

# The Impact of Primary Exports Problems on Jordanian Economic Growth

Prof. Dr. Qasem Hamouri<sup>1</sup>

Dr. Mohammad Al-Battainah<sup>2</sup>

<sup>1,2</sup>Department of Business Economics, Yarmouk University, Jordan

## Article Info

Volume 82

Page Number: 1878 - 1886

Publication Issue:

January-February 2020

**Abstract:** Jordan is one of the developing countries that suffer from a continuous deficit in its trade balance, which is a chronic economic problem. Despite all of the measures and development plans adopted by successive governments and being their prime target, it did not succeed. In fact, the main reason for this deficit is the structure of the Jordanian economy.

**main goal:** investigate the impact of the primary exports problems on the Jordanian economic growth during the period (1990-2014).

**Data sources:** The statistical database of Jordan Central Bank has been used to obtain annual data for: real GDP growth, import unit price index, export unit price index, and Jordanian exports. While the index of the imports value of industrialized countries from developing countries was obtained from the World Bank database.

**Methodology and tools** The co-integration test was conducted using ARD on the secondary data which was collected about the Jordanian Primary Exports.

**Results:** The study found a positive relationship between the instability of the returns of primary exports and the external demand as independent variables, and the Jordanian economic growth as a dependent variable, where the increase of these independent variables by 1% leads to an increase in Jordanian economic growth by 0.696%, 0.437% respectively. In the light of these results, the study recommended spending further efforts on investigating the problems facing the primary exports, finding more stable markets in terms of prices and demand, and activating the export sector by directing financial and technical support and directing new investments towards this sector.

## Article History

Article Received: 14 March 2019

Revised: 27 May 2019

Accepted: 16 October 2019

Publication: 11 January 2020

**Keywords:** Instability of primary exports, External demand, Primary exports, Economic growth, ARDL.

## I. Introduction

Jordan is one of the developing countries that suffer from a continuous deficit in its trade balance, which is a chronic economic problem that dates back to the beginning of the Jordanian state in 1921. Despite all of the measures and development plans adopted by successive governments and being their prime target, it did not succeed. In fact, the main reason for this deficit is the structure of the Jordanian economy. It is well known that the

Jordanian economy is highly exposed to foreign economies and is closely linked to the Arab oil countries. In addition, Jordan suffers from weaknesses in the productive and industrial sectors.

Anyway, although Jordanian industries are limited in the extractive industries, agricultural products and some chemical industries such as pharmaceuticals, their imports are varied and multiple. Experts in Jordanian industrial sectors found that these sectors moved to successful

commercial versions, but not to innovations or creativity. Indeed, this was behind the creation of a large number of small factories that work in the same area which led to the loss and waste of resources available and to work less than its production capacity. On the other hand, Jordanian exports are made up of clothing, medicines, potash, phosphates, fertilizers, vegetables and others, which are considered as primary exports, i.e. industries that need to be re-manufactured to obtain useable end products.

These industries face several problems, such as low trade exchange rates, declining demand growth, and instability in their revenues, where Jordan continuously attempts to address these problems to mitigate their effects on the national economy. Based on the researcher's belief in the importance of trade and his understanding of the importance of exports in general and primary exports in particular, primary exports were sorted out of the total exports, in order to highlight the role played by the primary exports problems in the Jordanian economic growth.

In fact, there are a relative scarcity of studies that focused on primary exports and their problems in particular. Bagchi, et.al (2003) examined the effects of trade exchange rate and the balance of real interest rates expected for a sample of nine countries: Australia, Canada, Austria, Norway, Finland, ESPA, They found that the trade exchange rate affects the real long-term exchange rate, and this rate is more consistent across countries, and that differences in real interest rates have the speed in adapting with the real exchange rate movements towards the equilibrium of the trade exchange average.

