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Gravity Models Estimation for Saudi Arabia Kingdom Export to Iraq and From Iraq Export to Saudi Arabia Kingdom (My country has oil resources): (An Econometrics Study for period 1990-2020)

Mhamed Radhi Jafaar[1], Adnan Muhammad Al-Ethary[2]

Abstract

The foreign trade of any country in the world depends on the strength of exports of goods and services to other countries, and most of the intra-trade between these countries depends on the factors of gravity between them. When these variables or factors are strong, intra-trade is also strong, and this relationship can be investigated by estimating the gravity model, which depends on These variables give precise details about which variables are more effective in intra-state trade, and from this our study came to estimate the attractiveness models for each of the Kingdom's exports. Saudi Arabia to Iraq and Iraq's exports to the Kingdom of Saudi Arabia. The research aims to estimate these models and test them with various statistical and standard tests using quantitative methods, represented by econometrics, to achieve the goals. The research reached several results that led to knowing which of the gravity variables has a strong influence in both countries of the sample. The addition provided by Saudi Arabia's exports to Iraq is weak, which does not affect the increase in national income and thus the increase in social welfare. Hence, we note the negativity of this variable, while the variable of the annual growth rate of the Iraqi gross domestic product Iq.GDP.Grji showed a successful relationship with the hypotheses. The theory has a positive relationship, which shows the effect of population on the increase in Saudi exports to Iraq due to the increase in demand as a result of the increase in population. Despite the weakness of the parameter, it has a strong effect. While the relationship of the time variable "Years" showed its negative relationship with Saudi exports to Iraq, and this from the economic point of view is contrary to the theoretical assumptions only. Its relationship is correct because the period studied included two wars: the Gulf War, the American occupation of Iraq, and the UN sanctions that were imposed on Iraq, which linked Iraqi imports to UN approval. While the results of the gravity model for Iraqi exports to Saudi Arabia showed a positive relationship with Iraqi exports to Saudi Arabia, which indicates their agreement with the assumptions of economic theory and with a strong effect, while both the annual growth rate variable of the gross domestic product S.GDP.Grij and the time variable Years showed their negative relationship with Iraqi exports. Contrary to the assumptions of economic theory.

Keywords: *Economics, Estimating the Gravity Model for Iraqi Exports to Saudi Arabia, Estimating the Gravity Model for Saudi Exports to Iraq, Econometrics.*

Introduction

Gravity models are considered the most important standard models for estimating trade relations between countries, as their variables indicate the relationship between two countries in trade. These variables represent the per capita share of national income, the number of population, the quantity of exports and imports, and all foreign trade, including services. Estimating these models shows the strength of the economies between The two countries and the extent of the influence of one country on the other commercially. From this, our study came to estimate the gravity model between the countries of Iraq and the Kingdom of Saudi Arabia in two directions to know the influence of each country on the other and which of them had the strongest influence on foreign trade. Foreign trade is one of the most importan indicators.Economic impacts that directly affect the economies of countries across international borders. By reviewing the nature of the study of global economic competitiveness indicators that monitor and diagnose developments witnessed by countries on an annual basis, various studies indicate the estimation of attractiveness models from these studies.

And study, (Robert C. Feenstra, James A. Markusen, 1999[8]),

And study, (Helga Kristjansdottir ,2000,[3]), And study (Howard J.W,2000,[4])

[1] Iraq –University of kerbala economics department, Email: Mhamed.r@uokerbala.edu.iq
[2] Iraq –university of Amara -economics department, Email: skuna_100@yahoo.com

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And study (Amita Batra ,2005,[1]) And study (Edward J.Balistreri& Russell H.Hillberry , 2001,[2])

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Joakim Westerlund& (Fredrik Wilhelmsson ,2006,[7] And study (Jean France,Ois Brun ,2005,[5] And study (Jean Pual Rodrigue,2007,[6]) Accordingly, the research hypothesis was that (population variables, per capita share, and gross domestic product have a clear impact on foreign trade between countries trading with each other). Therefore, achieving the aforementioned hypothesis requires goals consisting of estimating attractiveness models between the two countries. The study sample is Iraq and the Kingdom. Saudi Arabia, to find out which two countries are stronger economically and commercially than the other over the past thirty years, tests these models with various standard and statistical tests and chooses the optimal model that is compatible with the theoretical assumptions of economics, in addition to demonstrating the economic importance of both countries.

The Theory

There are theoretical considerations for the gravity model before we list the proposed model, which are as follows:

The two countries are neighbors and share borders, and therefore the transportation cost relates only to the land route.

The two countries speak the same language, which is Arabic.

Both countries produce oil and gas.

The two countries differ in political systems and have a history of Ottoman and English colonialism.

They have a common history.

They have differences in the strength of GDP growth over the years studied.

The economic sectors and their development differ between the two countries.
In most years of study, the two countries are rentier.

The Data

The data was obtained from several sources, including the World Bank and Arab economic reports for a period of thirty years from 1990 to 2020, and it was organized into several tables, as follows:

Gross domestic product and domestic product growth for the two sample countries.

In the following table, which shows the gross domestic products and their annual growth rates for both sample countries, Iraq and Saudi Arabia.

Table 1: shows the gross domestic products and their annual rates for both Iraq and Saudi Arabia for the period 1990-2020 (GDP billion dollars, annual growth rate GDP.Gr%)

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	Arabia Saudi Kingdom	**Iraq**

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Countries & GDP Years	GDP	GDP Gr	GDP	GDP Gr
1990	104.671	*	34.768	*
1991	109.768	9.8	34.453	-0.9
1992	116.543	6.2	33.754	-2.01
1993	126.765	8.8	33.237	-1.5
1994	137.876	8.1	32.561	-2.03
1995	143.152	3.8	32.230	-1.02
1996	157.743	10.2	30.999	-3.82
1997	164.994	4.6	30.240	-2.45
1998	145.967	-11.5	29.122	-3.7
1999	160.957	10.3	28.146	-3.4
2000	189.515	17.8	26.826	-4.7
2001	183.012	-3.4	25.659	-4.4
2002	188.155	2.8	24.544	-4.3
2003	214.573	14.1	23.464	-4.4

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2004	**250.339**	**16.3**	**24.475**	**4.3**
2005	**328.206**	**31.1**	**36.243**	**48.1**
2006	**356.155**	**8.5**	**54.475**	**50.3**
2007	**384.686**	**8.01**	**74.275**	**36.4**
2008	**476.692**	**23.9**	**107,672**	**44.9**
2009	**429.098**	**-9.98**	**97.302**	**-9.6**
2010	**528.207**	**23.1**	**117.138**	**20.4**
2011	**671.239**	**27.08**	**157.412**	**34.4**
2012	**735.975**	**9.6**	**185.945**	**18.1**
2013	**746.647**	**1.5**	**207.124**	**11.4**
2014	**756.350**	**1.3**	**192.772**	**-6.9**
2015	**654.270**	**-13.5**	**153.990**	**-20.1**
2016	**646.438**	**-1.2**	**158.050**	**2.6**
2017	**698.764**	**8.1**	**170.876**	**8.1**
2018	**765.876**	**9.6**	**187.153**	**9.5**
2019	**876.987**	**14.5**	**231.870**	**23.9**
2020	**765.701**	**-12.7**	**179.712**	**-22.5**

Source: Unified Arab Economic Report, Abu Dhabi, for the years 2000, 2004, 2008, 2011, 2014, 2016, 2019, 2020, various pages.

