گۆڤاری کوردستانیی بۆ لێکۆڵینەوەی ستراتیجیی

The Effect of Export on Economic Growth in Iraq for the period of (2004-2019)

Lect. Ranj Tahir Abdullah

College of Commerce -University of Sulaimani. Iraq,

ranj.abdullah@univsul.edu.iq.

Asst. Prof. Dr. Ali Jalal Husain

College of Administration and Economics-University of Sulaimani, College of Administration-Cihan University of Sulaimani. Iraq

ali.hussian@univsul.edu.iq

Abstract

There are many factors which can affect the process of economic growth. The objective of this article is to reveal the impact of export sector on economic growth in Iraq. To do that, data has been gathered for variables such as (oil-mining share to export sector, oil prices). ARDL model is applied to show the impaction of export, oil price and financial crisis on economic growth for the period of (2004-2019). Findings show that the coefficient of export is positively significant in short and long-run. It affects economic growth by 0.24% and 1.57% respectively. However, FC has a negative impact in the short-run by 0.06%. Iraqi's government should reconsider about the structure of export sector and diversify that sector due to the sensitivity of this sector to the changes in the price of oil. Future study is needed with different time interval, different models, and economic situation.

Keyword: Economic Growth, Export, ARDL

Introduction:

The aim of nations is to have a sustainable economic growth with all resources that is available in order to promote income per capita or gross domestic production as aggregate to achieve economic welfare(Mankiw 2018). There are many factors contribute in that process such as technological improvement (Younus 2021), diversification of economic sectors (Canh and Thanh 2022), skilled workers (Oliinyk et al. 2021; Zhang and Wang 2021), inequality(Abdullah 2021; Evans, Sargent, and Evans 2018; Menyelim et al. 2021; Michálek and Výbošťok 2019; Panzera and Postiglione 2022)including economic growth and the distribution of its effects. This article aims to classify European Union (EU, illiterate (Omodero and Nwangwa 2020), and right population growth (Karra, Canning, and Wilde 2017) which convoy with economic growth, regardless of the role of fiscal and monetary policy that boost the process. In this article, the effect of exports on economic growth will be focused on. This topic is one of the most debated topics in economic growth, especially for developing countries.

There are two basic areas in this article, first one; is the economic growth. One of the measurements of economic growth commonly is annual rate of increment for country's gross domestic product (GDP) (Aghion and Howitt 2009; Keita 2018). The second one; is export sector. To connect these two variables the component of gross domestic product (GDP) for open economy has to be revised. One of the primary components of GDP is trade balance, which is the difference between export and import for a country. Thus, the more export surplus the greater GDP the country will have. Greater GDP compared to previous year means greater growth rate. But price adjustment should be considered in order to measure real GDP growth (Kanas and Zervopoulos 2021).

Based on World Trade Organization in 2020 developing economies had ($8,779) billions of export and the share of least-developed countries from that were $193 billion in 2019. Iraq had $92,831 billion as export value, 71.6% of that export were fuel and mining products in 2019. For the same year Iraq had $234.1 billion as GDP. If the ratio of export to GDP is taken that would be 82.44% of GDP. This is relatively high rate of share of export sector to GDP. However; as it can be seen that Iraq experiences a lot of economic issues such as, poverty (22.5%) in 2019, external debt (65.7%) of GDP, Fiscal balance (-16.8%) GDP ratio, and inflation expected to reach 09% in 2020 (www.worldbank.org, 2020).

Many researches have been done in this area (Ambreen FATEMAH and QAYYUMa 2018; Bakari and Mabrouki 2017; González-Pernía and Peña-Legazkue 2015; Saad 2009), all reveals that export participate in economic growth in positive way. Based on the research which has been done by AKTUǦ, Mehmet, and STAR (2019) has come to the result that Iraq highly depends on one sector in its export, which is oil sector, and needs to be diversified.

Then, it can be concluded from the above data and researches, Iraq's export sector is a great participant of its GDP. This can have a great role and enhancement in economic growth process. However; till now Iraqi economics is in downturn. That may be due to the dependence on one sector in great part in its export sector which is fuel commodity market. This is very sensitive market to the global changes. Previously, world market for fuel price experienced a downturn shock due to corona virus. That led to fall in energy price and the value of export has decreased rapidly. Iraq has experienced a very difficult situation in its economy because the government revenue has fallen significantly just in oil export revenue $6.1 billion has fallen to $1.4 billion from January to April in 2020 (www.oxfordenergy.org, 2020).

For Iraq, because its fuel export portion for its total export is relatively high to other sectors (agricultural, industrial, Tourism, and service), it can be said that the change in the price for this commodity will affect the export value by a great manner. Thus, it is vital to study and do research on that sector to determine the effectiveness of export on its GDP and from there to its economic growth.

The main purpose of this article, therefore, is to give more comprehensive empirical analysis for the influence of export sector on economic growth by its effect on GDP growth. In the export sectors, oil and mining export is focused on, because Iraq is highly relies on oil-mining export.