However, the impact of the primary exports problems in economic growth, they found a negative impact on economic growth by describing the economic model standard which linked, However, Shihab, et.al (2014) in attempting to explain the causal relationship between exports and economic growth in Jordan found a causal

relationship between economic growth and exports, and vice versa. Moreover, Fahmi (2016) in his study related to the relationship between exports and economic growth in Libya revealed that the reliance of Libyan exports on oil for export with low contribution of non-oil exports in GDP and an increase of oil contribution in the growth of Libyan GDP. In addition, he showed the instability of growth in Libyan GDP because its reliance on a single commodity which is oil.

## II. Literature Review

### Exports in Jordan

Jordan enjoys a distinguished position in terms of its unique geographic and strategic position. It is located in the heart of the Middle East on the lines of trade between Europe and the Gulf States, and the link between many countries in the region, east and west, making it an important trading partner with many of these countries, creating a number of free trade agreements, bilateral and multilateral. It is well known that any economy is affected by external variables, especially with those that occur with trading partner. Therefore, Jordan is one of the countries affected by the events that took place in the Arab region in general and the Middle East in particular.

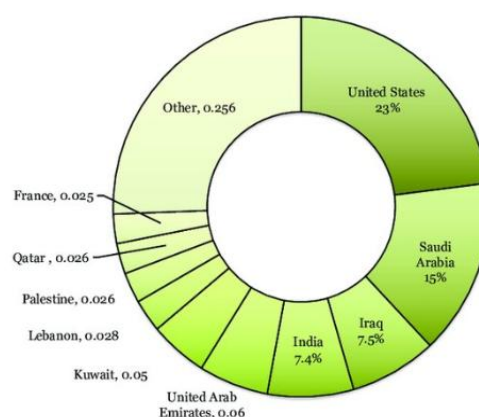


Figure 1: Jordan Exports by Country, 2016: Hilmi S. Salem

This small country, which is limited in its resources, has been affected directly and rapidly in the situation of the surrounding countries, because it is associated with many of them with extensive trade relations, which has reflected the negative impact on the development and growth of foreign trade, and this is what we will try to focus on in this study.

The Jordanian industrial sectors consist of 20 sectors according to (Harmonized system 4 Digits). Jordan's national exports of products are 581 products, manufactured and exported. The following table shows Jordan's exports for 2014 according to the sectors and the number of products in each sector:

Table (3-2) Jordanian Industrial Sectors

Sector name	National Exports (\$)	Number of products
Animal Products	265773571	19
Plant Products	770404776	38
Bi-animal and vegetable products	11281857	8
Food industry	447814395	34
Metal products	518969270	21
Chemical products	2326132844	76
Plastic products, rubber	287119428	28
Animal leather products	7296846	11
Wood products	10156980	16
Paper products, paperboard	206913749	28
Textile products	1350783855	63
Shoes and headwear products	1635676	8
Stone and glass products	68817389	31
Stones and precious metals	138450501	4
Metals	381586573	89
Machinery and electrical appliances	343377968	71
Transport equipment products	17705582	8
Tool and hardware products	1084850	8
Goods of other goods and products	90139160	18
Art and archaeological artifacts	265833	2

Source: The researcher's preparation based on the general statistics' data

After presenting the sectors, Jordan's national exports and the number of products, it is necessary to analyze Jordanian products according to each of the 20 sectors, with a review of the value of exports to each of these sectors globally, the volume of Jordan's exports and imports in each sector, in

addition to highlighting the most important goods that have a competitive advantage to ensure the importance of this commodity in terms of investment, and we must not forget the role of international markets, to allow Jordan to choose the appropriate market for each product, which will have a positive impact on our foreign trade and raise the value of our national exports, which is reflected on the Commercial balance and hence economic growth (Jordanian Department of Statistics, Jordan Strategy Forum, World Bank).

### III. Data and methodology

The statistical database of Jordan Central Bank has been used to obtain annual data for: real GDP growth, import unit price index, export unit price index, and Jordanian exports. While the index of the imports value of industrialized countries from developing countries was obtained from the World Bank database Method

In view of previous studies and in line with economic theory, the following model was formulated:

$$LY = F[LEXI, LTOT, LFD]$$

All variables were taken in the logarithmic formula after adding 0.2 to all the time series values EXI.

