

## The Impact of Jordan Exports on the National Economy: An Analytical Study for the Period 2000-2012

Talal M. Bataineh

Khaled M. Abu Aliqah

Department of Business Economic  
Tafila Technical University

### Abstract

*This study investigates the impact of national exports on the national economy in Jordan for period (2000-2012). To achieve this purpose the researchers used Vector Error Correction Mechanism on quarterly data between 2000 and 2012. The study has shown that there is much relevance between the increases of national exports with that of the national economy. The increase of the national exports will positively reflect upon the increase of the country's national economy, which will also positively reflect upon the decrease of the national imports.*

**Keywords:** National Economy, Exports, Import Jordan Economy, Economic Growth

### Introduction

Economic growth represents a very important and strategic objective most countries seek to achieve despite the different economic systems. The purpose of doing so is to increase the average of the living standards level for individuals inside their communities. The majority of economic approaches have tackled the significance of the external trade and its significance in the economic growth for countries in that any increase that might occur on the number of exports will definitely help achieve the development plans and increase the economic growth.

Economic schools have emphasized the fact that the effective way to increase the fortune of one's country normally comes from increasing the number of exports and achieving an surplus in the commercial domain by the virtue of the government's interference (1)

Then the natural school appeared whose pioneers argued against all forms of government interference and against the protective restrictions on the external trade that paved the way for the rise of the classical economic belief (2). Adam Smith, in fact, is considered the founder of this school which gained much power at the hands of David Ricardo and Robert Maltose (3), he also stressed on the notion of the significance of the economic growth and development in the construction of the nations' fortunes as he defended the economic freedom especially in the scale of the international trade but on different bases from traders. Smith pointed out that following any free of charge, political and commercial policy in a particular country will definitely lead to a reduction in the productivity of the product such country has got a special yet relative feature of producing, thus leading to achieving an economic growth with higher rates through the principle of specialization and dividing the international work. Later, many economic schools, of different disciplines, have come into the scene and had a consensus on the significance of external trade and its role in the economic development. In modern ideology, Hicks and Finez agree with the notion that the ratio of the economic growth in a country depends heavily on the size of its international and external trade due to its great contribution to the economic growth.

This study, in effect, came as a response to the significance of the section of exports because of the great influence it has especially in bringing hard currency, creating lots of job opportunities, and settling the financial deficits in the trade balance. Jordan, in effect, suffers from a chronic deficit in its trade balance. Therefore, Jordan has worked to attract the foreign investment and encouraging local investment through providing an –investments incentives and in addition to the binary and international agreement in an attempt to increase the amounts of the Jordanian exports because of their utmost significance in the economic growth.

### ***The Problem of the Study***

The sector of external trade in Jordan suffers from a number of problems related to economics and the deficits of the production structure. The continuous and chronic deficit in the Jordanian trade system, which, in effect, will influence the operations of economic development which will reflect positively upon the living standards of human beings. Exports in Jordan still rely on a number of specified goods and products once compared to the imports.

### ***The Significance of the Study***

The significance of the present study stems from the relationship of the (Jordanian) exports and their effect on the Jordanian economy during the years 2000-2012 due to the importance of such exports in pushing the process of economic development ahead. Further, the study is considered important as it is an amalgamation between a descriptive and an analytical study that closely shed light on the role played by the Jordanian exports on the Jordanian economy.

### ***The Objective of the Study***

This study aims at identifying the relationship between the exports and their impact on the Jordan economy) during the period, from 2000-2012. Also, it aims at inferring the consequences and presenting the suggestions and recommendations that will positively contribute to the progress and increase of the exports quantity and in making the economic growth step forward.

### ***The Method and Hypothesis of the Study***

This study fully depends on the descriptive and analytical approach through a set of related statistical data which are issued by formal authorities through annual reports and brochures. Further, the study will use an analytical model for the time series by using unit root test and co-variance test and cause-effect test. Based upon the results of these tests the researchers have used a model to check the error and show the short-run equilibrium among the variables of the study.

This study has assumed that there is a positive relationship between exports quantity and Gross Domestic Product GDP.