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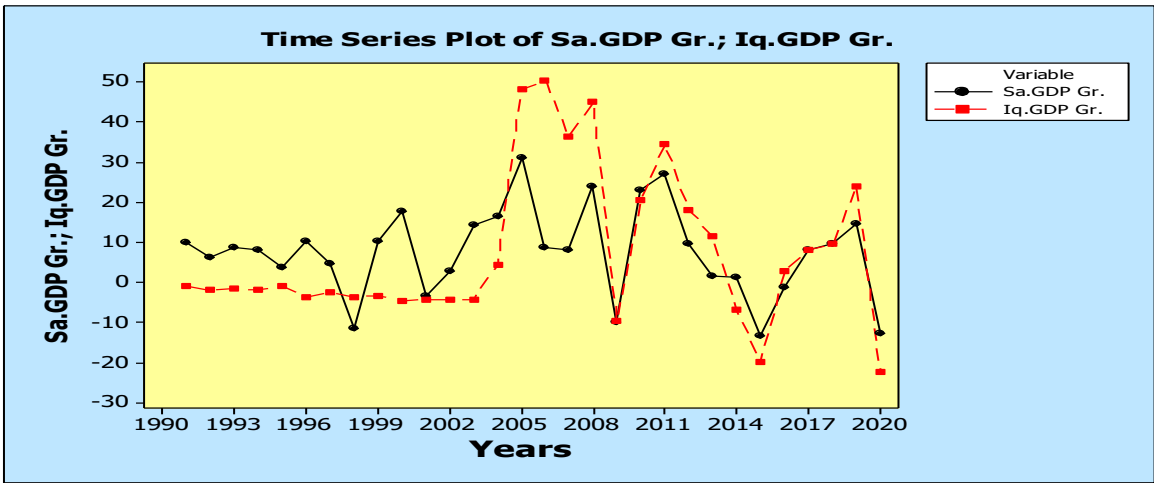
From the table above it is clear that there is a clear fluctuation in the annual growth rate in Iraq, and sometimes the fluctuation is severe between a negative and sometimes a positive annual growth rate, but the prevailing characteristic in most years of the study was a negative value if the maximum annual growth rate was negative for Iraq in the year 2020, when its value reached About -22.5% and the maximum positive value was about 50.3% in the year 2006, while the dominant feature of the Saudi annual growth rate was positive values except for some years. The lowest negative value was in 2015 when it reached about 13.5% and the maximum positive value was About 27.08% in 2011, and we can understand the reality of the growth of the gross domestic product of both countries as the movement of their curves in the following figure:

Figure(1): Curves of the annual growth rate of GDP for the sample countries of Iraq and Saudi Arabia for the period 1990-2020

Source: Based on Table 1 and using the Minitab 17 statistical program.



From the above graph, we notice that the annual growth rates for Iraq were mostly negative, but some of the positive ones were higher at the points of the curve compared to Saudi Arabia.

1- **Individual Income** :-

An important factor for demonstrating development and economic development in any country, as real per capita income indicates economic strength if it is high and in a strong economy, which makes the society reach a luxury society. This can be observed in most European countries and from the following table, which shows the population and the per capita share of income. The national level for both countries for the period 1990-2020.

Table 2 shows the population and per capita national income of Iraq and Saudi Arabia for the period 1990-2020

Countries	*individual income / Dollars*	*Population / million*	*individual income / Dollars*	*Population / Million*

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Years				
1990	**4654**	**15.187**	**276**	**17.890**
1991	**4964**	**16.121**	**263**	**18.153**
1992	**5321**	**16.754**	**256**	**18.661**
1993	**6432**	**17.132**	**367**	**19.132**
1994	**6987**	**17.765**	**302**	**19.432**
1995	**7855**	**18.136**	**365**	**20.536**
1996	**8123**	**19.345**	**432**	**20.826**
1997	**8321**	**20.001**	**487**	**21.305**
1998	**8985**	**20.665**	**576**	**21.795**
1999	**8431**	**21.334**	**654**	**22.296**
2000	**9255**	**20.476**	**871**	**24.186**
2001	**8754**	**20.907**	**713**	**24.813**
2002	**8794**	**21.442**	**682**	**25.565**

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2003	**9761**	**21.983**	**756**	**26.340**
2004	**11122**	**22.564**	**1242**	**27.138**
2005	**14069**	**23.329**	**1296**	**27.963**
2006	**14725**	**24.122**	**1458**	**28.810**
2007	**15835**	**24.941**	**2442**	**29.682**
2008	**18471**	**25.787**	**3376**	**31.895**
2009	**14129**	**26.660**	**2978**	**31.664**
2010	**19271**	**27.563**	**3605**	**32.481**
2011	**23826**	**28.376**	**4722**	**33.330**
2012	**25470**	**29.196**	**5438**	**34.196**
2013	**25213**	**29.994**	**5903**	**35.187**
2014	**24930**	**30.770**	**3552**	**35.863**
2015	**21063**	**31.521**	**4169**	**36.213**
2016	**20337**	**31.742**	**4171**	**36.869**
2017	**21057**	**32.611**	**5319**	**37.139**
2018	**23270**	**33.414**	**5339**	**38.124**
2019	**22871**	**34.211**	**5672**	**39.128**
2020	**21763**	**35.761**	**4434**	**40.861**

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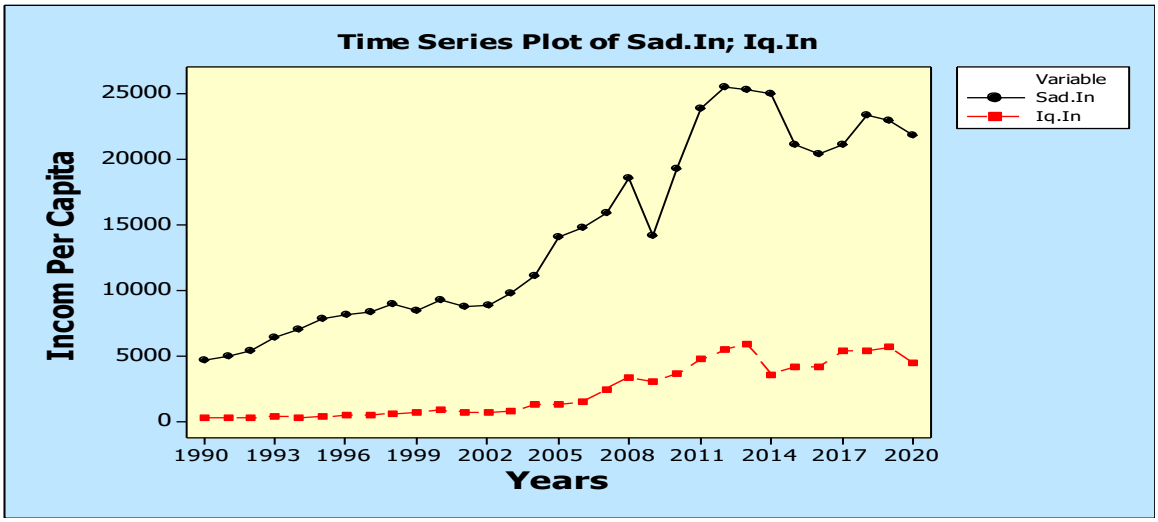
Source:

Unified Arab Economic Report, Abu Dhabi, for the years 2000, 2004, 2008, 2011, 2014, 2016, 2019, 2020, 2021, various pages.

We notice from the above table 2 that there is a big difference between the Saudi and Iraqi per capita income, as the Saudi per capita income was greater than the Iraqi per capita income, and this is due to economic activity as well as high oil revenues as a result of exporting more than 10 million barrels of oil per day, while in Iraq, the Iraqi society is afflicted. With the wars that exhausted the Iraqi economy, as well as the cessation of oil exports as a result of the wars and the backwardness of production structures in the economic sectors, and despite these crises, the compound annual growth rate was high compared to Saudi Arabia, and the growth rate of Iraqi per capita income reached The compound annual growth rate was about 9.7%, while for Saudi Arabia it was about 5.3%, while the population growth in Iraq was close to the Saudi population growth, as the compound annual growth rate was about 2.8%. The compound population growth rate for Saudi Arabia was about 2.9%, and we can notice this in the movement of the population and per capita income curves. For both sample countries, the following figure shows the movement of the individual income curves for both countries:

Figure(2) shows the per capita income curves for the countries of Iraq and Saudi Arabia for the period 1990-2020.



Source: Based on Table 2 and using the Minitab 17 statistical program.

The figure shows the differences between the Saudi and Iraqi incomes.