Y: Jordanian economic growth.

EXI: The instability of primary export revenues in Jordan.

TOT: The rate of trade of primary exports in Jordan.

FD: External demand for primary exports in Jordan.

The previous model was accessed based on a group of scientists and economists and was as follows:

EXI: The instability of export earnings.

It is defined as the deviation of the actual values of primary export earnings from their normal values (Love, 1985).

In light of this,

$$EXI = (X_t - X) / X$$

Where:

X<sub>t</sub>: Actual values of primary exports.

X: Normal values of primary exports (estimated).

TOT: The exchange rate of primary exports.

The net exchange rate, represented by the export price index divided by the import price index (Nuri, 2004) will be taken into account. (Nouri, 2004)

$$TOT = P_x / P_m$$

Where:

$P_x$ : The index of export prices in Jordan.

$P_m$ : The index of import prices in Jordan.

FD: External demand for primary exports in Jordan.

There are several models used to measure the external demand, but we will take the formula used by the scientist (Renton), which used the index of total imports of industrialized countries from developing countries, to measure their demand for exports from developing countries.

$$FD = LOG(V_m)$$

Where:

$V_m$ : the index of the imports value of industrialized countries from developing countries.

Unit Root Tests:

The time series stability test is determined as one of the most important tests to be performed, where the statistical stability in the absence of data stability leads to unrealistic and misleading results or Spurious Regression. There are many methods used to test the stability of variables. Unit Root Tests is the most common methods.

In general, we say that the  $X_t$  time series is strictly (stable) when:

1. Its' arithmetic mean is constant: that is, the prediction of the time series equals the arithmetic mean of the community.

$$E(X_t) = \mu$$

2. Its' variation is constant.

$$Var(X_t) = \sigma^2$$

3. The common variance between  $X_t$ ,  $X_t + k$  depends on  $k$  only, which means:

$$Y_k = cov(X_t, X_t + k) = E[(X_t - \mu)(X_t + k - \mu)], \quad k = 1, 2, 3, \dots, T$$

(Gujarati, 2004)

In order to test the timeliness of the time series and to determine the degree of its integration, two tests were used: the (Augmented Dickey - Fuller test - ADF).

Augmented Dickey - Fuller test - ADF:

Dicky-Fuller test is one of the most common tests that is used to detect time series stability and determine the degree of its integration. This test is based on the hypothesis: Time series are generated by the self-regression process. To verify the stability of time series, this test does the following:

$$Y_t = \mu Y_{t-1} + U_t \Delta 1 -$$

$$Y_t = C + \mu Y_{t-1} + U_t \Delta 2 -$$

$$Y_t = C + \beta t + \mu Y_{t-1} + U_t \Delta 3 -$$

If the error ( $U_t$ ) in the previous formulas suffers from an Autocorrelation problem, the DF test corrects it by adding a number of slow differences to the equations and becomes as follows:

$$Y_t = C + \mu Y_{t-1} + \sum_{i=1}^p \alpha_i \Delta Y_t + U_t \Delta$$

The Dicky-Fuller test is then called the ADF augmented dickey fuller test.

### Lag Length Selection Test:

The existence of the problem of serial correlation to the point of error leads to misleading and unrealistic results, so it is necessary to find a way to fix this problem. Finding the appropriate number of decelerations periods for variables is one of the most effective methods, and many criteria will be used to reach the number of periods in the model such as:

1. Likelihood Ratio Test (LR)
2. Final Prediction Error Criterion (FPE)
3. Hannan Quinn Criterion (HQ)
4. Akaike Info Criterion (ATC)
5. Schwarz Info Criterion (SIC)

Joint Integration Testing:

There are many tests used to test co-integration, such as (Johansen and Juselius, 1990) and Engle and Granger (1987). The latter test is used in models consisting of only two variables, one independent and one dependent, while the first test is used in multivariate models (two or more variables). Both require that all variables in the model be integrated at the same level or rank. In addition, conducting these tests sometimes leads to misleading and unrealistic results, if the sample size is small. The ARDL (Autoregressive Distributed Lag) will be used. This model which was presented by Pesaran



et, al.,(2001), is flexible, where it can be used if the data is stable at level I (0) or stable at the level I (1) or a combination of them (Hoge and Yusop, 2010). The ARDL method will be used in three stages, firstly, the combined integration of the variables in the Unrestricted Error Correction Model (UECM) will be tested on the following formula:

$$Y_t = \mu + \sum_{i=1}^n \alpha_i \Delta Y_{t-i} + \sum_{j=0}^n \gamma_j \Delta X_{t-j} + \alpha_1 Y_{t-1} + \alpha_2 X_{t-1} + U_t \Delta$$

Where:

(Y<sub>t</sub>): The dependent variable

(X<sub>t</sub>): The independent variable

(A): The coefficients of variables

(M): The section

(Δ): The first difference of variables,

(U<sub>t</sub>): Random error limit. (Baranzini, et al., 2003).

The null hypothesis is as follows:

– There is no common integration between variables

$$H_0: \alpha_1 = \alpha_2 = 0$$

Against the alternative hypothesis of:

– There is a common integration between variables (there is a long-term equilibrium relationship)

$$\alpha_1 \neq \alpha_2 \neq 0, H_1:$$

To test the previous hypothesis, specific tests such as the Wald Test are usually used to compare the calculated F value with the tabular F values within the critical limits proposed by pasaran et. Al, where there is a table with minimum limits (LCB) that assumes the integration of null (I) 0 and upper limits(UCB) that assume the integration of first-order variables (1),where if calculated F values are greater than UCB We reject the null hypothesis (H<sub>0</sub>) and accept the alternative hypothesis, which means that there is a common integration of the variables. If the value of F is less than the LCB, we accept the zero hypothesis, which means that there is no common integration between the variables. However, If the value of F falls between LCB and UCB, we can not resolve the result. But, If the null hypothesis is rejected and while it is found that there is a common integration between the variables, then we move to the next stage, which is

the estimation of the relationship in the long term, where the formula takes the following form:

$$Y_t = \mu + \sum_{i=1}^n \alpha_i \Delta Y_{t-i} + \sum_{j=1}^n \gamma_j \Delta X_{t-j} + U_t \Delta$$

where (Y<sub>t</sub>): the dependent variable, the independent variable ((γ, α, coefficient for the variables, μ: constant , delta: lag periods for the first difference of variables

$$1 - \sum_{j=1}^n \gamma_j / E_{xi} = (\sum_{i=1}^n \alpha_i) / (\alpha)$$

Where (E<sub>xi</sub>): the long-term elasticity of the variable X<sub>i</sub>.

### Cosum's stability test (Cusum):

The knowledge of the structural changes in the model behavior is no less important than stability tests and data integration. In order to test the structural changes in the models, we will use the Cusum test. This is one of the most common used tests. The results of this test are in the form a curve of errors in the resulting model when estimating the (ARDL). If the curve appears within the critical limits throughout the study period, the parameters of this model are stable at that time, so that we can make an estimate over the length of the period without having to divide the period into parts, but If the curve came out from the critical boundary, it is necessary to divide the period into partial periods, so that these partial periods are stable (Brown et al., 1975).

### Results

To test the stationary of the variables, the extended ADF test was applies.

The results were as shown in table (4-1)

Table (4-1) extended ADF test results

variable	Calculated t value	Tabular value			
		%1	%5	%10	
LY	-7.0709	- 3.7378	- 2.4919	- 2.6355	Level
LFD	-1.8607	- 3.7378	- 2.4919	- 2.6355	Level
	-4.4847	- 3.7529	- 2.9981	- 2.6422	First difference

LTOT	-1.0988	-	-	-	Level
	-4.6857	-	-	-	First difference
LEXI	-5.9291	-	-	-	Level

The results in Table (4-1) show that the variable LEXI and LY are stable at level. While the rest of the variables were stable when taking the first difference, where they were all stable at a significant level 1%, which means that they are co-integrated at I (1) .

