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The Impact of External Debt Burden on Economic Performance in Jordan

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ABSTRACT

Jordan has relied heavily on external debt to finance its payments, budget, and saving-investment deficits. This dependence on external sources became out of control in 1988, the year of a severe financial crisis for the Jordanian economy. The objective of this study is to explore the impact of external debt burden on the Jordanian economy by adding debt burden to the classical production function. The econometric model, based on the adjusted production function, was evaluated using the unit root, cointegration, and Granger Causality tests. The main finding of this study indicates the existence of cointegration among variables. In addition, the study finds a significant negative impact of the level of external debt burden on the economy during the period 1976-2011.

Keywords: External Debt Burden, Budget Deficit, Financial Crises, Jordan.

1. INTRODUCTION

After gaining their independence, many developing countries suffered from economic and social problems, such as weakness of the Gross Domestic Production (*GDP*), deficits in budget and trade balances, limited domestic savings, and the lack of financing development programs. Therefore, these countries resorted to external borrowing to mask the problem of poor performance of their economies.

At the beginning of the twentieth century, borrowing was used for financing military ventures as well as other needs of the country. During the last decades of the twentieth century and the beginning of this century, borrowing increased its pace, leaving many of these countries with the problem of the accumulation of debt. This problem has hampered development efforts in these countries because the debt service absorbs a large portion of the GDP.

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Loans may have a positive role in an economy if the necessary conditions are fulfilled, such as good administration and the capability of debt service. Borrowing represents capital inflow that is supposed to increase investment and motivate the economy, thereby increasing production and income. This situation may occur when these loans have been utilized in productive investment projects that are managed to achieve economic growth. In this case, these projects work to repay the debt and maintain the sustainability of the development process.

Jordan has suffered the problem of debt accumulation since its independence, for both internal and external reasons. These reasons include: the deficits in the general budget and the balance of trade; the deterioration of terms of external borrowing; a significant increase in the population, resulting from the increasing population growth rate and migrations to Jordan caused by political instability in the countries of the region; and administrative and financial corruption. These factors exhausted the limited local resources and increased the burden of the country in sectors of education, health and infrastructure. They forced the government into internal and external borrowing. The increasing the pace of debt requires a concerted effort to find proper ways to alleviate that debt.

The external debt of Jordan increased during the study period until it amounted to 43.5% of *GDP* in 2011. This percentage is expected to increase in coming years due to the high cost of energy. Therefore, the goal of this study is to track the evolution of the external public debt indicators and measure the impact of the external public debt burden on *GDP* for Jordan during the period 1976 to-2011.

The remainder of this paper is organized in the following manner. The second section presents the literature review; the third section gives a descriptive analysis of the external debt burden; the fourth section introduces the methodology; and the fifth section provides the empirical results. The study conclusions are included in the sixth section.

2. LITERATURE REVIEW

At the local level, Samara (1999) evaluated external debt management by analyzing the size, the composition, and the development of debt in the period prior to the financial crisis in 1988. In addition, he tracked achievements that were made during the economic reform programs for the years that followed the crisis. The study concluded that Jordan suffered from external indebtedness for reasons both internal and external. According to Samara, Jordan was forced to rely heavily on long-term loans and even short-term ones; this led to growing budget and current account deficits and to the decrease in official reserves of foreign currencies.

Maghyereh *et. al.*, (2002) tested the relationship between external debt and economic growth in Jordan and determined the optimal ratio of debt to *GDP*. These researchers analyzed time series data to determine the threshold of the negative impact of debt on economic growth. In their model, they included *GDP*, gross capital formation, the rate of labor force growth, public debt as a percentage of *GDP*, the degree of economic openness, and inflation for the time period (1970-2000). The study concluded that the optimal ratio of debt of *GDP* was 35%. According to their results, an increase in the debt to *GDP* ratio exceeding this limit will be reflect negatively on economic growth.

In 2006, Bader analyzed the impact of twin deficits on the volume of Jordan's external debt during the period 1977-2004. The results of this study indicated that the outstanding balance of debt, budget deficit,

and current account balance are factors that caused half of the accumulated balance of the external debt. The largest impact is attributed to the budget deficit, followed by the deficit in the current account, and then gross fixed capital formation.