The outline of this article structured as; the existing literature about the impact of export on economic growth. Methodology part; this explains the empirical framework which will be done. At the end there will be a discussion, conclusion and recommendation based on the findings.

Literature Review:

The topic of the effect of export sector on economic growth has taken many aspects in literature. The purpose of this part is to introduce most recent studies which carried out in order to reveal this impact in different countries. In the aim of giving a right recommendation to the policymakers to preserves the main goal which is the economic growth.

Jetter (2017) in his empirical study on the impact of export on economic growth, proposed that '' if the world market for a certain good is highly concentrated with few exporting countries, then exporting such a good would allow a country to enjoy higher growth rate, everything else equal". This statement is related to monopolies and oligopolies markets. The argument comes from that, although there are many researches about export diversification and the curse of natural resources, however, there are countries that rely on natural resources in their export and still enjoy considerable economic growth rate. In this study, 157 countries for the period of (2000 to 2010) in the main model have been conducted as a sample.

The average export concentration (AEC) index as a measurement of export level and GDP per capita as economic growth rate indicator have been used. This is the main model. For the sub model; some other aspects has been considered, such as; inflation, GDP per capita, population growth, investment government size, openness, life expectancy, and polity index.

For the main model, findings support that a country with higher AEC experiences better economic performance relative to other countries. To be more precise, one standard deviation toward the market of a concentrated good, to be exported, will lead to increase 0.885 percent in its economic growth. For the sub model all variables have affected economic growth by different degree, instead of life expectancy and population growth indicator because of their level of significant.

Although in the sub model many other factors which may explain the impact of export on economic growth has been considered. However, a crucial factor is not determined. That is the price of concentrated good in the global market. A country may have a high ACE index for a good (for example oil) and experiences a high rate of economic growth. But this is only if the price level of that good is in a proper level to serve the economic growth. The reverse will happen to the economic growth when the price is fall to a level which is not in the favour of economic growth. AEC index may be is a good measure to indicate the sensitivity of economic growth

to the change in the concentrated goods' price in the global market especially for those countries which their GDP relies in high proportion on export of natural resources.

Bakari and Mabrouki (2017) in their empirical study on (impact of exports and imports on economic growth: New Evidence from Panama), data range from 1980 to 2015 for GDP, export, and import of goods and services in their current US$ value has been used to estimate the effect of them on GDP. The model has been estimated by using Vector Auto-Regression (Unrestricted VAR). After test for stationarity, causality, and co-integration, results reveal that there is no co-integration between variables, no causality exists, and from VAR model result export and import have no effect on economic growth in Panama.

According to Kaliappan, Ahmad, and Ismail (2017) in their empirical study on (service export and economic growth in the selected developing Asian countries) for the period of 1985 to 2012 observed data about import and export sectors to estimate the role of export on economic growth. Panel data with dynamic OLS has been run to estimate the parameters. Findings show that there is a positive relationship between export and economic growth and all economic variables which are used in the model have a long relationship. They recommended that Asian developing countries should have an appropriate policy measures in the aim of service export sector enhancement for economic growth stimulation.

Furthermore, Sajo and Li (2017) in their study on (Financial development, Export and Economic Growth in Nigeria) for the period of 1994-2013, data has been gathered for GDP, financial structure, export, transportation, energy and Cons to estimate their effect on economic growth. OLS model has been run to estimate parameters. Results show there is a positive relationship between export and economic growth. They recommended the government of Nigeria has to diversify export sector and reduce the dependence on oil sector.

Based on (Zheng 2018) study on (Analysis on Factor Decomposition Effect of Export on Economic Growth in China) for the period of 1995 to 2009 new method to calculate Export Contribution to GDP and Value-added export ratio has been used. The results show that export volume and its contribution to GDP have overestimated significantly. The recommendation is that Chinese government has to support financial services to enhance export sector and shifts from quantity expansion to quality expansion.

At the last not the least, Kibria and Hossain (2020), in the time series analysis for testing the effect of export on economic growth, their findings reveals that, for the period of 1980 to 2018, Bangladesh changed the philosophy of its economic to expand the export market to focus on traditional and manufacturing product. And Granger Causality test reveals that there is a unidirectional causal effect from export and terms of trade to economic growth. However, from economic growth to export and terms of trade there is no causal effect. Nevertheless, bidirectional causal relationship exists between export and terms of trade.

To sum up, based on the literature review, it can be said there are many approaches have been used to show the impact of export sector on economic growth. All approaches depend on quantitative and statistical methods to analyse the impact of export on economic growth. Time series and panel data for two or more variables have been used in quantitative method. Almost all of them declare that export will affect economic growth positively and claim that export diversification is important to enhance export sector. Others introduce new methods to calculate the value of export in the proper way to decrease the error in measurement.

However, the limitation of these studies is that they tied up with; using only one model in their study to estimate parameters, the ignorance of economic fluctuation can be seen in most of them. There is no mention

about the cons of export in the studies. This makes a country more dependence on global market and vulnerable to international market changes. Thus may due to the idea of having more pros than cons.