#### Lag Length Selection Test

After conducting the necessary tests for testing the determination of the optimal number of time lapse times (LLS), the results in Table (4-2) showed the following:

Table (4-2) Test results of determination the number of time decelerations

[LY, LTOT, LFD, LEXI]					
HQ	SC	AIC	FPE	LR	Lag
4.137264	4.293042	4.094086	0.000705	NA	0
2.541529	3.320419	2.325636	0.000125	52.67614	1
2.335077	3.737078	1.946469	0.000104	22.83572	2
2.148300	4.173414	1.586977	0.000132	15.06641	3
-7.543766*	-4.895540*	-8.277804*	3.74e-08*	45.55436*	4

Where:

(LR): Likelihood Ratio Test

(FPE): Final Prediction Error Criterion

(HQ): Hannan Quinn Criterion

(ATC): Akaike Info Criterion

(SIC): Schwarz Info Criterion

We note from the previous table that there are four deceleration periods in the model used in the study to show the effect of primary export problems on economic growth in Jordan during the period 1990-2014.

#### Co-integration test

the co-integration between the dependent variable and the independent variables in the three models and the possibility of long-term equilibrium relationships will be tested through the border testing procedure proposed by Pasaran et al.

#### Bound - Test:

The time series are not stable at all levels and have become stable after taking the first difference. This

indicates that they are integrated at I (1), which makes a high possibility of a long-term equilibrium relationship between the variables. To achieve this, (ARDL) was used by using the (Bound Test) proposed by (Pasaran, et al., 2001).

Table (4-3) Results of the border test

Models	Fcalculated	%1		%5		%10		K=3
		I(0)	I(1)	I(0)	I(1)	I(0)	I(1)	
LY=F[LTOT, LFD, LEXI]	12.9203	4.29	5.61	3.23	4.35	2.72	3.77	CO-integration
LFD=F[LTOT, LY, LEXI]	2.9054	3.74	5.06	2.86	4.01	2.45	3.52	NO-integration
LEXI=F[LTOT, LFD, LY]	14.7348	3.74	5.06	2.86	4.01	2.45	3.52	CO-integration
LTOT=F[LY, LFD, LEXI]	1.5924	3.74	5.06	2.86	4.01	2.45	3.52	NO-integration

The results of the boundary test in Table (4-3) indicate that some variables in the previous model have long-term relationships by comparing the value of calculated F with the limits. Thus the null hypothesis can be rejected (i.e. there is no common integration). That is, there are integrative relationships at the significance level. The Estimation of long-term elasticities:

Since the variables showed a common integration, this indicates a long-term equilibrium relationship between these variables. We used long-term elasticity estimation using the ARDL model. The results were as in Table 4.4:

Dependent variable LOG(Y)

ARDL(2,1,0,2), Akaike criterion( AIC)

Table 4.4 elasticity estimation economic growth

Long Run Coefficients				
Prob.	t-Statistic	Std. Error	Coefficient	Variable
0.0133	2.830944	0.154533	0.437474	LOG(FD)
0.0004	4.602618	0.151324	0.696484	LOG(EXI)
0.3018	1.072103	0.395212	0.423708	LOG(TOT)
0.0000	-6.458002	0.272627	-1.760625	C
-3.097874	Mean dependent var	0.740990	R-squared	
0.507365	S.D. dependent var	0.592985	Adjusted R-squared	
0.868093	Akaike info criterion	0.323687	S.E. of regression	
1.312417	Schwarz criterion	1.466827	Sum squared resid	
0.979839	Hannan-Quinn criter.	-0.983073	Log likelihood	
1.773068	Durbin-Watson stat	5.006504	F-statistic	
		0.004359	Prob(F-statistic)	