Bader and Magableh (2009) dealt with the impact of public debt on several macroeconomic variables in the Jordanian economy. The study showed that the public debt, both internal and external, has increased significantly during the period 1980-2005. The study found that the real exchange rate, budget deficit, and saving gap have a significant effect on the accumulation of debt. However, the exchange rate remains the largest influence, especially after the financial crisis in 1988.

Globally, Jnohat (2006) analyzed the external debt for Arab countries from 1985 to 2005. Jnohat found that some Arab countries suffer from a gap in the local resources and others from a lack of international trade, and these reasons have made many of these countries depend on external funding to meet the requirements of development. The debt levels of these countries increased as a result of lower export revenues, the absence of a clear strategy to borrow, and the fact that many of these loans were used to buy weapons and consumer goods. To help countries find appropriate solutions to this problem, the study suggests rescheduling some debt with the cooperation of the IMF and the World Bank, convert part of the debt to assets owned by the creditors, and write off the debts of some poor countries providing the commitment programs for economic reforms.

Checherita and Rother (2010) evaluated the impact of the government debt as a percentage of *GDP* on per capita growth of *GDP*. Their sample represented 12 countries of the European Union, for an extended period of more than forty years, starting in 1970. They found a linear relationship between public debt and economic growth of the countries included in the study. This impact is represented by a curve with positive slope, until it reached a turning point of between 80 and 90% of *GDP*. When the confidence interval was included, growth was only sustained when the debt was less than 70% of *GDP*.

The 2011 study of H that examined the relationship between economic growth and foreign debt in Algeria. The study showed that Algeria has reduced the size of its debt significantly by following the policy of pre-payment of the debt. The study concluded that there is a negative relationship between debt and economic growth. Two factors influenced this conclusion: the Algerian loans were used to finance imports of consumer goods, and Algeria was using short-term loans with high costs to finance long-term investments.

On the other hand, Patrizio (2011) measured the dynamic relationship between total debt and economic growth of the United States. He studied time series data for the period 1959-2010. This study showed the need for the government to resort to borrowing during periods of recession in order to stimulate the economy.

In 2012, Imran and Anwar examined Pakistan's entrance into the trap of external and internal debt as a result of weak tax collecting programs and dual deficits in the balance of trade and balance of payments. Their study explored the impact of the public debt, both internal and external, on economic growth. In addition, they traced the impact of a number of variables, such as consumer spending, government investment, and exports, on internal and external debt. The study concluded there is a negative relationship between external and internal debt and economic growth. They concluded that this negative relationship was largely due to the fact that these debts are mainly used to finance the import of consumer goods and intermediate goods.

3. DESCRIPTIVE ANALYSIS OF THE EXTERNAL DEBT BURDEN

Justifications for Resorting to External Financing

The justifications for resorting to external indebtedness are attributed to both internal and external causes. The internal factors can be attributed to: the weakness of domestic policies, the failure of economic reforms to encourage domestic saving and to bring in foreign investment, the high growth rates of the population and immigration, the interventionist role of the government in the economy, increased spending on armaments, inappropriate monetary and fiscal policies, high rates of inflation, the deterioration of exchange rates, outflow of capital abroad, and financial and administrative corruption (Shehab, 1998) and (Ajam *et. al.*, 2006).

For the most important external factors are the rise in interest rates on international loans, oil shocks and their impact on the global economies, changes in exchange rates, worsening trade terms, and the nature of the policies and conditions of international lending (Qaharia, 2008) and (Zaki, 1987).