Further research is needed in this area, especially for Iraq, by using more than a model and different time elapse. Regardless of including dummy and control variables, which make the effectiveness be more precise.

Methodology and Data Collection:-

There are many studies which are conducted with this subject, for instance (Sajo and Li 2017; Ambreen FATEMAH and QAYYUMa 2018; ErkiŞi and BoǦa 2019; Canh and Thanh 2022) and many others. In this article four variables have been conducted in the econometrics model which are; gross domestic production, the ratio of Iraqi oil export to aggregate export sector (OER), oil price and financial crisis for the period of (2004 to 2019).

For the first variable (GDP) has been chosen to indicate the economic growth in the Iraqi economy. This is due to inclusion of all activities in the country in the total value. However, this indicator has a limitation that do not represent each sectors in their growth but take all of them together which cannot tells so much about the growth in other sectors individually. Also the non-market transactions have been excluded. Furthermore, it cannot represent the degree of income inequality (Khanacademy.org, 2020) Data has been obtained from the World Bank data stream (data.worldbank.org, 2020).

Regarding to the second variable OER, is the ratio of what country export from oil and mining products and what has been exported as aggregate of products in dollars value. Regarding to Iraq, OER is the ratio between the values of oil and mining export during a year to a value of all exported goods for the same year. This ratio tells the rate of market share of Iraq in exporting oil and mining to its export sector. Oil and mining products are chosen instead of all products because although there are many studies claims that countries should diversify its export sector (Azretbergenova 2020; Fosu and Abass 2019; Mania and Rieber 2019; Munir and Javed 2018), however, many countries continue to rely on one or two products to be a primary resource for its export sector. Iraq is one of those countries which is relies in great portion on oil and mining export (energy goods).

The third variable is oil price as a controlling variable. It has been chosen because the export sector of Iraq highly depends on oil product which is sensitive to the world market.

The fourth variable in this article is the financial crisis. This is included in the model because Iraq has gone through a financial crisis due to a sharp decrease in energy especially in oil and mining price from 2014.

To determine the effect of export, oil price, and financial crisis on economic growth many econometric models can be used. In this research Auto-regressive Distributed Lag (ARDL) model will be used to test the hypothesis. The hypothesis of this article is that OER positively impacts the rate of growth in Iraq. There will be also a comparison between these two models and the good one will be chosen to determine the effect of export on GDP growth in Iraq. Also, there will be forecasting for what will happen for next five years in economic growth. E-View V.9 will be used to modelling this estimating.

Data collection has been done by gathering them from official sites which their data is reliable, for instance, data about Iraq's GDP and export of oil has been collected from World Trade Organization and World Bank data stream. The oil Price has been obtained from (Macrotrends.net) site. Both are trusted and reliable sites

and organization.

Before engaging into the models statistical tests will be done for variables after transforming them to log type. Tests are; stationarity (this is crucial condition in time series which it is the case in this article), co-integration to reveal the long relationship between variables (Johanson test) at least should have one co-integration between variables to enable the procedure of models, correlation (to determine the relationship between variables), and Granger causality which tells which variable has granger cause to another variable.

Main Econometrics Model will be:

t = 1, 2, 3 …T

LDGDPt = Lagged, Differenced of Gross Domestic Production as Growth indicator.

(Dependent Variable).

DOERt = Lagged, Differenced of Oil Export Ratio (Independent Variable).

DPOILt = Lagged, Differenced of Oil Price. (Independent Variable).

FCt = Financial Crisis. (Dummy variable).

βi = Coefficient factor (The Effectiveness of Variables).

t = observed data for a specific time.

There are some testes which should be carried out to the model like multicollinearity, heteroskidasticity, autocorrelation, identification, normality, and stability in order to make the model reliable.

Results:-

The first test is stationarity test by using Philips-Perron methodology. GDP has been transformed to log type, but OER and POIL is remained as it is. The below table shows the results for all variables at level and first difference:

Table (1) Result of PP test for all variables

PP test at level			PP test at first difference		
Variables	Adj.t-stat	.Prob	Variables	Adj.t-test	.Prob
LGDP	-1.74377	0.6801	LDGDP	-7.35474	***0.0001
OER	0.04674	0.9492	DOER	-4.79945	***0.0029
POIL	-2.26245	0.1949	DPOIL	-13.3274	**0.0000

.Note: D with variable's name is notation for differenced variable

.L: is denoted as a log indicator for variables

significant at 10%, **significant at 05%, ***significant at 01%*

As it is illustrated in the table (1), after the stationarity test for variables by the method of Philip Perron (PP), shows that all variables at level are not stationary (05% level of significant). First difference method is applied to transform observed data for all of variables to be stationary. After transformation, PP test indicates

that those variables are stationary at the 1% level of significant. The next procedure is to determine the correlation between variables as has been shown in the table (2):

Table (2)

The result of Correlation test for all variables

Variable	GDP	OER	POIL	FC
GDP	**1.000000**	-0.176900	0.430885	0.365694
OER	-0.176900	**1.000000**	0.464111	-0.655978
POIL	0.430885	0.464111	١,٠٠٠٠٠٠	-0.409364
FC	0.365694	-0.655978	-0.409364	**1.000000**

The test of correlation has been proceeded to indicate relations between variables. The result shows that a negative and weak relationship can be seen between GDP and OER. However, weak and positive relationship between GDP, POIL and FC can be found. Positive relationship between POIL and OER can be found, however, the negative relationship between FC can be found with OER and POIL, which are consistence with economic theory.