While the graph showed the population curves for both countries:

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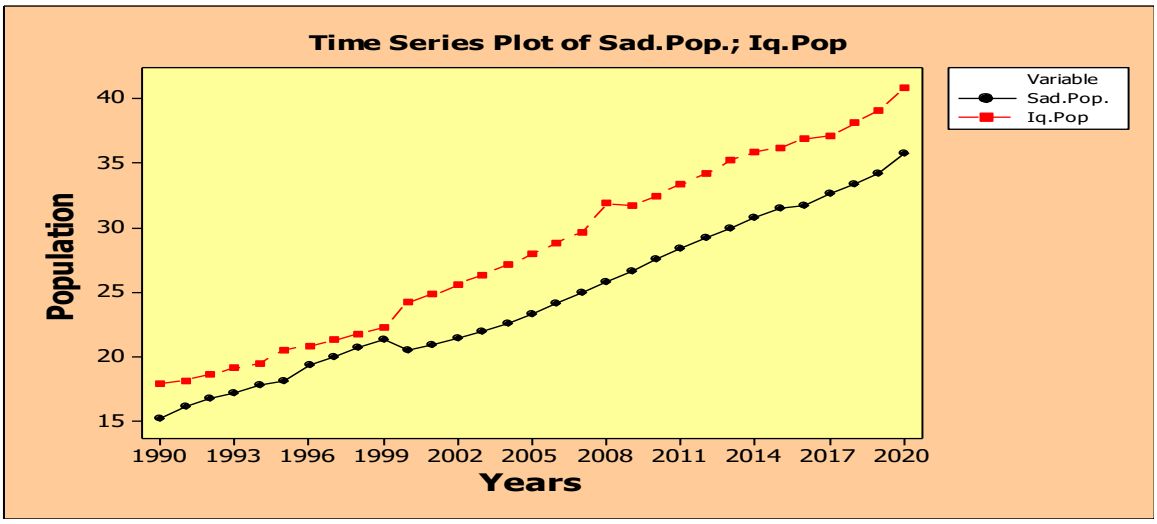
Figure 3 shows the movement of population curves for Saudi Arabia and Iraq for the period 1990-2020



s Source: based on table 2

Table 2 and using the Minitab 17 statistical program.

From the figure, we notice that the curve of the Iraqi population is higher than the curve of the Saudi population, and this is what we indicated previously.

2- Merchandise exports:-

An important economic sector that represents part of the foreign trade of both countries, which shows the economic activity in the two countries. From this, the data obtained was organized in the following table .

Table(3) :-Saudi and Iraqi goods exports for the period 1990-2020 (million dollars)

Countries / Years	Saudi Arab Kingdom Exports	Iraq Exports
1990	61.87	5.41
1991	59.53	5.42
1992	60.41	6.12
1993	54.32	5.52

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1994	**60.73**	**6.65**
1995	**69.87**	**6.76**
1996	**67.65**	**7.87**
1997	**70.65**	**8.65**
1998	**72.27**	**9.90**
1999	**50.62**	**5.10**
2000	**77.26**	**9.67**
2001	**67.79**	**72.27**
2002	**72.27**	**11.03**
2003	**93.94**	**11.48**
2004	**155.99**	**17.81**
2005	**180.57**	**23.69**
2006	**211.22**	**30.48**
2007	**233.17**	**39.62**
2008	**313.46**	**63.14**
2009	**192.29**	**39.25**
2010	**251.14**	**50.96**
2011	**234.31**	**47.76**

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2012	**212.65**	**51.54**
2013	**201.65**	**53.43**
2014	**321.76**	**59.51**
2015	**221.43**	**54.21**
2016	**211.76**	**51.76**
2017	**201.54**	**56.87**
2018	**213.65**	**58.41**
2019	**226.54**	**59.32**
2020	**227.87**	**59.98**

Source: Unified Arab Economic Report, Abu Dhabi, for the years 2000, 2004, 2008, 2011, 2014, 2016, 2019, various pages.

From the table above, Saudi and Iraqi exports to each other were weak and few at the beginning, because they represented the Gulf crisis and the

international war on Iraq, but after the occupation of Iraq, Saudi exports to Iraq increased relatively in greater proportions than Iraqi exports to it, but in

general their values were weak, as we mentioned earlier. These data were adopted to develop a graphical form that represents their reality, as follows

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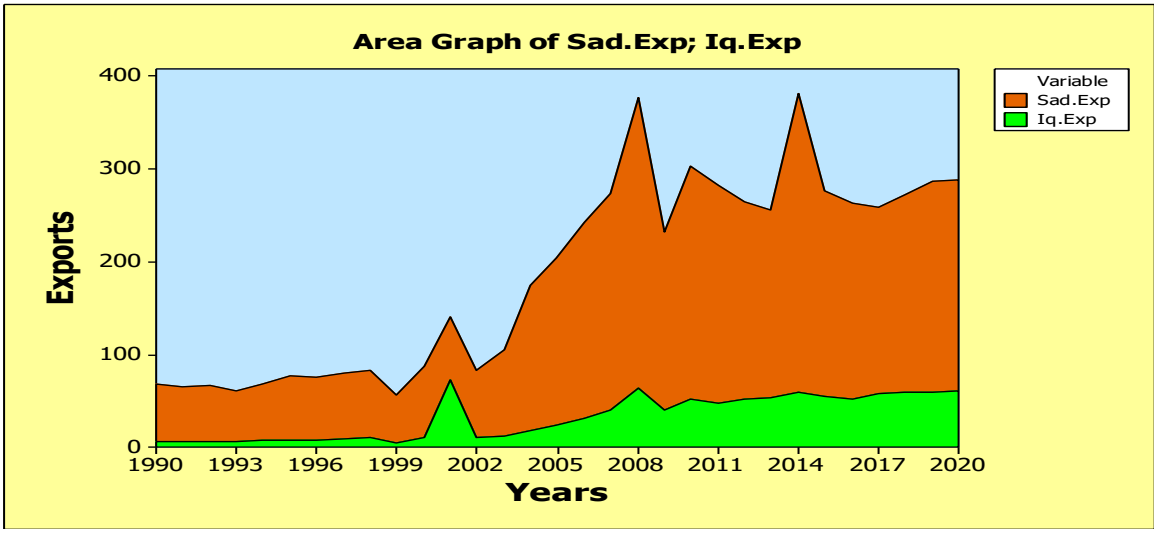
Figure(4): shows the curves of Saudi and Iraqi exports to each other for the period 1990-2020.



Source: **Based on Table 2 and using the Minitab 17 statistical program.**

We notice the difference between Saudi Arabia's exports to Iraq and vice versa from Iraq to Saudi Arabia. We point out in this regard that despite the war and the severance of relations in the nineties, there is trade imposed by economic sanctions and the United Nations law on the export of oil in exchange for food and medicine .

The Models:

Gravity models depend on major variables such as population variables, per capita income, and the annual growth rate of the gross domestic product. There are important secondary variables such as dummy variables, which are the language variable, the distance variable, and the cost of transportation between the two countries, which refers only to land transportation and colonization during the study period, but these variables There is no need for it, as the two countries are Arab and colonialism does not exist during this period. As for the costs of transportation, its data was weak and missing throughout the period except for a few very few years. Therefore, the description of the models is as follows:

Dependent Variable:-

Our symbol for the dependent variable, which represents Saudi exports to Iraq, is S.Xij, and the symbol represents Iraq's exports to Saudi Arabia Iq.Xji i represents Saudi exports and j represents Iraqi exports, estimated in millions of US dollars.

Independent Variables:

1- The variable annual growth rate of the Saudi gross domestic product, symbolized by the symbol S. G D p. G r i, and symbol I q. GDP .G r j, the Iraqi annual growth rate, which is a percentage.

2- The individual income variable is symbolized for Saudi Arabia with the symbol S.Ini and for Iraq with the symbol I q. I n j, estimated in thousands of US dollars.

3- The population variable is symbolized for Saudi Arabia with the symbol S. P o pi and for Iraq with the symbol I q .P o p j, estimated in millions of people.