### ***Literature Review***

Abu Jame, Jaber (2005) studied the performance of the advanced foreign trade compared with Egypt, Jordan and Syria for the period of 1968-2000. The researcher have employed Yan's model for analysis. The study has also shown that the economic activity represented by the gross domestic product have slight influence on the average of commercial exchange, the thing that reflect a weakness in correlative relationship between the productive capabilities and exporting potentials in those countries. (Abu Eideh, Omar 2012) also, studied the obstacles of foreign trade. The study has reached to the conclusion that the lack of motivation and facilities granted to exporters in addition to a weakness of the promotion policies were the main obstacles and hindrances that face the Palestinian exporters on the level of the international markets. This could be attributed to the fact that the Palestinian marketing product-mix doesn't match with the foreign markets because of not following up with the foreign consumers' tastes and potentials.

Al Mahjoubi (2006) investigated the impact of export on Libyan economy the study's conclusion focused on the significance of the domination of the petroleum sector on the Libyan exports. However, non-petroleum sectors formed only but a little portion of the gross Libyan exports. The study recommended that Libyan organizations and institutions need vary in their foreign exports without fully focusing on exporting petroleum products only, with a trend to resort to petroleum related industries. The estimation of the influence of the exports on the economic growth in the Islamic countries; explored by Al-Abdali, Abed (2005) the study showed that the influence of the variable of exports in Petroleum countries was bigger than the influence of the investment variable. However, the investment variable has proved to be much more influential than the variable of exports. The current study investigates the impact of national exports on the national economy in Jordan for period (2000-2012).

### ***The Development of the Jordanian Exports during the Period of 2000-2012***

Based upon the most recent data issued from the Department of Public Statistics, the statistics in Table 1 below show the growth of the exports level in Jordan during the period study.

**Table 1: The Gross Jordanian Exports for the Period 2000-2012**

| Year | National Exports* <sup>1</sup> /Million JD |
|------|--|
| 2000 | 1346581,5                                  |
| 2001 | 1626732,5                                  |
| 2002 | 1963942,5                                  |
| 2003 | 2136667,9                                  |
| 2004 | 2753023,9                                  |
| 2005 | 3049561,4                                  |
| 2006 | 3689881,1                                  |
| 2007 | 4063641,3                                  |
| 2008 | 5633005,0                                  |
| 2009 | 45263224,3                                 |
| 2010 | 4990117,3                                  |
| 2011 | 5684579,3                                  |
| 2012 | 5599471,7                                  |

The Source: Department of the Public Statistics-The Jordanian Annual Book-2012.

From the table above, it is noted that there is an increase in the size of the Jordanian exports through the available data that point to an increase in the level of the Jordanian exports despite the economic fluctuations and the policies that influenced the Arab region and which had a great yet direct influence on the Jordanian economy due to its close connection with some Arab markets. In spite of this, from the table, one can notice that the number of exports in Jordan has increased from 1346581, 5 in 2000 to reach 5599471,7 in 2012 with an increase of 425289 if compared with the beginning of the period.

This increase, in effect, have been reflected on achieving economic growth ratios therefore providing job opportunities through establishing industrial areas which are qualified and which contributed to increasing the domestic and international investment in the region. This, in turn, has reduced the level of unemployment and combated the level of poverty, as well. It also contributed to entering hard currencies into the country and achieving the sustainable yet needed economic growth. This, as a matter of fact, may not have been achieved without the proper employment of the wise economic policies that Jordan employed in addition to its strategic and geographical location in the world.

Table 2 below shows the national exports with their percent compared with the gross domestic product during the years of the study period as table 2 shows.