Next test is Co-integration test by using Johanson test method. This is more preferred in multiple regressions than Engel Granger Cointegration test (Faik B.1998). The result is illustrated in the table (3):

Table (3) Result of Johanson Test for Co-integration

Sample (adjusted): 2006 2019			
Included observations: 14 after adjustments			
Trend assumption: No deterministic trend			
Series: LDGDP DOER DPOIL FC			
Lags interval (in first differences): 1 to 1			
Unrestricted Cointegration (Rank Test (Trace			
Hypothesized		Trace	0.05	
(No. of CE(s	Eigenvalue	Statistic	Critical Value	**.Prob
* None	0.999767	142.5341	47.85613	0.0000
* At most 1	0.865159	33.79494	29.79707	0.0164
At most 2	0.448809	7.747352	15.49471	0.4928
At most 3	0.000276	0.003595	3.841466	0.9511
Trace test indicates 2 cointegrating eqn(s) at the 0.05 level			
denotes rejection of the hypothesis at the 0.05 level *			
MacKinnon-Haug-Michelis (1999) p-values**			

Unrestricted Cointegration Rank Test (Maximum Eigen-value)				
Hypothe-sized		Max-Eigen	0.05	
(No. of CE(s	Eigenvalue	Statistic	Critical Value	**.Prob
* None	0.999767	108.7391	27.58434	0.0000
* At most 1	0.865159	26.04759	21.13162	0.0094
At most 2	0.448809	7.743757	14.26460	0.4053
At most 3	0.000276	0.003595	3.841466	0.9511
Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level				
denotes rejection of the hypothesis at the 0.05 level *				
MacKinnon-Haug-Michelis (1999) p-values**				

The result shows that there are two Cointegration at the level of 5% of significant (p-value = 0.0000, 0.0164 <trace>, 0.0000, 0.0094 <maximum Eigenvalue>). Means two of variables in the long run are related to other variables. Or, there are long relationships between two of variables.

The next test is to see the directional effect of variables through the causality test. The causality test has been illustrated at the table (4):

Table (4) Granger Causality Test Result

Pairwise Granger Causality Tests Sample: 2004 2019 Lags: 2			
:Null Hypothesis	Obs	F-Statistic	.Prob
DOER does not Granger Cause LDGDP	14	4.97787	0.0474
LDGDP does not Granger Cause DOER		0.39103	0.5445
DPOIL does not Granger Cause LDGDP	14	132.511	E-07.2
LDGDP does not Granger Cause DPOIL		0.00516	0.9440
FC does not Granger Cause LDGDP	14	1.67330	0.2223
LDGDP does not Granger Cause FC		0.49024	0.4984
DPOIL does not Granger Cause DOER	14	0.02815	0.8698
DOER does not Granger Cause DPOIL		0.82209	0.3840
FC does not Granger Cause DOER	14	1.91024	0.1944
DOER does not Granger Cause FC		0.00679	0.9358
FC does not Granger Cause DPOIL	14	1.46149	0.2520
DPOIL does not Granger Cause FC		0.01422	0.9072

The result suggests that there is a Granger cause for DOER-LDGDP (prob. = 0.0474). Now, after all those tests for variables, the regression model is been applied for ARDL model as it has been shown in table (5):

Table (5) ARDL Estimation Model

	Short-Run		Long-Run		
Variable	**.Coeff**	**.Prob**	**Variable**	**.Coeff**	**.Prob**
DOER	0.240405	***0.0066	**DOER**	1.579301	**0.0478
DPOIL	0.000018	0.9409	**DPOIL**	0.010261	**0.0000
FC	-0.066781	***0.0003	**FC**	0.019895	0.3354
(CointEq(-1	-0.749662	***0.0000	**C**	0.051963	***0.0049
R-squared	0.984525	**Bound Test**	**.Sig**	**I(0) Bound**	**I (1) Bound**
Adj. R-squared	0.966471	**F-Statistic**	2.72	3.77	
S.E. of regression	0.040839	68.67395	3.23	4.35	
.Sum squared resid	0.010007		3.69	4.89	
		10%	4.29	5.61	
		5%			
		2.5%			
F-statistic	54.53278	1%			
(Prob(F-statistic	***0.000052				
significant at 10%, **significant at 05%, ***significant at 01%*					

In the ARDL regression model, as it has been shown that; in the short-run, the coefficient of LDOER (0.24) significant with a positive sign and as it is for FC (-0.06) with negative sign. However, DPOIL coefficient statistically is not significant at all. For the long-run, the results indicate that LDOER and DPOIL coefficients (1.57, 0.01) are significant with a positive effect on LDGDP, but FC is not.

