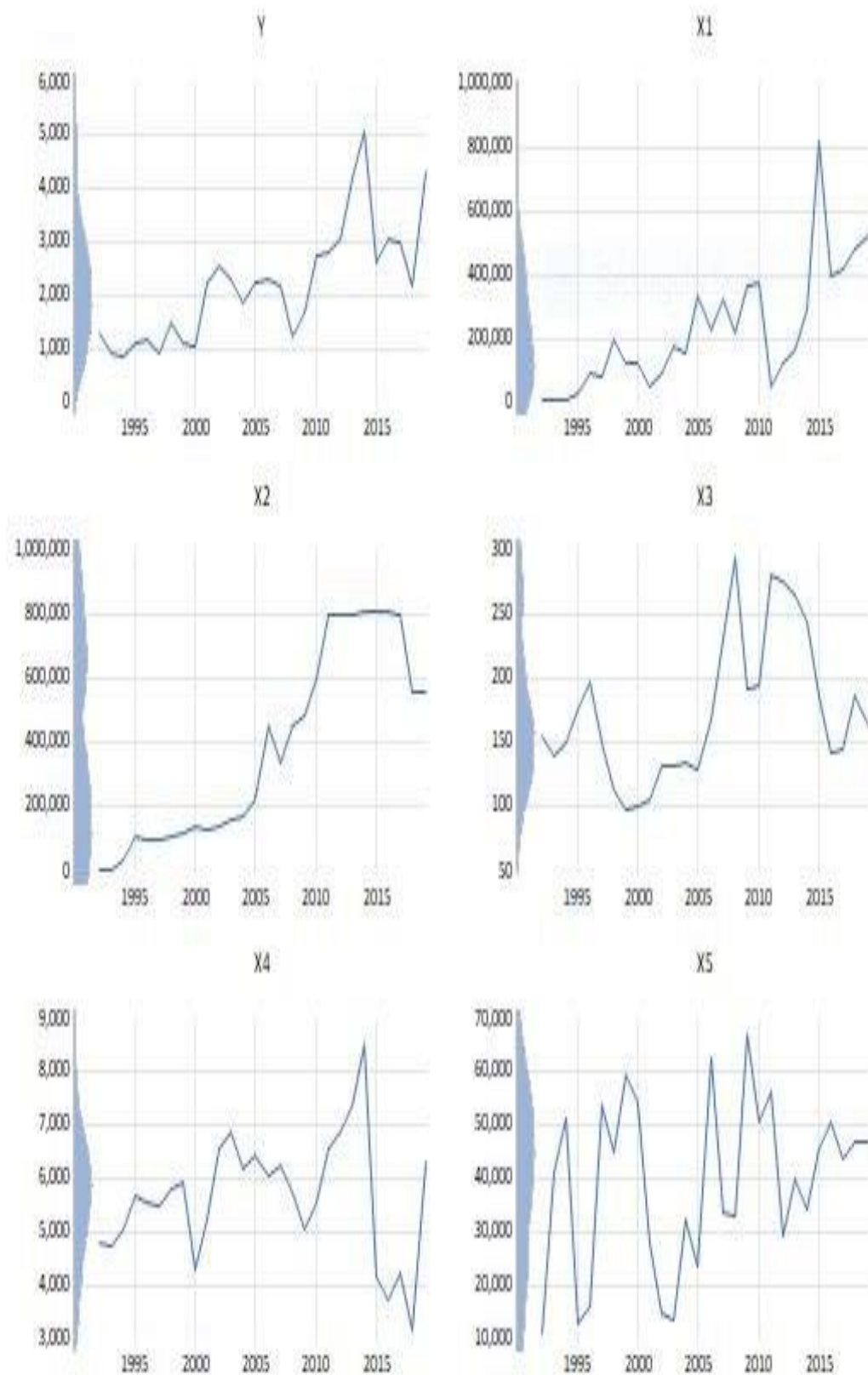

Figure (1) The graph of the evolution of the time series of the research variables under study at the level
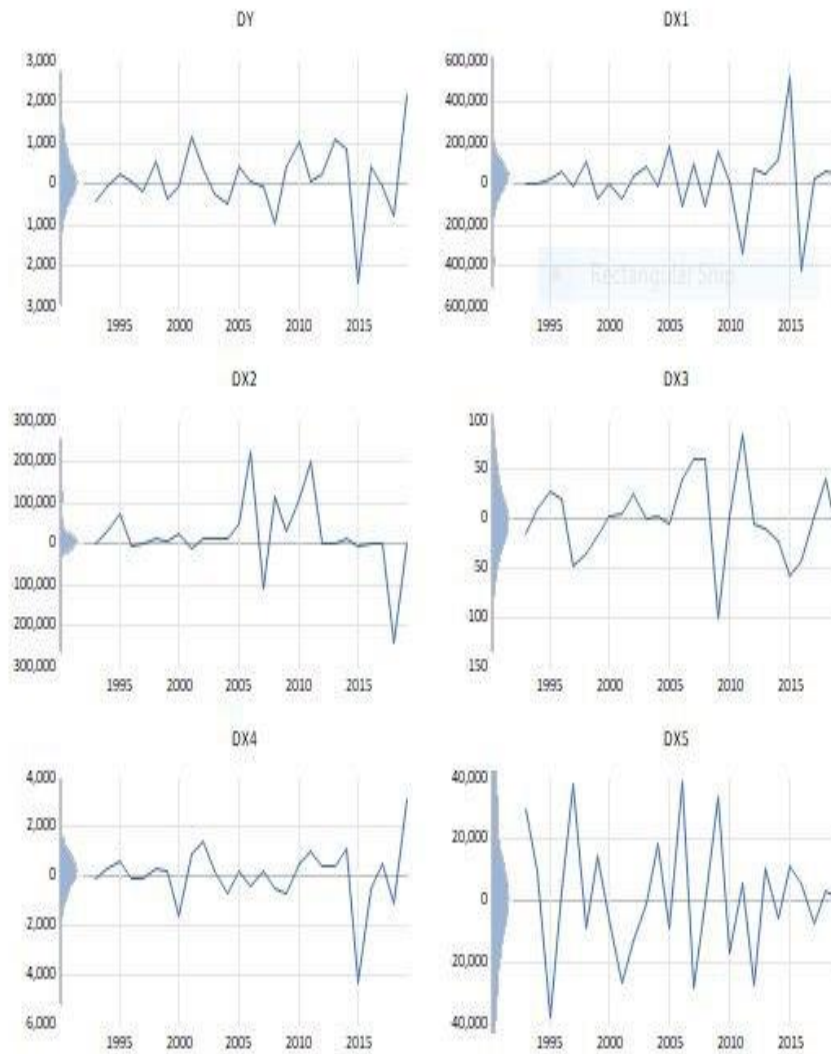
Figure (2) The graph of the evolution of the time series of the study variables after taking the first differences

Estimation of standard models for the factors affecting the production function of the wheat crop in Iraq for the period (1992-2019):

The corrected least squares method is a statistical method that aims to estimate the regression line that leads to reducing the set of major deviations or incoming errors and reducing the sum of squares of differences between the actual and calculated values. It is a nonparametric correction method for the Ordinary Least Square method. The researcher found (1997) Philips, in an attempt to get rid of the second-order bias, as the main idea of this method is to obtain an unbiased median and approximate to the normal distribution, and it is mainly designed for estimating independent multivariate co-integration models, where the variables of the Standard Model are mono-integral 1 (I) This method also solves the problem of simultaneous correlation between random error and independent variables by correcting errors. For the purposes of data analysis and interpretation, the descriptive analysis method and the quantitative standard analysis method will be used, using the Fully Modified Ordinary Least Square method, which is designed primarily to estimate models Co-integration of multiple independent variables, so that the variables of the standard model are integrated of the first degree as This method solves the problem of the simultaneous correlation between the random error and the Sime Parrametree variables. During that, we should remember that the Ordinary Least Squares (OLS) method cannot be used as long as the studied variables are different in their levels of stability, which were referred to previously, as well as that The OLS method assumes that the variables have the same level of integration (i.e. they are stable at the level), and in order to avoid the shady results that can be obtained according to the mentioned method, which is discovered by the large increase in the coefficient of determination and

the value of the F test) and also accompanied by high significance with The absence of a self-correlation problem, which can be observed through the value of the (DW) test, and thus it was necessary to search for another method commensurate with the difference in the degree of stability between the variables used in the model, and the models were estimated according to two methods: ARDL and FMOLS method. The fully corrected least square (Fully Modified ordinary least square), and also these methods can be applied to the model that contains variables with different rank orders, and after applying it to the two models, the estimated model is given according to the methods FMOLS (more encouraging and logical results for the two equations, and therefore it was approved after it was confirmed that it is free from standard problems, and the fully corrected least squares method (FMOLS) is one of the methods of joint integration in estimating and does not require standard conditions or restrictions as in the OLS method)) This method also has the advantage of solving the problem of autocorrelation and parameter bias..