<sup>1</sup> Includes the national exports in addition to the re-exported products

**Table 2: The Percent of the Jordanian Exports to the Gross Domestic Product in Jordan for the Period 2000-2012**

| YEAR | GDP       | National Export* <sup>2</sup> | Percent of exports to domestic Product |
|------|-----------|-------------------------------|--|
| 2000 | 5153,6000 | 1346581,5                     | 26,12%                                 |
| 2001 | 5470,000  | 1626732,5                     | 29,73%                                 |
| 2002 | 5849,000  | 1963942,5                     | 33,57%                                 |
| 2003 | 6301,3000 | 2136667,9                     | 34,67%                                 |
| 2004 | 7195,000  | 2753023,9                     | 38,26%                                 |
| 2005 | 7963,600  | 3049561,4                     | 38,29%                                 |
| 2006 | 9362,783  | 3689881,1                     | 39,41%                                 |
| 2007 | 1080,128  | 4063641,3                     | 37,60%                                 |
| 2008 | 13971,201 | 5633005,0                     | 40,31%                                 |
| 2009 | 15044,51  | 45263224,3                    | 30,08%                                 |
| 2010 | 16417,19  | 4990117,3                     | 30,39%                                 |
| 2011 | 17987,656 | 5684579,3                     | 31,60%                                 |
| 2012 | 19298,19  | 5599471,7                     | 29,01%                                 |

The source: Jordan Central bank-Statistical pamphlet

From the table above, it is noted that there is a fluctuation in the percent of the national exports to the gross domestic product as the percent in 2000 was 26% and this percent continued to increase until in 2009 it reached 40,31%, thus scoring the highest percent during the study period. However, in 2012 it decreased to become 29,01, a result that could be attributed to the political disorders that took place in some Arab countries, which, at that time, constituted a great market for the Jordanian exports because Jordan was depending heavily on the Arab free trade zone with a percent of 40% of the Jordanian foreign trade total for the year 2011. The exports sold around 4780 Million JDs in 2011 where the Iraqi market was on top of the Arab countries importing the Jordanian exports followed by Saudi Arabia, Lebanon, and then Syria.

Despite the increase in the level of the Jordanian exports, the Jordanian imports during the same period have increased rapidly as shown in Table 3 below.

**Table 3: The Percent of the Jordanian Imports to the Gross Domestic Product in Jordan for the Period 2000-2012**

|      | GDP       | National Imports | Percent of imports to GDP |
|------|-----------|------------------|---------------------------|
| 2000 | 5153,6000 | 3259403,7        | 63,24%                    |
| 2001 | 5470,000  | 3453729,3        | 63,13%                    |
| 2002 | 5849,000  | 3599160,4        | 61,53%                    |
| 2003 | 6301,3000 | 4072007,7        | 64,62%                    |
| 2004 | 7195,000  | 5799241,4        | 80,60%                    |
| 2005 | 7963,600  | 7442863,7        | 93,41%                    |
| 2006 | 9362,783  | 8187724,6        | 78,44%                    |
| 2007 | 1080,128  | 9722193,6        | 89,97%                    |
| 2008 | 13971,201 | 12060894,8       | 86,32%                    |
| 2009 | 15044,51  | 10107696,0       | 67,18%                    |
| 2010 | 16417,19  | 11050126,4       | 67,30%                    |
| 2011 | 17987,656 | 13440215,3       | 74,71%                    |
| 2012 | 19298,19  | 147733749,3      | 76,34%                    |

The source: Jordan Central bank-Statistical pamphlet, Different volumes.

<sup>2</sup> Includes the national exports in addition to the re-exported products

From the table above, it is noted that the Jordanian imports have formed a percent of 63, 24 5 in 2000 then it increased to a great extent to reach 93, 41 in 2005. However, it then decreased during period 2007-2009 to reach 67, 30% then increased in 2012 with a percent of 76, 34. That said, these percents are considered very high and reflects, thus unveils the hidden secrets about the Jordanian economy in that it highly depends on the external imports to a large extent.

Throughout the years 2006 through 2011 there was a decrease in the percent of imports compared with the domestic products as the percent scored was 67, 30 % in 2010 then this percent increased in 2012 to become 76, 34%. This increase is attributed to many factors such as the Syrian refugees to Jordan whose number was more than 600 thousand refugees, the thing that contributed to an increase of the petroleum prices worldwide, thus reflecting negatively on the Jordanian economy. Because of the high quantities of the Jordanian imports there was a remarkable increase of deficiency in the Jordanian trade cycle, especially during the study period as it noticeable that the Jordanian economy suffers from a chronic deficit in its trade-budget, as is shown in table 4 below.