4- The time variable Time, which has the symbol Years

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Model Formulation :

The linear formula was adopted, which took the following form:

$$X_{ij} = \beta_0 + \beta_1 S.In_i + \beta_2 Iq.In_j + \beta_3 S.Pop_i + B_4 Iq.Pop_j + \beta_5 S.GDP.Gr_i + \beta_6 Iq.GDP.Gr_j + \beta_7 Year_{ij} + U_{ij} \dots\dots\dots (1)$$

$$i = (1, 2, 3, \dots\dots n) \quad , \quad j = (1, 2, 3, \dots\dots m)$$

Theoretical predictions of landmark signals

The assumptions of economic theory establish rules for the signs of landmarks in terms of their agreement with them or their violation of the theoretical assumptions, and that the signs of landmarks that violate the theoretical assumptions must be justified through research. Therefore, researchers expect that the signs of all variables have a positive relationship and that any difference will be justified in the research results.

Discussion and Analysis:-

1- Estimating the gravity model for Saudi exports to Iraq

The gravity model for Saudi exports to Iraq was estimated based on data from Tables 1, 2, and 3, and its results were organized in the following table:

Table 4 shows the results of estimating the Saudi gravity model and its statistical and measurement tests

Model type: linear Dependent Variable: $S.X_{ij}$ Saudi Export to Iraq Independent Variables: $S.In_{ij}, Iq.In_{ji}, S.Pop_{ij}, Iq.Pop_{ji}$, $S.GDP.Gr_{ij}, Iq.GDP.Gr_{ji}, Years_{ij},$ Sample size: 31 Case Number :1 Estimation Method : OLS	
Constant **T**	**216.5** $(1.76)^{5\%}$
$S.In_{ij}$	**0.00005307**

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t	$(2.54)^{1\%}$
VIF	19.9
TOL	0.05
$Iq.In_{ji}$	-0.00016228
t	$(-2.43)^{5\%}$
VIF	113.2
TOL	0.009
$S.Pop_{ij}$	-0.05580
T	$(-0.94)^{25\%}$
VIF	17.3
TOL	0.06
$Iq.Pop_{ji}$	0.24989
t	$(3.67)^{1\%}$
VIF	216.6
TOL	0.005
$S.GDP.Gr_{ij}$	-0.003407
t	$(-0.79)^{25\%}$
VIF	21.2
TOL	0.05
$Iq.GDP.Gr_{ji}$	0.008623
t	$(3.09)^{1\%}$
VIF	27.2
TOL	0.04
$Years_{ij}$	-0.10861

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t VIF TOL	$(-1.74)^{5\%}$ 285.3 0.004
R^2	94%
$\bar{R}^2$	92.2%
R	97%
$F_{(8,31)}$	$(49.64)^{1\%}$
D.W	$(1.73509)^{5\%}$

Heteroscedasticity Problem : Distance test(ADF test): < 20%

Multicollinearity Problem :TOL=1> r <0; TOL=$^{1}/_{VIF}$

Autocorrelation Problem : DL< D.W < 4-DU= DL=0.710 DU=1.906

$$t-table_{0.01} = 2.453 \quad , t-table_{0.05} = 1.696 \quad , t-table_{0.10} = 1.309 \quad , t-table_{0.25} = 0.679$$

$$F-table_{0.01} = 3.07 \quad , F-table_{0.05} = 2.22$$

Source: Based on Tables 1, 2, and 3 and using the Minitab 17 statistical program.

Significant test:-

Based on the t-test, the regression coefficients of the variables (S.Inij, I q .P o p j i, I q .G D P .G r j i) were found to be significant at the 1% level of significance, which shows that the confidence limits for these variables as representing the relationships in the model were 99%, and the regression coefficients were found to be significant. The variables (I q .I n j i, Years) were found to be significant at the 5% level of significance, while the regression coefficients of the variables (S .P o p I j, S .G D P .G r I j) were proven significant at the 25% level of significance. Based on the F test, which measures the significance of the multiple determination coefficient R^2 and the extent of the ability of the selected independent variables to explain the changes, the significance of the model as a whole was proven at the 1% level of significance.

This means that the selected independent variables explain the changes occurring in Saudi exports to Iraq according to the multiple determination factor, which amounted to about 94%, and the remaining 6% is due to other factors that did not enter the estimated model, and that the relationship between these variables

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and the dependent variable that represents Saudi exports to Iraq It was very strong, as it reached, according to the overall correlation coefficient r, about 97%, meaning that all the paired points between the independent variables and the dependent variable are very close to the regression line, which confirms the strength of the economic relationship.

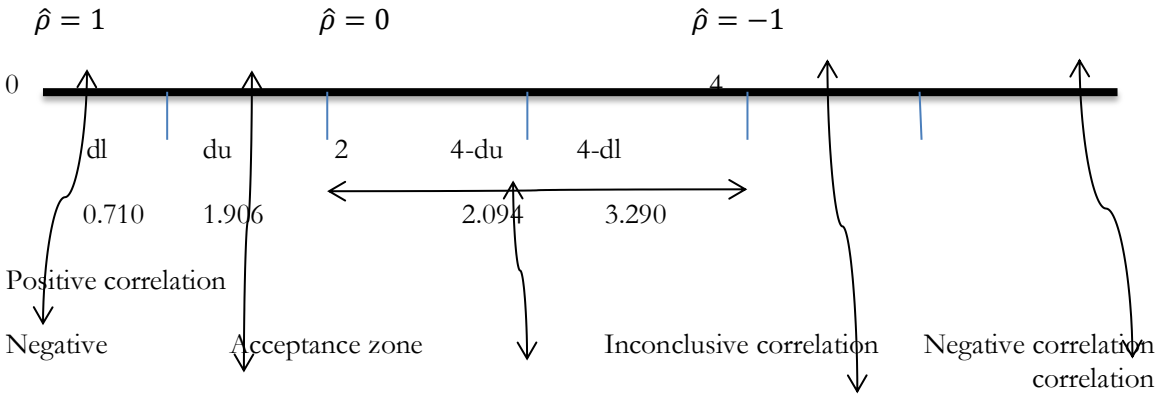
Econometrics test -:

There are three standard tests to detect standard problems, which are as follows:

Testing the problem of multiple linear correlation between independent variables Multicollinearity Problem·

There are several tests that test this problem, except the TOL correction factor test, which is considered the best test to detect linear correlation between independent variables. It is calculated from the variance inflation factor (VIF), which is 1 > r < 0. Whenever the value of the linear correlation is close to zero, this means that there is no A linear correlation between them. Some researchers have indicated that the value of the correlation coefficient between the two independent variables, which may reach about 0.40, is acceptable due to weak correlation. From this it is clear from the estimation results that all TOL correction coefficients for all variables are close to zero and less than zero, which indicates that the estimated model is free of This is a Multicollinearity problem.

The D.W. Durbin-Watson test was adopted as an important test to detect the problem of autocorrelation between the residuals by comparing the test value calculated from the model estimation results with the critical values dl, du from D.W's table, the values of which were written in the table above. To illustrate this test, we can rely on the structural chart of the test:



It is clear from the value of D.W that it falls in the inconclusive decision zone, which is close to the acceptance zone

Dl=0.710<1.73059<1.906

The researchers believe that the estimated model is free of this problem, and we can reinforce what we have achieved with the following graphical form:

Figure(5) :-shows the type of autocorrelation between the random residuals

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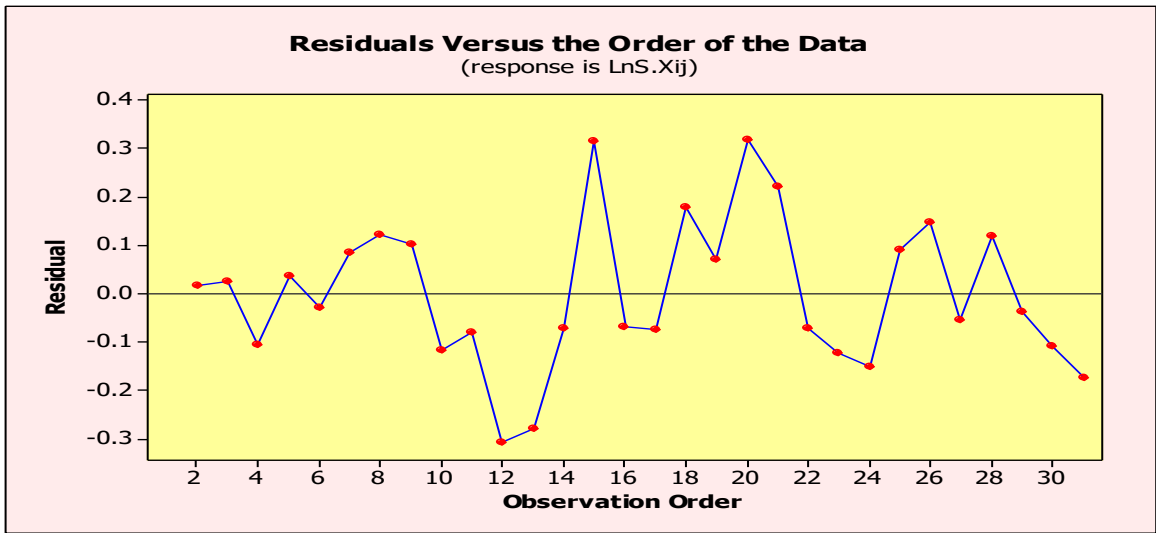

Source: From model estimation results using the Minitab 17 statistical program.

