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The Impact of Olive Oil Exports on Economic Growth: Empirical Analysis from Tunisia

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Abstract

The contribution of this paper is investigating the influence of olive oil exports on Tunisian economic growth since it's never been treated before. With a view to fulfill this aim, annual data were compiled from the reports of Tunisian Central Bank for the periods between 1970 and 2016, was put to the proof by using Co integration analysis of Error Correction Model. According to the results of the analysis, olive oil exports have a positive impact of economic growth in the long run and in the short run. These results appear that olive oil exports are a source of economic growth in Tunisia and emphasize the application program of policies and strategies to encourage better investment in this sector.

1. Introduction

From the classical school of thought of modern economists, no one can ignore the importance of exports for stimulating economic growth and for satisfying economic well-being. According to Marshall (1890), the economic growth of a nation is dependent on the strength of international trade directly or indirectly. According to the classicals, thanks to economies of scale, the role of international trade is a reproduction of economic growth that cannot be avoided and developed. For Nurkse (1959), international trade is the fastest source for achieving strong economic growth. According to MacKinnon (1964); Chenery and Strout (1966), exports soften foreign exchange restraints to allow importation of capital and intermediate goods for domestic production. Bhagwati (1993) has illustrated that the increase in economic growth in a nation is directly related to the bulge of international trade. Aubin (1994) further extends the work of Rivera-Batiz and Romer (1991a) and (1991b) and makes it known that the gains of openness in terms of growth are much greater when policy co-ordination exists between countries. For the economy, exports are the basic rise of economic growth and development from this assumption of growth that has a number of theoretical justifications: (i) Keynesian reasoning shows that the short-run currency multiplier effect of increased exports leads to economic growth. Similarly, the import of capital, manufactured goods and advanced technologies makes an excellent contribution to economic growth. (ii) In the context of the existence of a perfectly pure and perfect, international trade leads to technological development, economies of scale and economic growth. (iii) The growth of exports generates positive externalities (more efficient management, technical expertise and improved production techniques in product design), which leads to economic growth in the short and economic development over the long period of time.

In this context, thanks to competitiveness in international markets that leads to improved product quality, agricultural exports have the power to create jobs, fight poverty and cover the value of imports. Thus, export diversification and especially agricultural exports can also be important to accelerate economic growth and achieve growth in the rural sector, which still suffers from very brutal economic problems such as poverty and unemployment. Nations with a comparative advantage in the production of certain special goods can make the most of foreign trade. Export diversification will certainly improve the volume of exports and the balance of trade.

Tunisia is the most famous country in the southern Mediterranean region in the field of olive growing, where more than 30% of its agricultural land is allocated for the cultivation of olive trees (1.68 million hectares). With the exception of the European Union, Tunisia becomes the first global force in the olive oil sector. In fact, Tunisia is currently making major efforts to restructure and modernize the sector in order to improve the quality of olive oil and increase the area allocated

for the cultivation of olive trees. Olive cultivation plays an essential role in the social and economic life of Tunisia. Olive represents 15% of the country's agricultural products, while olive oil represents 50% of the agricultural exports and 5.5% of the country's total exports, which makes it ranked fifth on the list of sources of foreign exchange. The Olive sector (olive growing and the olive oil industry) represents a direct and indirect source of livelihood for more than one million people, in addition to providing 34 million work days per year, equivalent to 20% of employment in the agricultural sector. In 2000, there were 236,500 agricultural farms with olive fields, 84% of which were less than 5 hectares. Olive cultivation has contributed to the development and support of the balance between the two sides as it remains the only agriculture in the poorest regions. There is no doubt that this allows citizens to remain in rural areas and protects them from the risk of population abandonment.

The objective of this article is to study the contribution of olive oil exports to economic growth in Tunisia in the long term and in the short term. The rest of the article is organized as follows. In section 2, we present the review literature concerning our research. Secondly, we discuss the methodology model specification and data used in this study in Section 3. Thirdly, Section 4 presents the empirical results as well as the analysis of the findings. Finally, the last paragraph concluded the paper with an emphasis on economic policy recommendations.