Table of the regression function estimated according to the FMOLS method

Dependent Variable: Y
Method: Fully Modified Least Squares (FMOLS)
Date: 05/01/21   Time: 10:59
Sample (adjusted): 2 28
Included observations: 27 after adjustments
Cointegrating equation deterministics: C
Regressor equations estimated using differences
Additional regressor deterministics: @TREND @TREND^2
Long-run covariance estimate (Parzen-Geometric kernel, Integer Newey
    -West fixed bandwidth = 3.0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
X1	0.000708	0.000335	2.115840	0.0465
X2	0.003796	0.000270	14.04421	0.0000
X3	-8.174128	1.154786	-7.078481	0.0000
X4	0.418500	0.045519	9.194005	0.0000
X5	-0.014039	0.003212	-4.371241	0.0003
C	192.8659	345.4574	0.558291	0.5825

R-squared	0.867630	Mean dependent var		2231.704
Adjusted R-squared	0.836113	S.D. dependent var		1100.331
S.E. of regression	445.4465	Sum squared resid		4166873.
Long-run variance	49309.42			

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

The value of the fixed term was (192,8659), which means that the value of the dependent variable when the explanatory variables are equal to zero, and has no economic explanation in the multiple regression, and it was found through the coefficient of determination R2 that the explanatory variables were able to explain (86.76%) of the changes that occur in the dependent variable, the rest of the fluctuations amounting to (13.24%) were absorbed by the random variable.

As for the coefficients of the independent variables, they represent the tendency that this function is a linear function, and if the value of the wheat crop support amounts coefficient (X1) is (0.000708), with a positive sign indicating the direct relationship, which means that if the wheat crop support amounts change by one unit, the value of the output The agricultural wheat crop in Iraq (the dependent variable) will increase by (0.000708) with the stability of the rest of the other independent factors. Farmers to increase wheat production. This weak impact of government support on agricultural production comes due to the fact that the largest proportion of subsidies are

directed to product prices without production requirements, in addition to the presence of intermediaries, traders and sifter owners who obtained the largest proportion of subsidies in their favor and the lowest percentage was in favor of the agricultural product, and the value of the amounts allocated to the subsidy was not the required size

While the parameter of the local price of the wheat crop (X2) was (0.003796) with a positive sign indicating the direct relationship between the local price of the wheat crop and the agricultural output of the wheat crop in Iraq, that is, if the local price of the wheat crop changed by one unit, the value of the agricultural output of the wheat crop in Iraq It will increase by (0.003796) with the stability of the rest of the other independent factors. The results of the estimation showed the significance of the local price variable of the wheat crop (X2) in the positive effect on the value of the agricultural output of the wheat crop in Iraq. Factors that enable the farmer to increase his productivity because an increase in price means an increase in the financial returns obtained by the farmer, which cover his production costs with a profit margin (Ghazal and others, 2009: 177).

for the variable (X3) the world price of wheat, the results of the standard analysis showed a significant and negative (inverse) relationship with the dependent variable (the value of the agricultural output of the wheat crop in Iraq) and the moral, that is, if the world price of wheat increased by one unit, it would lead to a decrease in the value of agricultural output The wheat crop in Iraq increased by (- 8,174128) and the rest of the other independent factors were stable, because this is due to the economic blockade at the beginning of the nineties, in addition to the security and political instability, which led to the agricultural sector not keeping pace with the developments that occurred in the world, so it did not have a positive impact on The quantity of production, and the fact that Iraq has not reached self-sufficiency and does not export wheat except in a few years (1998-2004) and in specific quantities, and this explains the inverse relationship between the world price of wheat and the value of the agricultural output of the wheat crop in Iraq.

The results of the analysis also showed the positive (direct) relationship between (X4) the cultivated area of the wheat crop and the dependent variable production, which means if the cultivated area increased by one unit, the dependent variable will increase by (0.418500) with the stability of the rest of the other independent factors, and this is considered logical. From an economic point of view, the increase in the cultivated areas will increase the production of the wheat crop and, consequently, the value of the agricultural output of the wheat crop in Iraq will increase.