**Table 4: The Development of Imports and Exports and the Balance Trade from 2000-2012**

|      | National Imports | National Exports <sup>3</sup> | Trade Cycle |
|------|------------------|-------------------------------|-------------|
| 2000 | 3259403,7        | 1346581,5                     | -19192822,2 |
| 2001 | 3453729,3        | 1626732,5                     | -1826996,8  |
| 2002 | 3599160,4        | 1963942,5                     | -1635217,9  |
| 2003 | 4072007,7        | 2136667,9                     | -1935339,8  |
| 2004 | 5799241,4        | 2753023,9                     | -3046217,5  |
| 2005 | 7442863,7        | 3049561,4                     | - 4393302,3 |
| 2006 | 8187724,6        | 3689881,1                     | - 44978435  |
| 2007 | 9722193,6        | 4063641,3                     | -5658552,3  |
| 2008 | 12060894,8       | 5633005,0                     | -6427889,8  |
| 2009 | 10107696,0       | 45263224,3                    | -5581371,7  |
| 2010 | 11050126,4       | 4990117,3                     | -6060009,1  |
| 2011 | 13440215,3       | 5684579,3                     | -7755636,01 |
| 2012 | 147733749,3      | 5599471,7                     | -9134277,6  |

The source: Department of Public Statistics-The Jordanian Annual Statistical Book, 2012.

The data above points to a clear deficit in the trade-cycle, thus negatively reflects upon the Jordanian economy. As far as the trade cycle is concerned, the deficit has increased from 1912822, 2 in 2000 to 9134277, 6 in 2012. This indicates that the Jordanian trade cycle suffers from a critical crisis because of the economic openness due to the existence of the trade-laden policies Jordan adopted and also because of the existence of no policies that aim at developing the productivity base for the local product where the Jordanian economy has depended on foreign trade as well as the foreign and Arabic investment for the sake of increasing the opportunities of growth on international economics.

However, most of the production lines have been directed towards non-productive service-oriented sectors. Among the reasons that contributed to a deficit in the trade scale is the prototype of consumption policies adopted by the Jordanian consumer the thing that requires more demand on the imported goods in general. It also leads to distancing the citizens from local products and his willingness in getting the foreign product. It is noted that the percent of the Jordanian exports to the Imports as is shown in table 5.

<sup>3</sup> Includes the national exports in addition to the re-exported products

**Table 5: The Development of Imports and Exports and the Percent of the Exports to the Imports 2000-2012**

|      | National Imports | National Exports <sup>4</sup> | Import/Export Percent <sup>5</sup> |
|------|------------------|-------------------------------|------------------------------------|
| 2000 | 3259403,7        | 1346581,5                     | 1:2,42                             |
| 2001 | 3453729,3        | 1626732,5                     | 1:2,12                             |
| 2002 | 3599160,4        | 1963942,5                     | 1:1,83                             |
| 2003 | 4072007,7        | 2136667,9                     | 1:1,90                             |
| 2004 | 5799241,4        | 2753023,9                     | 1: 2,10                            |
| 2005 | 7442863,7        | 3049561,4                     | 1:2,44                             |
| 2006 | 8187724,6        | 3689881,1                     | 1: 1,21                            |
| 2007 | 9722193,6        | 4063641,3                     | 1: 2,39                            |
| 2008 | 12060894,8       | 5633005,0                     | 1:2,14                             |
| 2009 | 10107696,0       | 45263224,3                    | 1:2,23                             |
| 2010 | 11050126,4       | 4990117,3                     | 1:2.21                             |
| 2011 | 13440215,3       | 5684579,3                     | 1:2,36                             |
| 2012 | 147733749,3      | 5599471,7                     | 1:2,36                             |

From table 5 above, it is noticeable that the percent of the Jordanian exports to the imports were low during the study period. It reached 1:2,42 in 2000 then it increased to 1:2,63 in 2012 which means that each one Jordanian Dinar of exports meets 2,63 a Jordanian Dinar of imports. This thing, as a matter of fact, overloads the budget of the Jordanian government and increases the financial debts on the country.