2. Literature Review

Among the studies that have shown that an expansion of export has a significant positive impact on economic growth are Michaely, (1977); Balassa, (1978, 1989 and 1995); Grossman and Helpman, (1989) Rahman (1993); Savvides, (1995); Asmah, (1998); Edward, (1998); Frankel and Romer, (1999); Ram, (1987). In a different state, others have inferred that the positive nexus between export and economic growth does not occur over certain periods for certain countries (Tyler (1981), Helleiner (1986), Ahmad and Kwan (1991), Onafowora and Owoye, (1998).

Lam (2016) analyzed the link between exports and GDP for four ASEAN countries (which are: Indonesia, Malaysia, Thailand and the Philippines). In Indonesia, the author found a unidirectional relationship from economic growth in exports in the long run and the short run. In the Philippines, he found a bidirectional relationship between exports and economic growth in the short term. And for Malaysia and Thailand the author found that there is a bidirectional relationship between exports and economic growth in the long run, and unidirectional relationship from economic growth in exports in the short run. Sachin (2015) examined the intercourse between imports, exports and economic growth for the period 1976-2014 in India. by applying a vector error correction model, the findings point that

there is a long run co-integrating the relationship between imports, exports and economic growth. In the long term and concerning the nexus between exports and economic growth, the results show that there is a unidirectional relationship from economic growth in exports. Bader (2016) explained the impression of trade on economic growth in the Arab countries for the period 1995 - 2013. By using a panel data approach in 17 countries, the outcome indicates that exports provoke a positive effect on economic growth. Bakari (2017a) discovered in the case of Malaysia for the periods between 1960 and 2015 that exports have positive effect on economic growth in the long run and the short run. Results provide evidence that domestic investment, exports and labors are seen as a source of economic growth in Malaysia. Bakari (2017b) investigated the nexus between trade, domestic investment and economic growth for the period 1976 - 2015. To attempt this objective, the author employed in his analyses cointegration analysis of Vector Error Correction Model and the Granger Causality Tests. He found that solely in the short run economic growth bring investment. However, there is no relationship between exports, imports, domestic investment and economic growth in the short run and the long run. Bakari (2017c) also analyzed the influence of exports on economic growth in Gabon by employing the error correction model. Empirical returns indicate that in the long run, investment and exports assign negatively on economic growth. However, in the short run investment and export rise economic growth. These marks adduce evidence that investment and exports are needful in Gabon's economy and are presented as an engine of growth since they cause economic growth in the short term. But they are not carried out and treated with a solid and fair manner. Bakari and Mabrouki (2017) investigated the nexus between exports, imports and economic growth in Panama using annual time series data for the period 1980 – 2015 by using the granger causality tests. They found unidirectional causality from exports to economic growth and from imports to economic growth. Their study shows us the importance of trade on economic growth in Panama and asserts the robustness of the economic and political strategies applied in this country.

We supervised that most of the literature was centered on showing total exports as a fountain of growth. Regrettably, it is greatly unexpected that empirical research on the donation of agricultural exports to economic growth has been lapsed in the literature and its role in the development ways has long been admired for agricultural economies. But various economies argue that the increase in agricultural exports plays a crucial role in economic growth.

By using panel data from 62 developing countries, Dawson (2005) studied the effect of agricultural exports on growth during the period 1974 - 1995. He found that agricultural exports have a positive effect on economic growth, but the intensity of the impact depends on the agricultural structure of the nations. Similarly, the author found that agricultural investments can play a very important role in export earnings and economic growth. Faridi (2012) explored the contribution of agricultural exports to economic growth in Pakistan. The author