1- It is known from econometric theory that if consecutive positive points are connected and then negative successive points, this means a negative autocorrelation, and if a positive value is connected at one time and a negative value at other times, this means this type of correlation is a positive autocorrelation, and since the graphical form contains both types of correlation, this confirms the intentionality of There is an autocorrelation between the random residuals, as indicated by the theory

Testing the problem of non-stationarity of homogeneity of variance .(Heteroscedasticity Problem)

In this test, which indicates a homogeneous distribution of the random residuals, any anomaly in the values of the real data leads to the emergence of the problem of non-stationarity of the homogeneity of variance. Therefore, the Distance test is used to indicate the values of the anomalous random residuals, and it is based on the ADF test, which determines a percentage of the distance between Values: Whenever the distance is less than 20%, the values of the residuals are homogeneous and are within the two critical limits of the estimated regression line. Therefore, our model, the distance ratio according to the tests, has a homogeneous distribution. These true claims are reinforced by the following graph, which shows that all points of the random residuals are close to the line and within the two critical limits .

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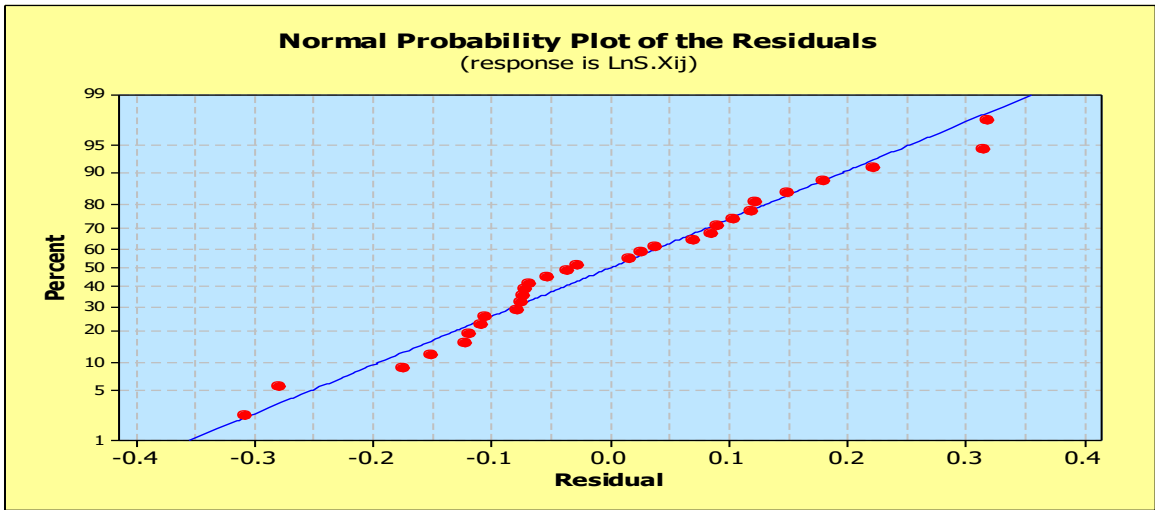
Figure(6):- shows the distribution of the residuals within the two critical limits due to their close proximity to the estimated regression line



·Source: From model estimation results using the Minitab 17 statistical program

1-Estimating the gravity model for Iraqi exports to Saudi Arabia

The gravity model was estimated using the Minitab 17 statistical program, and its results were organized in the following table:

Table 5: Results of estimating the gravity model for Iraqi exports with their statistical and measurement tests

Model type: linear Dependent Variable: $Iq.X_{ji}$ Saudi Export to Iraq Independent Variables: $S.In_{ij}, Iq.In_{ji}, S.Pop_{ij}, Iq.Pop_{ji}$, $S.GDP.Gr_{ij}, Iq.GDP.Gr_{ji}, Years_{ij},$ Sample size: 30 Case Number :1 Estimation Method : OLS	
Constant **T**	**12561** $(\mathbf{3.70})^{1\%}$
$S.In_{ij}$	**0.0005730**

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t	$(\mathbf{1.02})^{25\%}$
VIF	19.5
TOL	0.05
$\mathbf{Iq.In_{ji}}$	0.000712
t	$(\mathbf{0.39})^{non}$
VIF	17.0
TOL	0.06
$\mathbf{S.Pop_{ij}}$	2.349
t	$(\mathbf{1.38})^{10\%}$
VIF	124.7
TOL	0.008
$\mathbf{Iq.Pop_{ji}}$	8.274
t	$(\mathbf{4.51})^{1\%}$
VIF	214.6
TOL	0.005
$\mathbf{S.GDP.Gr_{ij}}$	-0.1087
t	$(\mathbf{-0.91})^{25\%}$
VIF	21.2
TOL	0.05
$\mathbf{Iq.GDP.Gr_{ji}}$	0.18787
t	$(\mathbf{2.50})^{1\%}$
VIF	27.2
TOL	0.04
$\mathbf{Years_{ij}}$	-6.400

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t VIF TOL	$(-3.71)^{1\%}$ 297.6 0.003
R^2	96.7%
$\bar{R}^2$	95.6%
R	98.3%
$F_{(8,31)}$	$(88.84)^{1\%}$
D.W	$(1.63765)^{5\%}$

Heteroscedasticity Problem : Distance test(ADF test): < 20%

Multicollinearity Problem :TOL=0< R^2<1; TOL=$^1/_{VIF}$

Autocorrelation Problem : DL< D.W < 4-DU= dL=0.684 dU=1.925

$t-table_{0.01} = 2.457$, $t-table_{0.05} = 1.697$, $t-table_{0.10} = 1.310$, $t-table_{0.25} = 0.601$

$F-table_{0.01} = 3.17$, $F-table_{0.05} = 2.27$

·Source: Based on Tables 1, 2, and 3 and using the Minitab 17 statistical program

Significant test :-

The model variables varied in significance based on the t-test, as the regression coefficients of the constant and the coefficients of the variables (I q. I n j i, I q. G D P. G r j i and Years) were proven to be significant at a significance level of about 1%, with a confidence limit of about 99%, while the significance of the regression coefficient of the variable S. Po p I j The number of Saudi population at a significance level of 10% and with confidence limits of 90%, and the regression coefficients of the S. I n I j variables, Saudi individual income, and the S .G D P.G r Ij coefficient, the annual growth rate of the Saudi domestic product at the level of significance, were proven significant ·Significance of 25%, with confidence limits of about 75%, and the regression coefficients of the other variables were not proven significant at any significant level relied upon, while the significance of the model as a whole was proven based on the F test at the 1% significance level, which indicates that the chosen independent variables of the model have a direct impact

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on Its relationship with the Iraqi exports variable, and therefore we can know this from the multiple determination factor R^2, as it showed its explanatory power, as its value reached about 97%, meaning that These selected independent variables explain the changes occurring in Iraqi exports to Saudi Arabia by 97%, and the remaining 3% are due to variables that did not disturb the estimated model. Hence, the strong relationship between the independent variables and the dependent variable indicated by the estimation results, as the total correlation coefficient r reached about 98.3%, which indicates the strength of the relationship between them and that all the points in common between them are very close to the regression line.