Table 4.4 shows the estimated coefficients of the independent and long-term variables, as the real GDP growth is a dependent variable. we note that the ARDL model used by EVIEWS 9 determined a

slowdown period of (2,1,0,2.) The results indicate that the mean value of (R<sup>2</sup>) was 74.1%, which means that the combined independent variables explain (74.1%) of the change in real GDP growth in the average. : External demand for exports and instability of primary exports and the section is statistically acceptable. Since the model is logarithmic, all transactions represent long-term elasticities between independent and dependent variables, while the results showed that the elasticity of external demand for primary exports and instability in export earnings has a direct correlation with economic growth, ie a 1% increase Increases economic growth by 0.437% and 0.696%, respectively, with other factors remaining constant. Therefore, the long-term economic growth deficit equation can be written as follows:

$$LY = -1.76 + 0.437 FD + 0.696 EXI + 0.423 TOT$$

..... (1)

Estimation of short-term elasticities:

There are not many explanations for transactions in the short term, because the variables have shown co-integration and long-term elasticities, but the short-term elasticities are estimated to follow the CointEqcoefficient. The results of the estimation of the elasticities were as shown in Table (4-5).

Dependent var. D (LOG(Y))

Table (4-5) The results of short term elasticities of the equation of economic growth

Co-integrating Form				
Prob.	t-Statistic	Std. Error	Coefficient	Variable
0.2321	1.249052	0.084293	0.105287	DLOG(Y(-1))
0.0230	2.552627	0.218173	0.556914	DLOG(FD)
0.0019	3.824032	0.110026	0.420742	DLOG(EXI)
0.9813	0.023845	0.841751	0.020072	DLOG(TOT)
0.0029	3.596933	0.821200	2.953801	DLOG(TOT(-1))
0.0000	-7.849230	0.162184	-1.273022	CointEq(-1)

After reviewing the results of the estimation in the short term, the results indicated that the model approaches the long-term model by the value of the error correction coefficient (because its value is negative) and the absolute value indicates the imbalance in the balance of the previous period, There were shocks in the independent variables of the study, which would affect the dependent study variable. This was about 127% in the equation of economic growth.

## (CUSUM, CUSUM OF SQUARE) TEST

After conducting the (CUSUM, CUSUM OF SQUARE) test, it was found through the results that there was no need to divide the study period into partial periods in the model

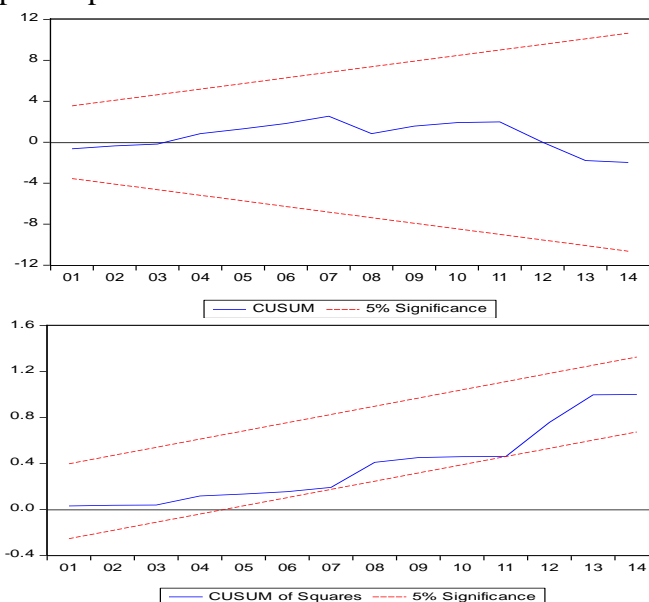


Figure (4-1) Cusum And Cusum OF Square [LY, LTOT,LFD,

LEXI ]

## Diagnostic tests:

To ensure that the model is free from standard problems (self-correlation, error variability instability), appropriate diagnostic tests were performed as shown in Table (4-6)