estimated the relationship between GDP and agricultural and non-agricultural exports for Pakistan using the Johansen long run co-integration technique for the period 1972–2008. The results showed that agricultural exports have a negative significant effect on economic growth. Bidirectional causality was noticed between agricultural exports and real GDP. On the bases of the findings, the study suggested that non-agricultural exports should be promoted in Pakistan. Gilbert (2013) investigated the contribution of agricultural exports to economic growth in Cameroon during the period 1975-2009. Empirical results show that banana exports and coffee exports positively affect economic growth while cocoa exports have a negative effect on economic growth because of the low value of supply and the lower price of cocoa products. Bulagi et al (2014) examined the impact of agricultural exports for economic growth in the agricultural sector in the South African economy. Empirical results show that there is a positive bidirectional relationship between agricultural exports and GDP in the agricultural sector. Otherwise, this study confirms that investment in the agricultural sector is very important for the improvement of economic growth in South Africa. In the Nigerian economy, another study includes an analysis of the relationship between agricultural exports and economic growth that was made by Ijirshar (2015), whose author uses the cointegration method and error correction model by using an annulled database that contains 42 observations (1970-2012). The empirical results show that the existence of a positive relationship between agricultural exports and economic growth in the long run and the short run. Kang (2015) analyzed the impact of agricultural exports on the economic growth of the major rice exporters. VECM techniques have been used to explain both the short-term and the long-term link between variables. Empirical results have shown the positive impact of rice exports in the economic growth of India, Thailand, Pakistan and Vietnam. Verter and Becvarova (2016) studied the participation of agricultural exports in Nigeria's economic performance between 1980 and 2012 by applying the Granger causality test and the ordinary least squares method. The application of both techniques confirmed that exports improve the economic well-being in Nigeria. Bakari (2017d) investigated the impact of citrus exports on economic growth on Tunisia for the periods between 1970 and 2016. By using co integration analysis of Error Correction Model, empirical analysis show that citrus exports have not any influence on economic growth in the long term. However, there is a positive unidirectional causality from citrus exports to economic growth in the short run. These results provide on evidence that citrus exports are not seen as source of economic growth in Tunisia because of the strong international competition in this sector and the poor economic strategy. Also, and it the context of Tunisia’s economy, Bakari (2017e) search the impact of vegetable export on economic growth for the period 1970-2015. This study used correlation analysis, cointegration analysis and error correction model to determinate this link in the

long run and the short run. The results prove evidence that vegetable exports contribute to economic growth in the long run and the short run. They are presented as the savior of economic growth if Tunisia will invest more in this sector. Mahmood and Munir (2017) investigated the relationship between agricultural exports and economic growth in Pakistan by using Johansen co-integration and Engle–Granger causality tests for 45 time series annul observations from 1970 to 2014. Empirical results wind up that agricultural export have positive effect on economic growth, but this affect is insignificant. However, results show that economic growth have positive effect on economic growth. These may be explained by the inability of agricultural exports to compete in international markets because of the high competitiveness and low quality of exported agricultural products.

3. Data, Model Specification and Methodology

To examine the effect of olive oil exports on economic growth in Tunisia, we will apply an estimate based on the cointegration approach and the Sims (1980) model. These two last techniques are more effective in statistical studies that include time series.

The empirical methodology of this analysis consists first of all in determining the stationarity of the variables (Determination of the order of integration of each variable) by using the two most appropriate stationarity tests Augmented Dickey-Fuller (ADF) and Phiillips and Perron (PP). All variables must be stationary to proceed to the next step that determines the cointegration analysis.

In this step, it is necessary to determine the number of lags before anything by using a set of information selection criteria such as Akaike Information Criterion (AIC), Schwarz Information Criterion (SC) and Hannan-Quinn Information Criterion (HQ). As soon as the number of lags is fixed, we use the Johansen (1991) test to examine the cointegration between the variables involved in our model. This step is very important since it helps us to determine the exact choice of our model. In the absence of a cointegration relationship, we will determine our target using the VAR model and the Granger Causality test. On the other hand, in the context of the presence of a cointegration relation, we will use the VECM model. Finally, we will use diagnostic tests and stability tests to verify the robustness and credibility of our model and our empirical results.

In scientific studies that carry empirically analyzes based on the cointegration approach, one always observes the presence of different results, due to the dependence of the variables on each other and the effectiveness of their interdependence and union.