Econometrics test

There are three stages of basic elements, which are as follows:

1- Testing the problem of multiple linear correlation between independent variables Multicollinearity Problem.

It is known that the existence of the problem of linear correlation between independent variables leads to obtaining misleading and false estimation results that cannot be relied upon in interpreting the estimated model because they contradict the truth, and that detecting the problem in the estimated model can reveal the flaws in those variables and find out which variables cause this problem. There are several tests in this field, but the researchers relied on the correction factor test TOL=1>r<0, meaning that whenever the partial correlation coefficient between two independent variables is close to zero or zero and less than that, it expresses the absence of a linear relationship between The variables can be explained clearly as in the following table:-

Table 6 shows the correction factor values obtained from the model estimation results.

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TOL Value / Variables	TOL Value
$\mathbf{S.In_{ij}}$	0.05
$\mathbf{Iq.In_{ji}}$	0.06
$\mathbf{S.Pop_{ij}}$	0.008
$\mathbf{Iq.Pop_{ji}}$	0.005
$\mathbf{S.GDP.Gr_{ij}}$	0.05
$\mathbf{Iq.GDP.Gr_{ji}}$	0.04
$\mathbf{Years_{ij}}$	0.003

Source: Based on data from Table 5

We notice that the TOL values of the variables are very close to zero, and therefore the researchers confirm that the estimated model is free of the problem of Multicollinearity between the independent variables

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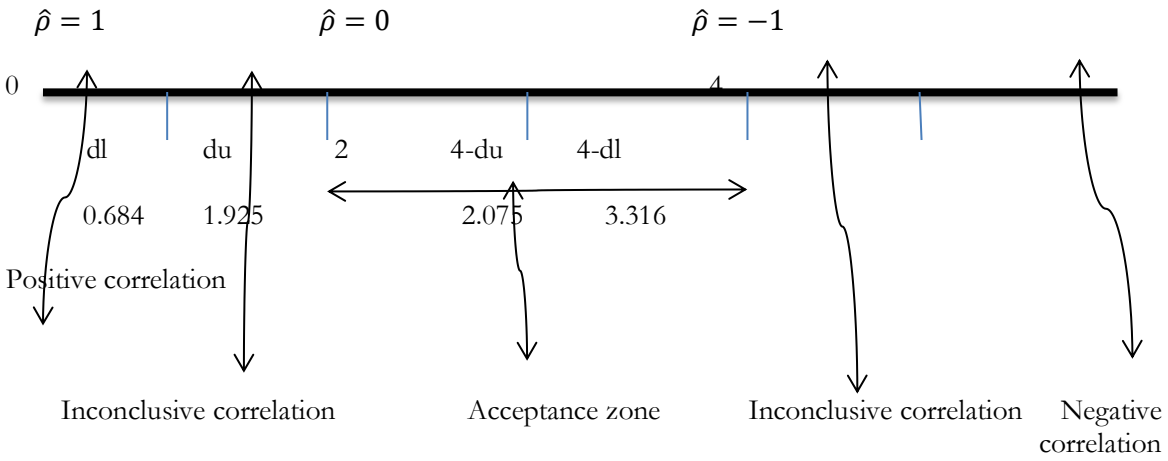
2- Testing the problem of autocorrelation between random residuals Autocorrelation test -:

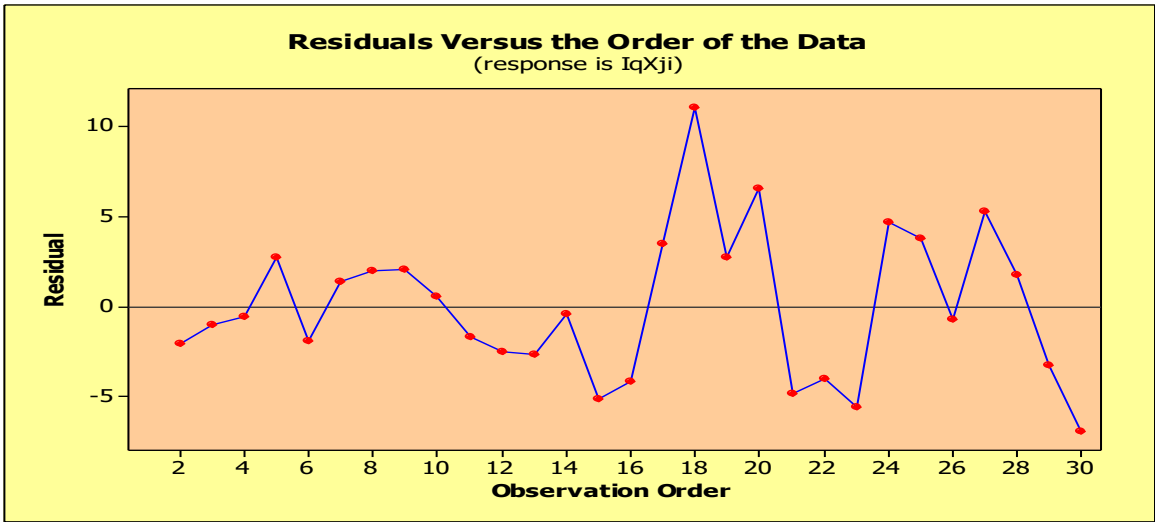
The structure chart for the Durbin-Watson D.W test is as follows:



It is clear from the value of D.W that it falls in the inconclusive decision zone, which is close to the acceptance zoneDl=0.684<1.63059<1.925

It was found that the D.W value calculated from the estimation results was 5% significant in the critical decision region close to the acceptance region. It was shown from the estimation results that the model passed some standard tests and statistical tests. The researchers confirm that the estimated model is free of this problem and does not need to address this problem as it does not There are both connections in it, and the following graph reinforces what we have reached

Figure 6 shows the type of autocorrelation between random residuals



Source: From the model estimation results and using the statistical program Minitab 17

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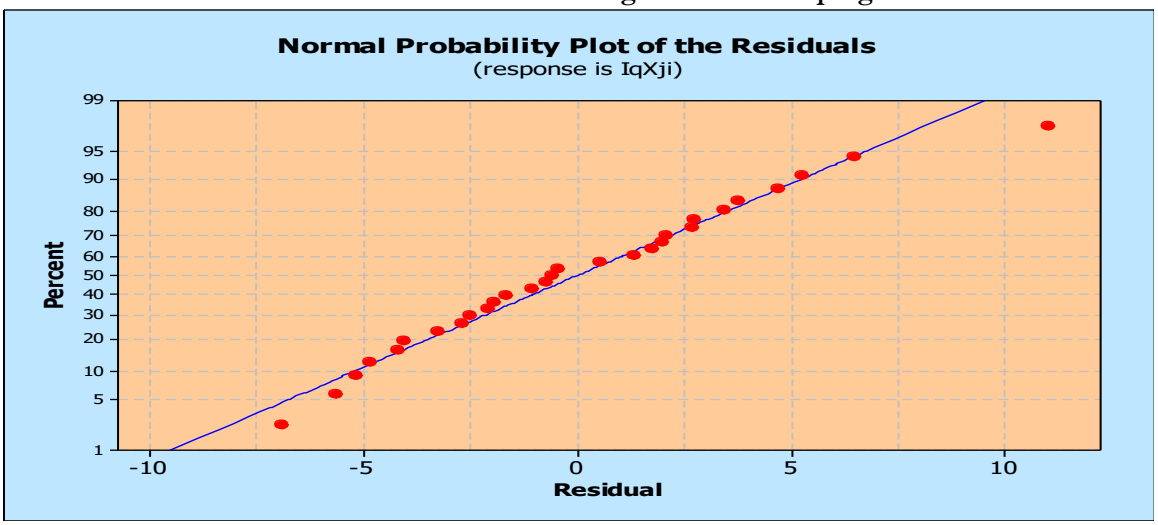
3- From the graphical figure, we notice that it includes both types of correlation, and this is unacceptable and means that there is no problem of autocorrelation.Heteroscedasticity Problem.