CointEq(-1), is negative with an associated coefficient estimate of −0.7496 and statistically significant (p-value = 0.000). This implies that about 74.96% of any movements into disequilibrium are corrected for within one period. Regarding to bound test, the F-value of 68.67 which is much greater than I(I) bound value, the null hypothesis of no long-run relationship can be rejected. Means there is a long relationship between variables.

Furthermore, adjusted R-square (0.9664) indicates that those variables relatively explain dependent variable in a high ratio, or those can explain 98% deviation of dependent variable. S.E. and sum of squared residual relatively are very low which implies that the model has a very low rate of error. The good fitness of the model can be seen through F-Stat with value of (54.27) with a p-value of (0.0000) which indicates the statistical significant of it at 1% level.

The ARDL model has to pass a number of critical problem tests in order to test its reliability and validity. The upcoming tests are; Autocorrelation, Multicollinearity, Heteroskidasticity, Identification, Normality, and stability for the model.

Table (6) Autocorrelation Test

:Breusch-Godfrey Serial Correlation LM Test			
F-statistic	0.436993	(9,٢)Prob. F	0.6735
Obs*R-squared	2.510433	(٢)Prob. Chi-Square	0.2850

Based on B-Godfrey method, the result indicates that under the 05% level of significant (H0 = No Autocor-relation) there is no autocorrelation. As it can be seen that Obs R2 has a Chi-sq Prob of (0.0803).

Table (7) Multicollinearity Test

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
DOER	0.541173	1.305537	229963٫١
DPOIL	5.96E-06	1.212244	208646٫١
FC	0.009048	035150٫٢	221090٫١
C	0.003186	1.791714	NA

In the table (7), which it is the illustration for the multicollinearity test based on the Uncentered and Cen-tered variance inflation factor (VIF), indicates that the model has not multicollinearity because the values are less than 5.

Table (8) Heteroskedasticity

Heteroskedasticity Test: ARCH			
F-statistic	0.005366	(Prob. F(1,11	0.9429
Obs*R-squared	0.006338	(٤)Prob. Chi-Square	0.9365

The test of hetero has carried out by using ARCH method. H0 in this test is no hetero. Based on the result in the table (8) it can be concluded that the Null. Hypothesis cannot be rejected. Thus there is no hetero in the model because obs.R2 has Prob. Chi-squ. with a value of (0.9365). Nest test is to perform the identification of the model to tell whether the model is linear or not.

Table (9) Identification Test

Ramsey RESET Test			
	Value	Df	Probability
t-statistic	1.065735	5	٠٫3353
F-statistic	1.135792	(5 ,1)	٠٫3353