### *Analytical Study*

In this study several Econometrics tests will be used, like Augmented Dickey Fuller's test to test the time series stationary, Johanson Cointegration test to test the cointegration between variables, and Granger Causality test to investigate the causal relation between the variables. The results of previous test show the need of using Vector Error Correction Mechanism to analyze the affect of macroeconomic shocks on the Jordanian Banking system.

#### **1. Unit Root Test**

To identify the stationary of the data Augmented Dickey Fuller (ADF) test is used; the results show that the variables are stationary at the first difference. Table (6) reported ADF results.

**Table (6): Augmented Dickey Fuller Test Results**

|                         | RS Statistics | CPI Statistics |
|-------------------------|---------------|----------------|
| <b>First Difference</b> | -7.1          | -6.09          |

Critical value at 5% level of significance is -2.92

#### **2. Cointegration**

The Johnson cointegration test is used in order to test for cointegration,. The trace and max-egen value statistics indicate that at least there is one cointegration vector existing at 5% level of significance, the results reported in table (7) and (8).

**Table (7): Johanson Cointegration Test Results**

| Hypothesized No. of (Ecs) | Egenvalue | Trace statistic | 0.05critical value | Prob.  | max-Egen statistics | 0.05critical value | Prob.  |
|---------------------------|-----------|-----------------|--------------------|--------|---------------------|--------------------|--------|
| <b>None</b>               | 0.367301  | 23.68150        | 15.49471           | 0.0024 | 22.88800            | 14.26460           | 0.0017 |
| <b>At most 1</b>          | 0.015745  | 0.793506        | 3.841466           | 0.3730 | 0.793506            | 3.841466           | 0.3730 |

<sup>4</sup> Includes the national exports in addition to the re-exported products

<sup>5</sup> Done by the current researchers

### 3. Granger Causality Test

The results of the casualty test reported in table (7), which indicates that the relationship between X and GDP tow direction relationship, that is, X does cause GDP and GDP does cause X.

**Table (8): Granger Causality Test Results**

| Null Hypothesis | F-Statistic | Prob.  | Result |
|-----------------|-------------|--------|--------|
| X → GDP         | 4.65541     | 0.0145 | Accept |
| GDP → X         | 4.64163     | 0.0147 | Accept |

### 4. Vector Error Correction Model (VECM)

According to the results of the previous three tests, the Vector Error Correction Mechanism (VECM) is the convenient statistic analysis that could be used in this case (Cujarati, 2003). Estimating the VECM indicate that the adjustment coefficient on cointegration equation 1 for X is negative and equals 69.42%, the results of VECM reported in table (9).

**Table (9): Vector Error Correction Model Results**

| Co integrating Eq. | CoIntEq1 | Error Correction: | D(RS)   | D(CPI)     |
|--------------------|----------|-------------------|---------|------------|
| X(-1)              | 1        | CoIntEq1          | -0.6942 | 0.0000069  |
| GDP(-1)            | -1043.8  |                   | (0.147) | (0.000084) |

### 5. Variance Decomposition

Variance decomposition it's a way of characterizing the dynamic behavior of the model. This breaks down the variance of the forecast error for each variable into components that can be attributed to each of the endogenous variables. (Dehkordi et al. 2012, Sendeniz – Yuncu et al. 2006). Variance decomposition results reported in table (5). X highly related to the variable itself instead of other variable in the first 4 periods, then it become increasingly related to GDP, for 10 years forecast of X, 66.94% of forecast variance will be attributed to X shocks, 33.06% to GDP shocks.

**Table (10): Variance Decomposition Results**

| Period | S.E      | X        | GDP      |
|--------|----------|----------|----------|
| 1      | 71062.72 | 100.0000 | 0.000000 |
| 2      | 91909.11 | 99.83761 | 0.162389 |
| 3      | 100091.8 | 99.55660 | 0.443404 |
| 4      | 104206.7 | 92.16918 | 7.830816 |
| 5      | 113648.1 | 78.25233 | 21.74767 |
| 6      | 119708.4 | 72.51297 | 27.48703 |
| 7      | 121656.0 | 71.32373 | 28.67627 |
| 8      | 123232.5 | 69.51087 | 30.48913 |
| 9      | 126465.0 | 67.26202 | 32.73798 |
| 10     | 128907.7 | 66.94423 | 33.05577 |

### 6. Impulse Response Function (IRF)

The Impulse Response Function (IRF) traces out the response of one variable in the system to shocks in the error term. One shock of the standard deviation of the variable may affect the other variables positively, negatively, or both during the period. The IRF traces the response of endogenous variable overtime to a shock in that variable, and in every other endogenous variable in the system. One standard deviation innovation GDP affects X positively for the first four periods then negatively for the second four periods, finally One standard deviation GDP innovation affects X positively for the last two periods. Table (11) reported Impulse Response Function results.