It was found from the Distance test and the ADF test with the distribution of random residuals that the researchers found that the distance between the abnormal values was within the acceptable distance, which is less than 20%. This conclusion is reinforced by the graphic form that shows that all values of the random variable were within the two critical limits and close to the regression line, which confirms the The estimated model is free from the problem of non-stationarity of homogeneity of variance among the random residuals

Figure 7 shows the values of the random residuals very close to the estimated regression line and within the two critical limits

. Source: From the model estimation results and using the statistical program Minitab 17



The Conclusions:-

1 -The results of estimating the gravity model for Saudi exports to Iraq show various relationships between the model's independent variables and the dependent variable, some of them being consistent with the economic theoretical assumptions, and some of them contradicting these assumptions. Their impact strength on the dependent variable varied, and from Table 4 it was shown that the S.Inij variable is the Saudi individual income variable despite Its significance is at the 1% level of significance, but its impact on Saudi exports is weak and has a positive sign consistent with the assumptions of economic theory, while the Iraqi individual vinegar Iq.Inji had a stronger effect, but it is less significant and consistent with the assumptions of economic theory, meaning that individual income is due to its calculation from the output. The gross domestic product and imports are A depletion of the gross domestic product and thus will lead to a decrease in the real income of the Iraqi individual, while the Saudi population variable S.Pop.ij indicated its negative and weak significance due to the errors occurring in collecting the data, which is contrary to the assumptions of economic theory, which is supposed to have a positive relationship, while it was a variable parameter. The number of Iraqi population Iq.Popji has a stronger impact on Iraqi exports, as population growth led to the occurrence of new demands that are filled by Saudi exports, and thus the sign of the variable parameter showed a positive agreement with Assumptions for a commercial reason, but with high morale and also a high impact, which indicates the pattern of the Iraqi economic community, while a somewhat diversified growth rate appeared for the Saudi domestic market S.GDP.Grij. Contact with it stopped and did not. Let us understand from this that the addition of investors from Saudi exports to Iraq is weak. Which does not affect the increase in national income and thus the increase in social welfare. Hence, we notice the deterioration of this variable, while the change in the internal growth rate of the Iraqi gross domestic product (Iq.GDP.Grji) appeared. Successful communications With the theoretical

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assumptions, it has a positive relationship, which shows the effect of population on increasing Saudi exports to Iraq due to the increase in demand as a result of the increase in population. Despite the weakness of the parameter, it has a strong effect. While the relationship of the time variable "Years" showed its negative relationship with Saudi exports to Iraq, and this from the economic point of view is contrary to the hypotheses. The theory, however, is that its relationship is correct because the period studied included two wars: the Gulf War, the American occupation of Iraq, and the UN sanctions imposed on Iraq, which linked Iraqi imports to the approval of the United Nations. Therefore, the picture is clear of a violation of the relationship despite the influence of the time parameter.

2 **-As for the results of the gravity model for Iraqi exports to Saudi** Arabia, the estimation results show that the Saudi individual income variable S.Inij, the Iraqi individual income variable Iq.Inji, the Saudi population variable S.Popij, the Iraqi population variable Iq.Pop.ji, and the annual growth rate variable The Iraqi GDP, Iq.GDP.Grji, has a positive relationship with Iraqi exports to Saudi Arabia, which indicates its consistency with the assumptions of economic theory, and with a strong effect, as its features were significant .Varied, but the effect of the value of the parameters is large compared to the gravity model for Saudi exports to Iraq, while both the annual growth rate variable of the gross domestic product (S.GDP.Grij) and the time variable Years showed their negativity in the relationship with Iraqi exports, violating the assumptions of economic theory, and we can resort to the same justification in The Saudi gravity model and the reasons mentioned previously.

References

Afrianty, D. (2023). Disability Rights and Inclusive Education in Islamic Tertiary Education. In Islam, Education and Radicalism in Indonesia (pp. 306–320). Routledge. https://doi.org/10.4324/9781003269229-17

Al Kautsar, I., & Muhammad, D. W. (2022). Sistem Hukum Modern Lawrance M. Friedman: Budaya Hukum dan Perubahan Sosial Masyarakat dari Industrial ke Digital. SAPIENTIA ET VIRTUS, 7(2), 84–99. https://doi.org/10.37477/sev.v7i2.358

Alhusban, A. A., & Almshaqbeh, S. N. (2023). Delivering an inclusive built environment for physically disabled people in public universities (Jordan as a case study). Journal of Engineering, Design and Technology. https://doi.org/10.1108/JEDT-06-2022-0281

Ambarwati, R., & Sari, D. K. (2024). Experiential marketing and Islamic branding: a new perspective on college decision in Islamic higher education. Journal of Islamic Marketing. https://doi.org/10.1108/JIMA-08-2022-0207

Ananda, A. F., Muchlisin, A., & Albab, M. U. (2023). Implementasi Perlindungan Konstitusi dalam Hak Pendidikan bagi Kaum Disabilitas pada Sarana Pedidikan Perguruan Tinggi Negeri Islam. AL-MANHAJ: Jurnal Hukum Dan Pranata Sosial Islam. https://doi.org/10.37680/almanhaj.v5i1.2680

Ari Atu Dewi, A. A. I. (2018). Aspek Yuridis Perlindungan Hukum dan Pemenuhan Hak Penyandang Disabilitas. Pandecta: Research Law Journal. https://doi.org/10.15294/pandecta.v13i1.13933

Ariens, M. (2003). Lawschool Branding and the Future of Legal Education. Saint Mary's Law Journal, 34(2). https://heinonline.org/HOL/LandingPage?handle=hein.journals/stmlj34&div=13&id=&page=

Ayoung, D. A., Baada, F. N. A., & Baayel, P. (2021). Access to library services and facilities by persons with disability: Insights from academic libraries in Ghana. In Journal of Librarianship and Information Science. https://doi.org/10.1177/0961000620917723

Bisschops, E. H., Clasien de Schipper, J., Salhi, Z., Embregts, P. J. C. M., & Schuengel, C. (2023). Communities of practice for implementing methods to reduce involuntary care in intellectual disability care: Insights from tacit and experiential knowledge exchange. Journal of Intellectual and Developmental Disability. https://doi.org/10.3109/13668250.2023.2275225

Boitumelo, M., Kuyini, A. B., & Major, T. E. (2020). Experiences of general secondary education teachers in inclusive classrooms: Implications for sustaining inclusive education in Botswana. International Journal of Whole Schooling. https://eric.ed.gov/?id=EJ1246619

Bumble, J. L., Carter, E. W., Bethune, L. K., Day, T., & McMillan, E. D. (2019). Community Conversations on Inclusive Higher Education for Students With Intellectual Disability. Career Development and Transition for Exceptional Individuals. https://doi.org/10.1177/2165143418781303

Cahyoadi, B., Zamzami, M. Y., & Kurniawan, F. (2018). Meningkatkan Citra Kampus Melalui Kualitas Layanan , Fasilitas Pendukung Pembelajaran , Kompetensi Dosen dan Kepuasan Mahasiswa Sebagai Variabel Intervening (Studi Empiris pada Mahasiswa STKIP PGRI Tulungagung). Jurnal Pendidikan Ekonomi, 3(1). https://doi.org/https://doi.org/10.29100/jupeko.v3i1.590

Campos, P. (2021). Inclusive campuses: Contributions from urban planning, architectural composition, and functional profile. Urbani Izziv. https://doi.org/10.5379/urbani-izziv-en-2021-32-02-05

Chanifah, N., Hanafi, Y., Mahfud, C., & Samsudin, A. (2021). Designing a spirituality-based Islamic education framework for young muslim generations: a case study from two Indonesian universities. Higher Education Pedagogies, 6(1), 195–211. https://doi.org/10.1080/23752696.2021.1960879