Table (4-6) Results of diagnostic tests

Equations	Test	Test statistic	Prob.
LY=F[LFD, LTOT, LEXI]	Serial correlation test	F- Cal.=0.146	86.6%
	Heteroscedasticity test	F- Cal.=0.414	89.3%

We note from the previous table that the probability values for F are greater than 5% in the model. This means acceptance of the zero hypothesis (no self-correlation between errors, constant variance of errors)

## IV. Conclusions and Recommendations

The study showed that the variable of the trade exchange rate and the external demand on the primary exports are stable at the first difference at the significant level of 1%, while the time series of economic growth rate instability of the primary export returns is stable at the significance level of

1%. However, the analysis of the co-integration between the problems of primary exports and economic growth showed an interchangeable relationship and the effect of independent variables on economic growth were consistent with economic theory. In addition to this, the estimated results of the study model showed that the relationship between the instability of primary export returns and economic growth Was consistent with the prevailing belief in the first trend in the theoretical framework of the study, which confirmed the existence of a positive relationship between the instability of the returns of primary exports and economic growth, as the increase of instability by 1% leads to an increased growth by 0.696% on average, with other factors remaining constant. As for the interchangeable relationship between external demand on primary exports and economic growth, it was positive, i.e., if there is improvement, it leads to an improvement in economic growth rates and vice versa. The results showed that this improvement is 0.437%, While the coefficient of the exchange rate was statistically unacceptable. Moreover, the researcher found that the Jordanian economy is economy- responsive to fluctuations in foreign trade, as its exports are mainly primary products, and these exports are subject to instability and change due to external demand. Therefore, there is a negative correlation between instability and the slow external demand for primary exports and economic growth.

**Recommendations:** the researchers recommended that Jordan should pay more attention to studying the problems facing the primary exports in foreign trade, especially the problems referred by this study: namely the problem of lower external demand, the decline in terms of trade and the instability of the returns of primary exports. in addition, Jordan should find alternative markets for the markets that suffer from economic and political crises, so that these markets are more stable in terms of prices and demand to sell their primary and non - primary exports, so as to increase the impact of exports in supporting Jordan 's economy

until diversifying its export base. furthermore, Jordan should activate the export sector by directing all forms of financial and technical support and directing new investments towards this sector in order to meet the requirements of the Jordanian development plans. And more importantly, it is necessary for Jordan to reduce reliance on exports of raw materials, because of the developments in technology worldwide, and the ability of the industrialized countries to find industrial alternatives of raw materials at lower cost and higher quality.

## REFERENCES

- [1] L. Theodory, "The effect of remittances and foreign direct investment on economic growth in Jordan." 2017.
- [2] N. A. Afeef, E. V Savenkova, and A. Y. Bystryakov, "Economy of Jordan: obstacles and prospects of progress of a developing economy," in International conference" Economy in the modern world"(ICEMW 2018), 2018.
- [3] N. M. Alsharari, "The development of accounting education and practice in an environment of socio-economic transformation in the Middle East: The case of Jordan," *Int. J. Educ. Manag.*, vol. 31, no. 6, pp. 736–751, 2017.
- [4] B. M. Ramadan, S. E. Dahiyat, N. Bontis, and M. A. Al-Dalahmeh, "Intellectual capital, knowledge management and social capital within the ICT sector in Jordan," *J. Intellect. Cap.*, vol. 18, no. 2, pp. 437–462, 2017.
- [5] R. Masa'deh, A. Alrowwad, F. Alkhalafat, B. Obeidat, and S. Abualoush, "The role of corporate social responsibility in enhancing firm performance from the perspective of IT employees in Jordanian banking sector: The mediating effect of transformational leadership," *Mod. Appl. Sci.*, vol. 12, no. 7, pp. 1–26, 2018.
- [6] K. M. Al-Sawai'e and S. A. A'aL, "THE IMPACT OF TRADE ACCOUNT DEFICIT ON UNEMPLOYMENT SCENARIO: AN EMPIRICAL STUDY ON JORDAN DURING THE PERIOD OF 2000-2012 14."
- [7] B. Y. Obeidat, M. M. Al-Suradi, R. Masa'deh, and A. Tarhini, "The impact of knowledge management on innovation: An empirical study on Jordanian consultancy firms," *Manag. Res. Rev.*, vol. 39, no. 10, pp. 1214–1238, 2016.
- [8] K. S. Rajha, "Determinants of non-performing loans: Evidence from the Jordanian banking