In this context, we will use as a starting point the modeling of the neoclassical model that was innovated by Awokuse (2007) in order to determine the causality between exports, imports and economic growth. This model includes exports, imports, labor and capital, it is written as follows:

$$\mathbf{Y} = \mathbf{F}\left[(\mathbf{K}, \mathbf{L})\,;\, \mathbf{X}, \mathbf{M}\right] \quad \textbf{(1)}$$

The augmented production function including all these variables is expressed as:

$$\mathbf{Y} = \mathbf{A}\,\mathbf{K}^{\alpha_1}\mathbf{L}^{\alpha_2}\mathbf{M}^{\alpha_3}\mathbf{X}^{\alpha_4} \quad \textbf{(2)}$$

In equation (2) Y is GDP, K is Capital, L is Labor, X is Export, M is Import and A show the level of technology utilized in the country which is assumed to be constant. The returns to scale are associated with capital, labor, export and import which are shown byα_1, α_2, $\alpha_3$and α_4 respectively.

All the variables are mutated into logarithms in order to fabricate linear the non linear form of Cobb-Douglas production. The Cobb-Douglas production function is presented in linear functional form as follows:

$$\mathbf{Log(Y_t)} = \mathbf{Log(A)} + \boldsymbol{\alpha_1}\mathbf{Log(K_t)} + \boldsymbol{\alpha_2}\mathbf{Log(L_t)} + \boldsymbol{\alpha_3}\mathbf{Log(X_t)} + \boldsymbol{\alpha_4}\mathbf{Log(M_t)} + \boldsymbol{\varepsilon_t} \quad \textbf{(3)}$$

The overhead empirical will explore the influence of export and import on economic growth by keeping technology constant. The linear model rendering the impact of export and economic growth on economic growth after keeping technology constant can be written as follows:

$$\mathbf{Log(Y_t)} = \boldsymbol{\alpha_0} + \boldsymbol{\alpha_1}\mathbf{Log(K_t)} + \boldsymbol{\alpha_2}\mathbf{Log(L_t)} + \boldsymbol{\alpha_3}\mathbf{Log(X_t)} + \boldsymbol{\alpha_4}\mathbf{Log(M_t)} + \boldsymbol{\varepsilon_t} \quad \textbf{(4)}$$

Recently, some analyzes have focused attention on the effect of agricultural exports on economic growth by dividing the export variable into agricultural exports and other exports such as Dawson (2005); Mahmood and Munir (2017).

In this case, we will combine the two ideas of Awokuse (2007) and Dawson (2005), and divide the total export variables into two variables: a noted variable (OOX) which refers to exports of olive and a noted variable (OX) which refers to other exports to determine our goals.

$$\mathbf{X} = \mathbf{OOX} + \mathbf{OX} \quad \textbf{(5)}$$

Equation (5) presents our export division (X) of which (OOX) presents the olive oil export and (OX) presents the export in the other sector. In equation (6), (OOX) and (OX) are relocated into logarithms in order to carry out linear the nonlinear form of Cobb–Douglas production.

$$\mathbf{Log}\,(\mathbf{X_t}) = \mathbf{Log}\,(\mathbf{OOX_t}) + \mathbf{Log}\,(\mathbf{OX_t}) \quad \textbf{(6)}$$

When we merge equation 4 and 6, we obtain the following equation which presents our final model for our estimation.

$$\mathbf{Log(Y_t) = \alpha_0 + \alpha_1 Log(K_t) + \alpha_2 Log(L_t) + \alpha_{3.1} Log\,(OOX_t) + \alpha_{3.2} Log\,(OX_t) + \alpha_4 Log(M_t) + \varepsilon_t} \quad \textbf{(7)}$$

In equation (7); {Y, K, L, OOX, OX and M} present respectively economic growth, capital, labor, olive oil export, export in the other sector and import. The returns to scale are associated with citrus export, other export and import which are shown by $\alpha_1, \alpha_2\ \alpha_{3.1}, \alpha_{3.2}\ and\ \alpha_4$ respectively.

To inspect the impact of olive oil exports on economic growth in Tunisia, we will use a time series database that will cover the period 1970 -2016, and take and collect from annual statistical reports Tunisian central bank. The succinct depiction of variables is given as below in Table 1.