Clark, P., Chapleo, C., & Suomi, K. (2020). Branding higher education: an exploration of the role of internal branding on middle management in a university rebrand. Tertiary Education and Management. https://doi.org/10.1007/s11233-019-09054-9
Creswell, J. ., Jhon, W., & Poth, C. . (2018). Qualitative Inquiry &Research Design: Choosing Among Five Approoaches. Sage Publication.
Creswell, J. W., & Creswell, D. J. (2018). Research design: Qualitative, quantitative, and mixed methods approaches. United Kingdom, UK. SAGE Publications, Inc.
Freier, A., & Katz, A. (2022). Inclusion, Diversity, Equity, and Accessibility (IDEA) in multi-regional data research: An approach to facilitating change in a distributed research environment. International Journal of Population Data Science. https://doi.org/10.23889/ijpds.v7i3.1934
Gupta, M., Abdolrahmani, A., Edwards, E., Cortez, M., Tumang, A., Majali, Y., Lazaga, M., Tarra, S., Patil, P., Kuber, R., & Branham, S. M. (2020). Towards More Universal Wayfinding Technologies: Navigation Preferences Across Disabilities. Conference on Human Factors in Computing Systems - Proceedings. https://doi.org/10.1145/3313831.3376581
Havercamp, S. M., Barnhart, W. R., Robinson, A. C., & Whalen Smith, C. N. (2021). What should we teach about disability? National consensus on disability competencies for health care education. Disability and Health Journal, 14(2), 100989. https://doi.org/10.1016/j.dhjo.2020.100989
Herbert, J. T., Coduti, W. A., & Fleming, A. (2020). University policies, resources and staff practices: Impact on college students with disabilities. Journal of Rehabilitation, 84(6), 31–41. https://scholarsphere.psu.edu/resources/1ed745b7-1960-464b-8268-32ee255f2f89
Hikmah, T. L., Yusuf, M., & Sianturi, R. S. (2021). Kriteria Pengembagan Kampus Ramah Disabilitas di Universitas Airlangga. Jurnal Teknik ITS. https://doi.org/10.12962/j23373539.v9i2.55409
Imran, Y. (2018). Penyandang Disabilitas di Perguruan Tinggi. In Prosiding Konferensi Nasional Ke-8 APPPTM.
Jovita, P. (2018). Implementasi Convention on the Rights of Persons with Disabilities (CRPD) dalam Aspek Aksesibilitas Fasilitas Publik di Kota Tasikmalaya Tahun 2012-2016. Universitas Katolik Parahyangan.
Kerby, M. (2013). Selling the dream: Marketing an education. International Journal of Pedagogies and Learning. https://doi.org/10.5172/ijpl.2013.8.1.10
Lopez-Gavira, R., Moriña, A., & Morgado, B. (2021). Challenges to inclusive education at the university: the perspective of students and disability support service staff. Innovation: The European Journal of Social Science Research, 34(3), 292–304. https://doi.org/10.1080/13511610.2019.1578198
Madanih, R. (2023). A Model for Inclusive Education in Indonesia: The Lazuardi Global Islamic School. Jurnal Ilmu Sosial Indonesia (JISI). https://doi.org/10.15408/jisi.v4i1.33367
Mishchenko, E. D. (2013). Towards inclusive campus environments: Evidence-based research of a university campus. Open House International. https://doi.org/10.1108/ohi-01-2013-b0004
Mole, H. (2013a). A US model for inclusion of disabled students in higher education settings: The social model of disability and Universal Design. Widening Participation and Lifelong Learning, 14(3), 62–86. https://doi.org/10.5456/WPLL.14.3.62
Mole, H. (2013b). A US model for inclusion of disabled students in higher education settings: The social model of disability and Universal Design. Widening Participation and Lifelong Learning, 14(3), 62–86. https://doi.org/10.5456/WPLL.14.3.62
Morgado, B., Cortés-Vega, M. D., López-Gavira, R., Álvarez, E., & Moriña, A. (2016). INCLUSIVE EDUCATION IN HIGHER EDUCATION? Journal of Research in Special Educational Needs. https://doi.org/10.1111/1471-3802.12323
Moriña, A., & Carballo, R. (2020). University and inclusive education: Recommendations from the voice of spanish students with disabilities. Educacao e Sociedade. https://doi.org/10.1590/es.214662
Olumolade, M. (2024). Making College Campus Wheelchair Accessible: Students Perspective. 2021 ASEE North Central Section Conference Proceedings. https://doi.org/10.18260/1-2--36348
Papay, C., & Griffin, M. (2013). Developing inclusive college opportunities for students with intellectual and developmental disabilities. Research and Practice for Persons with Severe Disabilities. https://doi.org/10.2511/027494813807714546
Parsons, J., McColl, M. A., Martin, A., & Rynard, D. (2021). Accommodations and academic performance: first-year university students with disabilities. Canadian Journal of Higher Education. https://doi.org/10.47678/cjhe.vi0.188985
Puspitosari, W. A., Faudyan, & Arni Surwati, I. (2022). Tantangan Mewujudkan Kampus Inklusi di Pendidikan Tinggi dalam Telaah Literatur. Jurnal Moral Kemasyarakatan, 7(1), 55–67. http://ejournal.unikama.ac.id/index.php/JMK/article/view/6434
Ridlwan, Z. (2013). Protection of Contitutiion Rights Of Persons With Disabilities. Fiat Justisia.
Ridlwan, Z. (2015a). Perlindungan Hak-Hak Konstitusional Penyandang Disabilitas. FIAT JUSTISIA:Jurnal Ilmu Hukum. https://doi.org/https://doi.org/10.25041/fiatjustisia.v7no2.382
Ridlwan, Z. (2015b). PERLINDUNGAN HAK-HAK KONSTITUSIONAL PENYANDANG DISABILITAS (RIGHTS OF PERSONS WITH DISABILITIES). FIAT JUSTISIA:Jurnal Ilmu Hukum. https://doi.org/10.25041/fiatjustisia.v7no2.382
Setiawan, N. H. D., & Syarahbil, H. M. (2023). Establishing an Inclusive Legal Framework for People with Disabilities in Islamic Higher Education Institutions in Indonesia. KnE Social Sciences. https://doi.org/10.18502/kss.v8i9.13364
Soleh, A. (1970). Kebijakan Perguruan Tinggi Negeri Yogyakarta Terhadap Penyandang Disabilitas. Jurnal Pendidikan Islam. https://doi.org/10.14421/jpi.2014.31.1-30

Volume: 3, No: 4, pp. 2082 – 2108
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i4.3742
Sopyan, Y. (2020). Legal Protection and the Problem of Accessibility for Diffable: A Comparative Study between Islamic Law and Indonesian Law. Mazahib, 18(2). https://doi.org/10.21093/mj.v18i2.1994

Staeger-Wilson, K., Barnett, C., Mahoney, S., & Sampson, D. H. (2012). Planning for an Inclusive Campus Recreation Facility and Program. Recreational Sports Journal. https://doi.org/10.1123/rsj.36.1.37

Tea, Y. V., Pio, M. O., Tini, F. A., & Tia, E. (2023). IMPLEMENTASI PEMENUHAN HAK-HAK ANAK BERKEBUTUHAN KHUSUS DI SEKOLAH INKLUSI. Jurnal Pendidikan Inklusi Citra Bakti. https://doi.org/10.38048/jpicb.v1i1.2121

Thornton, M., & Shannon, L. (2013). 'Selling the Dream': Law School Branding and the Illusion of Choice. Legal Education Review. https://doi.org/10.53300/001c.6277

Umenne, S., Stoffberg, M., & Kandjinga, L. (2021). Inclusive Urban Campus Development: A Case for Okahandja, Namibia. Journal of Building Construction and Planning Research. https://www.scirp.org/journal/doi.aspx?doi=10.4236/jbcpr.2021.94015

V., B. (2021). Regulatory basis for the formation of inclusive culture in student youth. HUMANITARIAN STUDIOS: PEDAGOGICS, PSYCHOLOGY, PHILOSOPHY. https://doi.org/10.31548/hspedagog2021.04.015

Williams, R. L., & Omar, M. (2014). How branding process activities impact brand equity within Higher Education Institutions. In Journal of Marketing for Higher Education. https://doi.org/10.1080/08841241.2014.920567

Yin, R. (2009). Case study research: design and methods, Applied Social Research Methods Series. SAGE Publications.

Yusof, Y., Chan, C. C., Hillaluddin, A. H., Ahmad Ramli, F. Z., & Mat Saad, Z. (2020). Improving inclusion of students with disabilities in Malaysian higher education. Disability & Society, 35(7), 1145–1170. https://doi.org/10.1080/09687599.2019.1667304.