Table (9) indicates that the model is well identified. Null hypothesis cannot be rejected due to the insignifi-cancy of F-static under any level of significant. The identification test has been done by using Ramsey reset test. In this test, the null hypothesis is; the original model is correct and the alternative hypothesis is that the model is not correct. Another test which shall be preceded is the normality of the data. The most famous method is Jarque-Bera test, as it has been shown in the following chart:
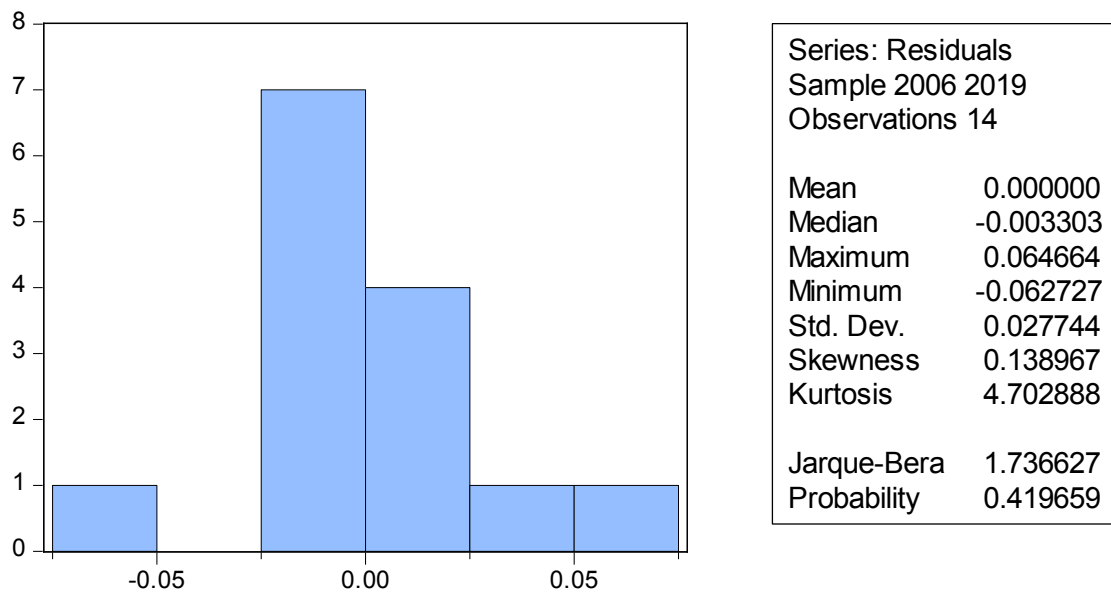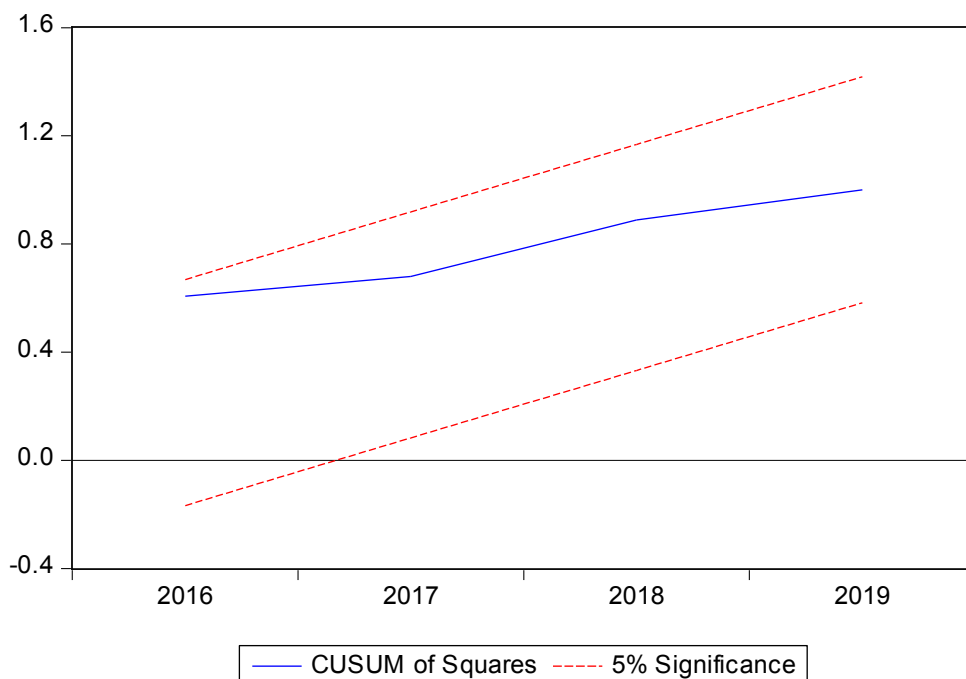
Chart (1)

The Normality Test.

Based on the illustrated result in the Chart (1), it can be seen that the distribution of the residuals are normal. p-value is equal to (0.6227), thus null hypothesis cannot be rejected. Final test of the model is the stability test for residuals. This test tells were the residuals drifting from mean or out of control.

Graph (1) Stability Test

From the graph (1), it can be observed that the model is stable. Because the line of squared cumulative sum of recursive residuals does fall inside the critical bounds of 5% significant level, so the coefficients of the model are stable.

Now, the coefficient effects can be explained and relied on after that the model passed all problem tests. Based on the ARDL result, DOER affects LDGDP positively. Means any increase in this variable by 1% will increase the LDGDP by 0.24% and 1.57% in the short and long-run respectively. Although the coefficient effect of DPOIL in short-run is not significant, but in the long-run DPOIL will affect LDGDP by 0.01% positively, which that is not a significant effect. For FC in the short-run it has a negative impact on LDGDP with a size of 0.06%. However, the long-run effect statistically is not significant.

Discussion:

Based on statistical results, it reveals that GDP, which is considered to be the indicator for growth, is affected positively by oil-mining export ratio in short-term by 0.24% and in long-term by 1.57%, means that OER in long-run has a greater effect, this may due to using those revenues from oil-mining exports to investment in other sectors, which will increase productivity and performance and thus increment in GDP. This tells that growth can be achieved by increasing oil-mining export ratio. However, this is subject to the price of oil and mining products in the world market as it has been realized in the past five years or as it has been seen due to Ukraine war.

Regarding to financial crisis (FC), if all other things being fixed, it has a negative effect on GDP by 0.06% in short-run. But in the long-run, it has no effect on GDP because its coefficient is not significant. Or, due to government actions toward financial crisis to solve it and in the long-run financial crisis tend to disappear, it has no effect on GDP. This is consistent with theory and reality, because when there is a financial crisis there will be the decrease in the rate of the growth.

All in all, the export sector of Iraq is highly relied on oil-mining products. Export sector can boost economic growth in Iraq. However it is sensitive to the oil price in the world market. The results are convoy with economic situation in Iraq.

Conclusion:

Main objective of this article was to examine the impact of oil export sector on economic growth of Iraq for the period of 2004 to 2019. Findings show that the coefficient of OER and FC are significant at the 05% level in short-run, but FC in long-run is not significant.