Table 1: Description of Variables

No	Variable	Description	Source
1	***Y***	Gross domestic product (constant TND)	The Tunisian central bank
2	***K***	Gross fixed capital formation (constant TND)	The Tunisian central bank
3	***L***	Labor	Tunisian National Institute of Statistics
4	***CX***	Citrus exports (constant TND)	The Tunisian central bank
5	***OX***	Other exports (constant TND)	The Tunisian central bank
6	***M***	Imports (constant TND)	The Tunisian central bank

4. Empirical Analysis

Table 2 presents the results of ADF and PP integration order tests. According to these last two tests, all variables are stationary and have a unit root. As soon as all the variables are stationary, we can move on to the next step of studying the cointegration between the variables applied in our model. Table 3 indicates that the information selection criteria inform that the number of the optimal lag is equal to 2. Similarly, the results of the Johansen test presented in Table 4 prove the existence of a cointegration relationship. So the Error Correction Model will be retained.

The objective of the error correction model is to determine in our case the impact of olive oil exports on long-term economic growth (by testing the significance of the cointegration equation of the equilibrium of long-term) and in the short-term (by applying the Granger causality analysis based on the WALD test). In addition, the long-run equilibrium equation is as follows:

$$\mathbf{log(Y) = 9,83 - 2,98\ log(K) + 0,43\ log(OOX) - 3,17\ log(OX) + 4,67 log(M) - 0,60\ log(L)} \quad \textbf{(8)}$$

According to equation 8, exports of olive oil {log (OOX)} have a positive impact on economic growth {log (Y)} in the long term. This means that a 1% increase in olive oil exports leads to a 0.43% increase in long-term economic growth. Similarly, and for the other control variables, we note that domestic investments {log (K)}, other exports {log (OX)} and the active population {log (L)} have a negative impact on

growth. economic {log (Y)}. While imports {log (M)} have a positive impact on economic growth {log (Y)} in the long term.

To verify the credibility of the results of the long-term equilibrium equation, we will study its significance. For this equation to be meaningful, and on the basis of an estimate based on the VECM model, the econometric rule states that the coefficient of the error correction term must be negative and has a probability of less than 5%. In our case the coefficient of the ECT error correction term has a negative coefficient and a probability of less than 5% (-0.0069) (See table 5).

In this case, it can be confirmed that exports of olive oil positively affect long-term economic growth. Likewise, it can be confirmed that domestic investments have a negative impact on long-term economic growth. This confirms the results proven by Bakari (2018) and Bakari (2020). Also, other exports have been confirmed therefore to negatively influence long term economic growth. This confirms the results proven by Bakari et al (2018a), Bakari and Tiba (2019). On the other hand, the working population has a negative effect on economic growth. These results were also found by Abdelhafidh and Bakari (2019). Finally, our results also confirm that imports have an impact on economic growth in Tunisia in the long term. This confirms the results found by Bakari (2017f, 2017g), Bakari et al (2018b).

The error correction model also helps us to examine the causal link between the short-term variables, using the WALD test. For the existence of a causal relationship between the two variables, the econometric rule states that the probability of the WALD test must be less than 5%. Table 5 reports the short-term causal results. The latter indicate that only domestic investments and exports of olive oil cause short-term economic growth, since they have probabilities less than 5% respectively 0.0129 and 0.0236.

Finally, to verify the robustness of our model and the credibility of our empirical results, we will apply diagnostic tests and stability tests. The diagnostic tests point that the estimation returns are agreeable and that the model meets the MCO application conditions. Indeed, the probabilities of heterodasticity tests and Breusch-Godfrey Serial Correlation LM Test are greater than 5% (See table 6). The tests of CUSUM and CUSUM square show that our model is stable. These tests are illustrated in graphs 1 and 2.

Table 2: Tests for Unit Root ADF and PP

Unit Roots Tests	ADF		PP	
	Constant	Constant, Linear Trend	Constant	Constant, Linear Trend
Y	(0.291954)	(1.920240)	(0.291954)	(2.094964)
	[6.336770]***	[6.262309]***	[6.336770]***	[6.262309]***
K	(0.001187)	(3.566336)**	(0.327420)	(2.585593)
	[5.222822]***	[5.185748]***	[5.203881]***	[5.141080]***
L	(6.755711)***	(0.935820)	(4.071734)***	(0.229490)
	[0.464883]	[3.982456]**	[1.932785]	[3.872346]**
OOX	(2.307049)	(4.449403)***	(2.086528)	(4.466778)***
	[9.870823]***	[9.852564]***	[12.55475]***	[14.33205]***
OX	(0.782441)	(2.126626)	(0.987902)	(2.186860)
	[5.765340]***	[5.712276]***	[5.573053]***	[5.763232]***
M	(0.348799)	(2.698157)	(0.261736)	(2.760263)
	[6.773042]***	[6.679997]***	[7.144256]***	[7.009800]***