As it turned out for the variable (X5) (amount of agricultural loans), the results also showed the significance of this variable and negative sign, that is, if the volume of agricultural loans increased by one unit, the approved variable (agricultural production of wheat crop in Iraq) would decrease by (-0.014039) and the rest of the factors remain constant The reason is due to the misuse of these agricultural loans and benefiting from them in other work outside the agricultural sector or in agricultural production operations but not for the wheat crop, as well as their negative effects such as the accumulation of these loans and the high interest rate on farmers, which negatively affects agricultural production for wheat crop.

Form Validity Tests:

The (FMOLS) method is used in the case of varying levels of stability of the variables, and this method helps us to get rid of the standard problems, and there are several types of tests called diagnostic tests that are used in (FMOLS) in order to know the validity of the model, and we will take the natural distribution test for the residuals.

Normal distribution of residuals:

We must know the normal distribution of the residuals, as the residuals must be a normal distribution, and to demonstrate this, this will be clear by relying on the (JARQUE-BEAR) test for the normal distribution, as shown in the following figure.
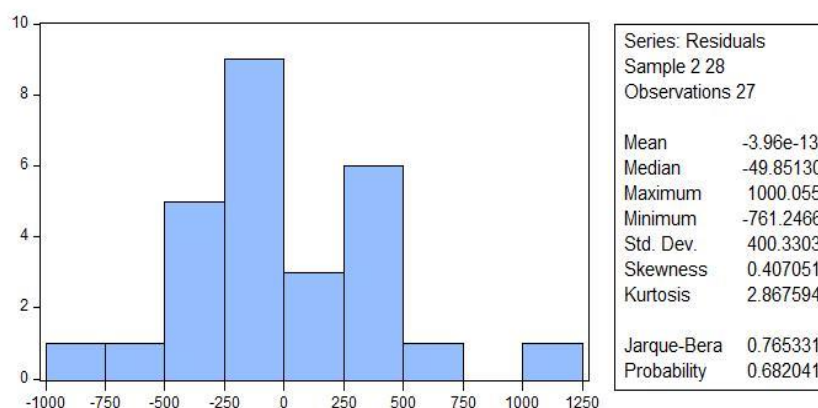
Figure (3) The normal distribution of residuals (JB) for the wheat yield function

Source: From the researcher's work based on the outputs of (Eviews10) program

We notice from the above figure that the normal distribution of the residuals of the regression equation, as (JB) test was used, and we can notice the significance of this coefficient (JARQUE-BERA) which is greater than (%5), and this indicates that the residuals are distributed normally, as the value of (JB) equals (0.765331), and at a probability level of (0.682041) and it is at a level greater than (%5). Thus, we accept the null hypothesis that the residuals of the model are normally distributed, and in this case the estimated model is free from standard problems that may give Umbrella results, as well as the results that can be relied upon in building research recommendations on its basis.

CONCLUSIONS

The research reached a number of conclusions, the most important of which are: -

1.The research hypothesis proved that the support policy pursued by the state or the government had a positive effect in increasing the production of the wheat crop, as well as the rest of the other variables, during the period (1992-2019), and government support occupies the main axis to increase the production of this crop in order to reach the stage of self-sufficiency.

2.The government support policy in Iraq played a successful role in stimulating the agricultural production process and increasing the production of the wheat crop, as it is one of the successful policies in the agricultural sector, and it had a positive role in increasing the quantity supplied of wheat, but it did not reach the level of satisfying the actual local demand.

3.Some explain that the lack of quantities produced from the wheat crop in Iraq for the sufficiency of the local demand for it is due to several reasons, the most important of which is the lack of government support provided for the requirements of the production process in the required quantities and the limited time.

4.Import is one of the forms of leakage in the economy, and the increase in import leads to the movement of hard currency from Iraq to abroad, which negatively affects the Iraqi trade balance and achieves a deficit in it, and thus also negatively affects the Iraqi balance of payments.

5.Shows the time series curve, which is an initial indication of the possible nature of the time series. If the curve appears in the general direction up or down, this indicates the change of the average over time, which indicates that the series is unstable, and it is noted that the variables are each of (Y, X1, X2, X3, X4, X5) are not stable at the level, but all variables become stable after taking their first difference.