- sector," J. Financ. Bank Manag., vol. 4, no. 1, pp. 125–136, 2016.
- [9] M. Arif, A.-Z. Mohammed, and A. D. Gupta, "Understanding knowledge sharing in the Jordanian construction industry," *Constr. Innov.*, vol. 15, no. 3, pp. 333–354, 2015.
- [10] A. Z. Al-abadallat, "The role of the Jordanian banking sector in economic development," *Int. Bus. Res.*, vol. 10, no. 4, p. 139, 2017.
- [11] G. A. Al-Weshah, E. Al-Manasrah, and M. Al-Qatawneh, "Customer relationship management systems and organizational performance: Quantitative evidence from the Jordanian telecommunication industry," *J. Mark. Commun.*, vol. 25, no. 8, pp. 799–819, 2019.
- [12] A. Matar and B. M. Eneizan, "Determinants of financial performance in the industrial firms: Evidence from Jordan," *Asian J. Agric. Extension, Econ. Sociol.*, pp. 1–10, 2018.
- [13] P. Agrawal, "The role of exports in India's economic growth," *J. Int. Trade Econ. Dev.*, vol. 24, no. 6, pp. 835–859, 2015.
- [14] S. M. Diab, F. A. Al-Bourini, and A. H. Abu-Rumman, "The impact of green supply chain management practices on organizational performance: a study of Jordanian food industries," *J. Mgmt. Sustain.*, vol. 5, p. 149, 2015.
- [15] B. M. Eneizan, K. A. Wahab, and K. A. Wahab, "Determining the factors influencing use of mobile marketing by industrial firms: an empirical investigation of Jordanian industrial firms," *Indian J. Comput. Sci.*, vol. 1, no. 1, pp. 25–36, 2016.
- [16] I. Z. Ramadan, "An empirical investigation of the trade-off theory: Evidence from Jordan," *Int. Bus. Res.*, vol. 8, no. 4, pp. 19–24, 2015.
- [17] R. M. S. Istaiteyeh and M. T. Ismail, "A causal relationship between foreign direct investment, economic growth and export: empirical case for Jordan," *Adv. Manag. Appl. Econ.*, vol. 5, no. 4, p. 19, 2015.
- [18] N. Alzboun, H. Khawaldah, K. Backman, and D. Moore, "The effect of sustainability practices on financial leakage in the hotel industry in Jordan," *J. Hosp. Tour. Manag.*, vol. 27, pp. 18–26, 2016.
- [19] A. Matar and H. A. Bekhet, "Causal interaction among electricity consumption, financial development, exports and economic growth in Jordan: Dynamic simultaneous equation models," *Int. J. Energy Econ. Policy*, vol. 5, no. 4, pp. 955–967, 2015.
- [20] R. ISTAITEYEH, "Electricity Consumption and Real GDP: Are They Causal for Jordan?," *Int. J. Econ. Perspect.*, vol. 10, no. 4, 2016.
- [21] H.-E. Daoud and M. Basha, "EXPORT-LED GROWTH: TIME SERIES APPROACH ANALYSIS" CASE OF JORDAN, KUWAIT, AND EGYPT," *Eur. Sci. J.*, vol. 11, no. 7, 2015.
- [22] A. B. Abdallah, B. Y. Obeidat, N. O. Aqqad, M. N. K. Al Janini, and S. E. Dahiyat, "An integrated model of job involvement, job satisfaction and organizational commitment: a structural analysis in Jordan's banking sector," *Commun. Netw.*, vol. 9, no. 1, pp. 28–53, 2016.