** and *** denote significances at 1% and 5% levels respectively

( ) denotes stationarity in level

[ ] denotes stationarity in first difference

Table 3: Lag Order Selection Criteria

Lag	Log L	LR	FPE	AIC	SC	HQ
0	190.5682	NA	9.16e-12	-8.389463	-8.146165	-8.299237
1	407.3189	364.5352	2.52e-15*	-16.60540	-14.90231*	-15.97381*
2	443.5227	51.01455*	2.73e-15	-16.61467*	-13.45179	-15.44172

** indicates lag order selected by the criterion*

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

Table 4: Johansen Test

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized No. of CE(s)	**Eigenvalue**	**Trace Statistic**	**0.05 Critical Value**	**Prob.****
None *	0.720825	171.3230	95.75366	0.0000
At most 1 *	0.601217	116.4586	69.81889	0.0000
At most 2 *	0.521399	76.92707	47.85613	0.0000
At most 3 *	0.375342	45.24090	29.79707	0.0004
At most 4 *	0.277936	25.00722	15.49471	0.0014
At most 5 *	0.225798	11.00466	3.841466	0.0009
Trace test indicates 6 cointegrating eqn(s) at the 0.05 level				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized No. of CE(s)	**Eigenvalue**	**Max-Eigen Statistic**	**0.05 Critical Value**	**Prob.****
None *	0.720825	54.86440	40.07757	0.0006
At most 1 *	0.601217	39.53152	33.87687	0.0095
At most 2 *	0.521399	31.68617	27.58434	0.0140
At most 3	0.375342	20.23369	21.13162	0.0664
At most 4	0.277936	14.00256	14.26460	0.0549
At most 5 *	0.225798	11.00466	3.841466	0.0009

Max-Eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level

** denotes rejection of the hypothesis at the 0.05 level*

***MacKinnon-Haug-Michelis (1999) p-values*

Table 5: ECM Estimation

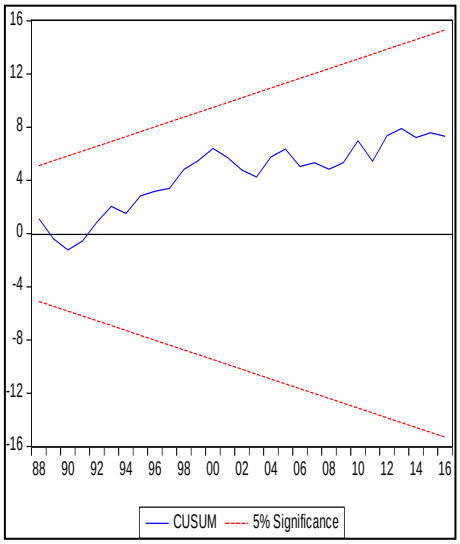
Variables	Prob.	Effect on
Long-run equilibrium relation (ECT)	-0.0069***	Long Run
K	0.0129***	Short Run
L	0.4983	
OOX	0.0236***	
OX	0.5933	
M	0.1433	