Economic growth in Iraq is positively affected by Oil-Mining export share and negatively by financial crisis. This is convoy with the economic situation in Iraq. This sector can boost the economic growth but very sensitive to the oil price. Then, Iraqi's government should reconsider about the structure of export sector and diversify that sector. This work has a several limitations such as, having a short time intervals and relatively low number of observations. Future work is recommended in further detail with a different models and measurements with more stable situations in Iraq.

As a recommendation for Iraq government, policymakers should take to account the sensitivity of their GDP to oil-mining share in the export sector. Because what happened in the last five years that the price of oil has rocketed dawn and Iraq economy was one of those economy's which struggled in solving the budget deficit and continuing its economic growth. So, export diversification should be one of the primary goals of Iraq economy. Future work is recommended in further detail with a different models and measurements.

References:

Abdullah, Ranj Tahir. 2021. "Economic Growth and Inequality : The Role of Fiscal Policy , Iraq as an Example for the Period of 2004-2019 ." : 1–18.

Aghion, Philippe, and Peter Howitt. 2009. Journal of Chemical Information and Modeling The Economic of Growth.

AKTUǦ, Semih Serkant, D A Ǧ Mehmet, and Hawar Rafaat STAR. 2019. "THE IMPACT OF OIL PRICE ON ECONOMIC GROWTH: AN INVESTIGATION ON IRAQI ECONOMY." R&S-Research Studies Anatolia Journal 2(6): 273–85.

Ambreen FATEMAH, By, and Abdul QAYYUMa. 2018. "Modeling the Impact of Exports on the Economic Growth of Pakistan." Turkish Economic Review 5(1): 56–64. www.kspjournals.org.

Azretbergenova, G Ž. 2020. "The Dependence of the Kazakhstan Economy on the Oil Sector and the Importance of Export Diversification." 670216917.

Bakari, Sayef, and Mohamed Mabrouki. 2017. "Impact of Exports and Imports on Economic Growth: New Evidence From Panama." Journal of Smart Economic Growth 2(1): 67–79.

Canh, Nguyen Phuc, and Su Dinh Thanh. 2022. "The Dynamics of Export Diversification, Economic Complexity and Economic Growth Cycles: Global Evidence." Foreign Trade Review 57(3): 234–60.

Erkişi, Kemal, and Semra Boǧa. 2019. "High-Technology Products Export and Economic Growth: A Panel Data Analysis for EU-15 Countries." Bingöl Üniversitesi Sosyal Bilimler Enstitüsü Dergisi.

Evans, David, Thomas J Sargent, and David Evans. 2018. "Inequality, Business Cycles, and Monetary-Fiscal Policy."

Fosu, Augustin Kwasi, and Abdul Fatawu Abass. 2019. "Domestic Credit and Export Diversification: Africa from a Global Perspective." Journal of African Business 20(2): 160–79.

González-Pernía, José L., and Iñaki Peña-Legazkue. 2015. "Export-Oriented Entrepreneurship and Regional Economic Growth." Small Business Economics 45(3): 505–22.

Jetter, Michael. 2017. "The Impact of Exports on Economic Growth: It's the Market Form." World Economy 40(6): 1040–52.

Kaliappan, Shivee Ranjanee, Siti Asiah Ahmad, and Normaz Wana Ismail. 2017. "Service Export and Economic Growth in the Selected Developing Asian Countries." International Journal of Economics and Management 11(2): 393–418.

Kanas, Angelos, and Panagiotis D Zervopoulos. 2021. "Systemic Risk, Real GDP Growth, and Sentiment." Review of Quantitative Finance and Accounting 57(2): 461–85.

Karra, Mahesh, David Canning, and Joshua Wilde. 2017. "The Effect of Fertility Decline on Economic Growth in Africa: A Macrosimulation Model." Population and Development Review 43: 237–63.

Keita, Lansana. 2018. "Models of Economic Growth and Development in the Context of Human Capital In-

vestment: The Way Forward for Africa." Africa Development 43(3): 159–84.

Kibria, Md. Golam, and Md. Sabbir Hossain. 2020. "Does Export Affect the Economic Growth?: An Empirical Investigation for Bangladesh." American Journal of Economics and Business Management 3(1): 219–25. https://www.globalresearchnetwork.us.

Mania, Elodie, and Arsène Rieber. 2019. "Product Export Diversification and Sustainable Economic Growth in Developing Countries." Structural change and economic dynamics 51: 138–51.

Mankiw, N Gregory. 2018. Principles of Economics, 8th Ed. Eight. United State of America.

Menyelim, Chima M, Abiola A Babajide, Alexander E Omankhanlen, and Benjamin I Ehikioya. 2021. "Financial Inclusion, Income Inequality and Sustainable Economic Growth in Sub-Saharan African Countries." Sustainability 13(4): 1780.