6.There was a positive effect of the area variable on the quantity produced of the crop, while there was a negative impact of the variable of agricultural loans on the quantity produced of the crop in order to invest it in a field other than the one allocated in the production of wheat crop.

7.There was a different role for the local and international prices in their impact on the quantity produced of the wheat crop, if the local price of the wheat crop had a positive and moral role, while

the role of the global price of the wheat crop was negative, because Iraq did not reach the stage of self-sufficiency for the wheat crop.

8.The correlation function for the value of the agricultural output of the wheat crop in Iraq (Y) was shown at the level, but it differs significantly from zero and gradually decreases to zero until the eighth gap (K = 8) and is at the value (0.043). When taking the first differences for this series, it becomes It is static at the first gap, at confidence limits (5%) and it slows down towards zero. This means the stability of the production data series at the first differences after it was unstable, that is, it is an integrated series of the first degree.

9.The results of the expanded Dickey-Fuller test were to examine the calculated (t) values and compare them with their tabular values within the confidence limits (1%), (5%) and (10%), where the null hypothesis (H0:b=0) states that there is no The stability of the time series, in contrast to the alternative hypothesis (H1:b≠0) which states that the time series are stable. The instability of the time series has been observed at the general level of some variables, namely (X2,X3) and its stability at the first differences, that is, they are of the first degree, and these The results are with the logic of the standard theory, which assumes that most variables may be unstable at the level and become stable at the first difference.

10. It was found using the (JARQUE-BERA) test, we can note the significance of this coefficient, which is greater than (5%), and this indicates that the residuals are normally distributed, as the value of (JB) is equal to (0.765), and at a probability level of (0 .682) and is at a level greater than (5%), and thus we accept the null hypothesis that the residuals of the model are normally distributed, and in this case the estimated model is free from standard problems that may give shaded results.

Recommendations

1- Ending the illegal or legal entry of quantities of wheat crop into Iraq and of inefficient quality, which affects the prices of the local product and creates unbalanced competition.

2- Finding effective solutions to the marketing suffering of wheat crop producers, by quickly delivering the crop and handing over their financial dues without delay and ending the cases of administrative and financial corruption that some Iraqi silos suffer from.

3- Increasing the percentage of support provided to the wheat crop in two directions, the first by means of subsidies provided to farmers regarding production requirements, and the second by raising the price of the product until agricultural production reaches the stage of self-sufficiency.

4- Encouraging foreign investment in the agricultural sector in general and in the production of wheat in particular, and benefiting from the advantages of large-scale production, including technological and knowledge development in the agricultural field.

5- Encouraging the use of new varieties of high-yield wheat seeds that entered Iraq during the past two years, as they were characterized by very high productivity, and an attempt to provide them to most farmers and bear part of their purchase costs if the ton price exceeded (1,500) million dinars.

6- Announcing the purchase prices of the wheat crop by the state at the start of the agricultural season at subsidized prices for this crop, as it encourages farmers to increase production and believe in the economic argument (the quantities produced of agricultural commodities are a function of their price in a previous year), and here the price announcement is considered in advance equivalent to the price of the year previous.

7- The horizontal and vertical expansion in the cultivation of the wheat crop in Iraq in proportion to the size of the current population, especially since the population growth rate in Iraq is very high.

8- Assigning specialized agricultural bodies to produce seeds that are consistent with Iraqi weather conditions and have high productivity, provided that they are higher than imported seeds and that they are distributed on the dates specified for their use.

9 - Increasing financial allocations for agricultural loans provided to farmers at zero or very low interest rates, provided that a careful and scientific follow-up to the use of these loans in the field of wheat cultivation.

REFERENCES

Abdel G., Ibrahim A., (2008), an economic view of the food problem in Iraq, Zahran Publishing House, Jordan.

Al-Obaidi, M.S.Kazim., (2009), Estimating the response to wheat supply in Iraq for the period (1950 - 2002), Master's thesis, College of Agriculture, University of Baghdad.

Al-Samman, M.Marwan., (1998), Principles of Micro and Macroeconomic Analysis, Muhammad Dhafer Mahbek, Ahmad Zuhair Shamiya, House of Science and Culture for Publishing and Distribution, Amman.

Al-Sefo, W.Ismail, Shallouf, F.Muftah, and Jawad, S.J.Ibrahim, (2006), Fundamentals of Analytical Econometrics, Ahlia, Kingdom of Jordan – Amman.