**** and ** denote significances at 1% and 5% levels respectively*

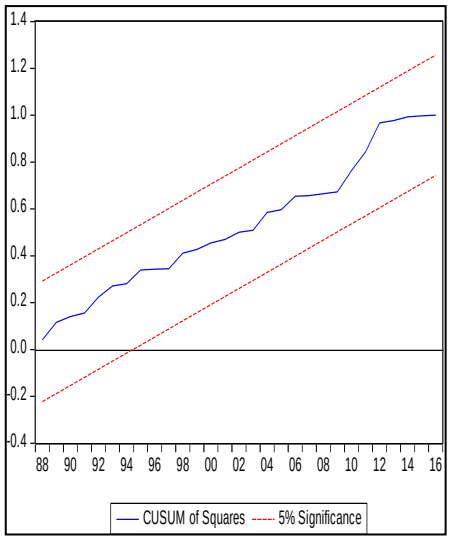
Table 6: Residual Diagnostics Tests

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	0.324781	Prob. F(23,19)	0.9943
Obs*R-squared	12.13483	Prob. Chi-Square(23)	0.9683
Scaled explained SS	6.880997	Prob. Chi-Square(23)	0.9995
Heteroskedasticity Test: Harvey			
F-statistic	0.446115	Prob. F(23,19)	0.9665
Obs*R-squared	15.07853	Prob. Chi-Square(23)	0.8918
Scaled explained SS	8.655626	Prob. Chi-Square(23)	0.9970
Heteroskedasticity Test: Glejser			
F-statistic	0.396298	Prob. F(23,19)	0.9819
Obs*R-squared	13.94063	Prob. Chi-Square(23)	0.9286
Scaled explained SS	10.40313	Prob. Chi-Square(23)	0.9885
Heteroskedasticity Test: ARCH			
F-statistic	0.453936	Prob. F(2,38)	0.6385
Obs*R-squared	0.956690	Prob. Chi-Square(2)	0.6198
Breusch-Godfrey Serial Correlation LM Test			
F-statistic	1.387427	Prob. F(2,27)	0.2670
Obs*R-squared	4.007366	Prob. Chi-Square(2)	0.1348

Graph 1: Test CUSUM



Graph 2: Test CUSUM of Squares



5.Conclusion

The contribution of this paper is to determine the effect of olive oil exports on economic growth in Tunisia and using the combination of two modeling ideas based on the phenomenon of cointegration. To achieve this target, we used a database that is characterized by a long period from 1970 to 2016 by applying cointegration analysis and the error correction model. Empirical results show that olive oil exports are a source of economic growth in Tunisia, since they promote a positive effect on gross domestic product in the short term and in the long term.

These magnificent results and tremendous effects are the source of the many opportunities, among which can be mentioned: the increase in European demand for olive oil imports; increasing import demand for olive oil in emerging markets; the inward processing scheme exempted from customs duties; Improving the image of Tunisia as a producer and exporter of olive oil in traditional markets, including the European market; the tariff preferences granted by the European Union in Tunisia; the difficulty of supplying European packers linked to the cartel position of the Spanish production cooperatives, which pushes them to buy from third countries including Tunisia.

Despite the importance of this sector, these opportunities and its effectiveness, it has several doctrines. These problems include; Development of the spirit of speculation with a weak effort of prospecting, selection and study of markets; Alternation of production and low productivity of plantations due to drought and lack of maintenance; Lack of long-term strategy for the olive sector; Concentration of Tunisian exports of olive oil to the European Union; Absence of horizontal and vertical integration between links in the chain; Lack of reserve stocks of olive oil and mechanisms for encouraging and financing private storage; the obvious lack of marketing strategies; Weak efforts to preserve the quality and value of the product; Information problem at all levels of the olive oil sector; Difficulty accessing credits that are not generally available; Very low proportion of olive oil acreage driven in irrigated; The concentration of nearly 70% of olive plantations in the arid and semi-arid regions of Tunisia; Increased cost of production of olive oil.

Referring to the strengths, weaknesses, opportunities and threats of the olive oil production and export system in Tunisia, we note that improving the performance of this system could be possible through the implementation of a strategy focused on the rigorous exploitation of opportunities and strengths and the ongoing resolution of threats and weaknesses. We do not claim to present, in this article, the detailed content of this strategy, but we just mention some practical

recommendations to strengthen the position of Tunisian olive oil export markets: improve and preserve the image of Tunisia as a producer and exporter of olive oil in export markets; improve the quality of olive oil and ensure compliance with international standards; strengthen the ability of operators to produce all qualities at the lowest cost in order to compete; promote the signs of quality and origin in order to promote Tunisian olive oil; create sales outlets for Tunisian olive oil in emerging countries; adopt a marketing strategy for Tunisian olive oil directly to Tunisian and foreign consumers in Tunisia and to foreign consumers in their countries of origin; create consortia of olive oil exporters.

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