**Table (11): Impulse Response Function (IRF) Results**

| Period | RS        | CPI      |
|--------|-----------|----------|
| 1      | 71062.72  | 0.000000 |
| 2      | 58169.20  | 3703.707 |
| 3      | 39247.59  | 5541.152 |
| 4      | 5894.874  | 28388.90 |
| 5      | -9914.151 | 44255.54 |
| 6      | -16858.35 | 33615.72 |
| 7      | -12840.02 | 17470.59 |
| 8      | -211.1551 | 19647.21 |
| 9      | 14191.09  | 24612.21 |
| 10     | 19151.22  | 16031.99 |

### **Conclusion and Recommendations**

This paper has attempted to identify the affect of national exports on national income, using quarterly data for the period 2000 to 2012. The unit root, cointegration and the causality tests, applied to the study data, mandated using the error correction model. The study has shown that there is much relevance between the increases of national exports in Jordan with that of the national economy. The increase of the national exports will positively reflect upon the increase of the country's national income, which will also positively reflect upon the decrease of the national imports.

The results of test indicate there is long run equilibrium between the variable according to the cointegration test, this result reveal that there is a positive relationship between national exports and national income according to the variance decomposition analysis and IRF. The relationship between the two variables was expected, an increase of domestic exports will improve the Trade Balance and reduces deficit, this will cause increase in the national income, and as a result the international reserves will increase also as the exports increase.

The current study has also recommended that the Jordanian government should pay much more attention with regard to the national exports through enlarging the productivity base, and also it should open new channels for new markets through holding binary agreements and exerting extra efforts on the commodities that Jordan excels with their productivity.

### **References**

- Abu Jame, Jaber. The Performance of the Developed Foreign Trade compared with Egypt, Jordan and Syria for the period of 1978-2000- The Islamic University Journal, vol. 13, No, (2), 2005.
- Abu Obaeida, Omar- Entering the Foreign Markets- The obstacles and Hindrances: a field Study from the perspective of the exporters- a conference paper presented to the economic Conference-Open Qudus University, 2012.
- Abu Sharar, Ali. Abdel Fattah. The International Economy: Theories and Policies, Al Maseerah House for Publication, pp. 36. 2007.
- Al Qurayshi, Midhat. The Development of the Economic Ideology, 2008. Wael House for Publication, Amman, p.91.
- Al Mahjoubi, Khaled. Imports and their role in the Libyan Economy, The Journal of Economic Sciences. Vol 6, 2006.
- The Central Bank of Jordan-Statistical Pamphlets.
- Dehkordi, Shahram Raeisi, Sameti, Morteza and Dehkordi, Shahrouz Raeisi. (2012). Analyzing the Long run Interrelation between Banking System and Real sector. Function in Iran Economic through Simulation of Capital Adequacy Index, *Economic and Finance Review*, Vol. 2(6) pp. 68 – 76, August, 2012.
- Department of Public Statistics-The Statistical Annual Book, 2012.
- Ezzat, Fuad Naser Ismael. The impact of the Foreign Trade on the Industrial Development in the Developing countries economy.
- Gujarati, Damodar. (2009), *Basic Econometrics*, ninth Edition, McGraw – Hill, New York.
- Saidam, Mamon. "General Performance for the Jordanian Foreign Trade for the year 2011." compared with the year 2010 Amman Chamber of Commerce, 2012.
- Sendeniz-Yuncu, Ilkay, Akdeniz, Levent and Aydogan, Kursat. (2006). Interdependence of The Banking Sector and the Real Sector: Evidence from OECD Countries, *Bilkent University*, Ankara Turkey.