Bakhit, H.Ali., and Fathallah S., (2017), Econometrics, Al-Yazuri Scientific Publishing and Distribution House, Amman, Jordan.

Ghazal, Q.Nazim, Zuwaid F.Abd & Mahasin M.Sultan, (2009), Estimating the functions and imports of some agricultural products in selected developing countries for the period (1985-1985) Rafidain Agriculture Journal, Volume 37, No. 2.

Ismail, W.A.Mahmoud, (2008), "Estimation and Analysis of Growth Rates of Agricultural Product and Productivity in Selected Arab Countries for a Period (1980-2005)", Master's Thesis, College of Agriculture and Forestry, University of Mosul.

Najafi, I.Hassan, Qais N.Ghazal & Alaa W. Nehme, (2010), Agricultural Policy and Prospects for Achieving Food Security, Indicators on the Syrian Economy, Rafidain Development Journal, Volume 32, Issue 100.

Najafi, S.Tawfiq, (1999), Agricultural Economics: Foundations and Application, Dar Al-Kutub for Printing and Publishing, Iraq.

Najmuddin, A.Karim.(2008). Mathematical Economics: A Quantitative and Analytical Introduction. Dar Wael for printing, third edition. Jordan.

Phillips, P. C. (1987). Multiple regression with integrated time series (No. 852). Cowles Foundation for Research in Economics, Yale University.

دراسة اقتصادية وقياسية لأثر الدعم الحكومي وبعض المتغيرات الأخرى على إنتاج محصول القمح في العراق للمدة (1992-2019)

سعود محمد صالح الجوعاني[1]   باسم فاضل لطيف الدوري[2]

1-مديرية زراعة نينوى

2-كلية الزراعة - جامعة تكريت

الخلاصة

الكلمات المفتاحية: الذرة ، التغاير ، تضارب الأقارب.

جاء البحث بهدف تحليل الدعم الحكومي التي تقدمه الدولة إلى المزارعين لغرض زيادة إنتاج محصول القمح ومحاولة الوصول به إلى مرحلة الاكتفاء الذاتي, وقد اعتمدت المدة الزمنية (1992-2019) اساس هذا التحليل. وكما تبين بعد تطبيق   أنموذج المربعات الصغرى المصححة ,(FMOLS)إذ أظهرت النتائج الأنموذج أن المتغير المعتد (Y) يُمثل الإنتاج لمحصول القمح والمتغير (X1) الدعم المقدم لمحصول القمح وكانت العلاقة طردية بين مقدار الدعم المقدم للقمح وكمية الإنتاج وبلغت معلمته (0.000708). وأما معلمة المتغير المستقل السعر المحلي للقمح (X2) كانت العلاقة معنوية وطردية بين السعر المحلي للمحصول وكمية الانتاج وبلغت معلمته (0.003796), بينما كانت معلمة المتغير المستقل السعر العالمي للقمح (X3) العلاقة معنوية وسالبة مع كمية الإنتاج وبلغت معلمته (8.174128-)، وكانت معلمة المتغير المستقل (X4) تمثل المساحة المزروعة وعلاقتها طردية ومعنوية مع كمية الإنتاج وبلغت معلمته (0.418500)، وبينما مثلت معلمة المتغير المستقل حجم القروض لمحصول القمح (X5) كانت علاقتها معنوية وسالبة بين حجم القروض وكمية الإنتاج وبلغت معلمته (0.014039-). وأثبت من التحليل ان السياسات التي تعمل بها الدولة في العراق تجاه محصول القمح كان لها تأثيراً ايجابياً على المنتج والكميات المنتجة من محصول القمح. وبنفس الوقت حققت أثر هو الاخر ايجابي على درجة رفاه المُستهلك في توفير الغذاء. واستنتج ان سياسة الدعم الحكومي في العراق لعبت دوراً ناجحاً في تحفيز العملية الإنتاجية الزراعية وزيادة إنتاج محصول القمح وكان لها دور ايجابي في زيادة الكمية المعروضة من القمح الا انها لم تصل الى مستوى اشباع حجم الطلب الفعلي. يوصي البحث بمنع وصول كميات من محصول القمح إلى العراق بشكل غير رسمي أو قانوني وبنوعيات غير كفؤة مما يؤثر على أسعار المنتوج المحلي ويخلق منافسة غير متوازنة.