Michálek, Anton, and Ján Výboštok. 2019. "Economic Growth, Inequality and Poverty in the EU." Social Indicators Research 141(2): 611–30. https://doi.org/10.1007/s11205-018-1858-7.

Munir, Kashif, and Zanib Javed. 2018. "Export Composition and Economic Growth: Evidence from South Asian Countries." South Asian Journal of Business Studies.

Oliinyk, Olena et al. 2021. "The Impact of Migration of Highly Skilled Workers on the Country's Competitiveness and Economic Growth." Montenegrin Journal of Economics.

Omodero, Cordelia Onyinyechi, and Kanalechi C K Nwangwa. 2020. "Higher Education and Economic Growth of Nigeria: Evidence from Co-Integration and Granger Causality Examination." International Journal of Higher Education 9(3): 173–82.

Panzera, Domenica, and Paolo Postiglione. 2022. "The Impact of Regional Inequality on Economic Growth: A Spatial Econometric Approach." Regional Studies 56(5): 687–702.

Saad, Muna Sulaiman; Norma MD. 2009. "An Analysis of Export Performance and Economic Growth of Malaysia Using Co- Integraton and Error Correction Models Author (s): Muna Sulaiman and Norma Md . Saad Published by : College of Business , Tennessee State University Stable URL : Http://Www.Jsto." The Journal of Developing Areas 43(1): 217–31.

Sajo, Ismaila Ahmed, and Bin Li. 2017. "Financial Development, Export and Economic Growth in Nigeria." Theoretical Economics Letters 07(07): 2239–54.

Younus, Ahmed Muayad. 2021. "Technological Advancement and Economic Growth For The Business Sector." Academic Journal of Digital Economics and Stability 10: 56–62.

Zhang, Xiaobei, and Xiaojun Wang. 2021. "Measures of Human Capital and the Mechanics of Economic Growth." China Economic Review 68: 101641.

Zheng, Guojiao. 2018. "Analysis on Factor Decomposition Effect of Export on Economic Growth in China: Global Value Chain Perspective." 264(Icemaess): 644–50.

WORLD TRADEORGANIZATION(WTO)[2020], International TradeStatistics2020. Geneva: WTO Publications. Accessed at 22/11/2020: https://www.wto.org/english/res_e/statis_e/daily_update_e/trade_profiles/IQ_e.pdf

www.worldbank.org can be accessed ate: http://pubdocs.worldbank.org/en/527001554825517687/mpo-irq.pdf.

www.khanacademy.org. can be accessed at: https://www.khanacademy.org/economics-finance-domain/ap-macroeconomics/economic-iondicators-and-the-business-cycle/limitations-of-gdp/a/lesson-summary-the-limitations-of-gdp#:~:text=However%2C%20it%20has%20some%20important,growth%20is%20sustainable%20or%20not

Appendix: List of data and variables:-

Year	GDP	POIL	FC	OER
2004	9.5596245E+13	41.51	0	0.98777356
2005	9.980307E+13	56.64	0	0.991871973
2006	1.09941264576E+14	66.05	0	0.990805144
2007	1.114558134E+14	72.34	0	0.992732277
2008	1.206265171E+14	99.67	0	0.996816649
2009	1.247028479E+14	61.95	0	0.994622377
2010	1.326870286E+14	79.48	0	1
2011	1.42700217E+14	94.88	0	0.995922381
2012	1.625875331E+14	94.05	0	0.995284365
2013	1.74944185616E+14	97.98	0	0.996195858
2014	1.76168794915E+14	93.17	1	0.997990069
2015	1.80533666813E+14	48.72	1	0.995999596
2016	2.07997283599E+14	43.58	1	0.996993166
2017	2.0280849405E+14	50.84	1	0.997994987
2018	2.01665434E+14	64.9	1	0.998681937
2019	2.10540555098E+14	57.05	1	NA

الملخص

هناك العديد من العوامل التي يمكن ان تؤثر على عملية النمو الاقتصادي، الهدف من هذا البحث هو الكشف عن تأثير قطاع التصدير على النمو الاقتصادي في العراق. للقيام بذلك تم جمع البيانات للمتغيرات (حصة النفط من قطاع التصدير ، اسعار النفط). تم استخدام نموذج ARDL لاظهار تأثير الصادرات واسعار النفط والازمة المالية على النمو الاقتصادي للفترة (٢٠٠٤-٢٠١٩). واظهرت النتائج ان معلمة تصدير لها تاثير إيجابية في مدى قصير و طويل ويؤثر على النمو الاقتصادي بنسبة ٠,٢٤٪ و ١,٥٧٪ على التوالي. لكن الازمة المالية لها تاثير السلبي في المدى القصير بمقدار ٠,٠٦٪ . على الحكومة العراقية أن تعيد النظر في هيكل قطاع التصدير وتنويع ذلك القطاع بسبب حساسية هذا القطاع للتغيرات في أسعار النفط. هناك حاجة للدراسات اخرى حول هذا الموضوع باستخدام نماذج الاخرى، و الوقت اطول و حالة الاقتصادية مختلفة.