Overview of the Jordanian Economy

Jordan is classified within middle-income countries, where the average per capita Gross Domestic Product (GDP) is about US\$ 6100 for the year 2013. Jordan is characterized by limited natural resources. Its economy depends significantly on the export of potash and phosphate. They are considered among the main sources of foreign income, along with tourism services and remittances. The services sector represents over 70% of the GDP in Jordan, and this sector attracts about 75 percent of the total employed workers. In contrast, the industrial sector represents only 20 percent of Jordan's GDP (Central Bank of Jordan, 2013). The agricultural sector has declined dramatically in recent years due to desertification and scarcity of water resources. As shown in Figures 1 and 2, the Jordanian economy faces double and chronic deficits in the current account and thegeneral budget. However, this deficit increased considerably at the end of the study period.



Figure 1: Deficit/Surplus in the Current Account in Jordan (million JD) Source: Central Bank of Jordan

The Jordanian economy is an open economy. The openness of an economy is measured by the ratio of the sum of exports and imports to *GDP*. When calculating the degree of openness of the Jordanian economy compared to other Arab countries, it was found that the Jordanian economy is the most open, with an index of openness equal to 97% in 2010. In contrast, Egypt, Lebanon, Tunisia, Morocco, and Syria have indices of openness of 88%, 81%, 80%, 69%, and 60%, respectively.

The Impact of External Debt Burden on Economic Performance in Jordan



Figure 2: Deficit/Surplus in the Government Budget in Jordan (million JD) Source: Central Bank of Jordan

Due to the limited natural resources and the lack of domestic savings, Jordan has relied, since its foundation, on external sources to meet its development requirements. These sources were in the form of grants and loans from Arab and foreign countries. Figure 3 and Figure 4 show the development of the external public debt and grants and foreign aid to Jordan for the period 1971-2011.



Figure 3: The External Public Debt of Jordan (\$ U.S.) Source: World Bank, the statistical database



Figure 4: Grants and Foreign Aid to Jordan (\$ U.S.) Source: World Bank, the statistical database

As shown in Figure 3, the indebtedness of Jordan has evolved and accelerated since the beginning of the 1980s. Debt reached record levels of more than 17 billion dollars in 2011, the end of the study period.

It is expected that this number will continue to increase due the budget deficit and trade imbalance reaching unprecedented levels.

Principal and interest payments grew at high rates to accompany the growth of the outstanding balance of external debt. These payments consumed a large proportion of *GDP*; the average value of external debt for the period 1987-2011 is about \$900 million a year. The highest value of external debt service was recorded in 2008 of \$2.9 billion. Figure 5 shows the details for the debt service for the time period 1987-2011.



Figure 5: The Evolution of the Debt Burden of Jordan (million \$ U.S.) Source: World Bank, the statistical database

Indicators of the Ability to Pay External Debt for Jordan

Table 6 shows that Jordan's ability to pay the debt has been improved by the decline in the ratio of the external debt to GDP and the decline in the ratio of public debt to exports. The debt to GDP ratio declined from 306% in 1989 to 61.1% in 2011, and the ratio of public debt to exports declined from 377% in 1990 to 126% in 2011.

The ratio of official reserves to the external public debt improved from 7% in 1989 to 40% in 2005, and reaching 65% in 2011. The index of the outstanding balance of external public debt to *GDP* in a group of upper- middle-income countries was 20% in 2011. Thus, despite the improvement in this indicator, Jordan is still high and reflects the need to further improve its ability to pay the debt.

Causes of External Debt in Jordan

The problem of indebtedness of Jordan began in 1988 and 1989 when the Jordanian economy recorded large, negative growth rates. This crisis revealed many of the reasons that led Jordan to slip into the trap of foreign debt. This phenomenon was accompanied by rising unemployment, drastically lower investment, and the inability of the government to meet its external obligations. This crisis resulted from a range of internal and external reasons. Studying the causes of external debt will be accomplished through two phases.



 Table 6: Indicators of the Ability to Pay the Debt

 Source: World Bank, the statistical database

Phase I (1980-1999)

- (A) *Theexternal causes:* There are several outside factors that influenced the external indebtedness of Jordan. A decline in oil prices that caused a decrease in the demand for Jordanian workers by oil exporting countries, a decline in remittances, lower demand for Jordanian exports, and a decrease in aid from other Arab countries, as a result of the recession that hit those oil-producing countries. Economic sanctions on Iraq had an impact on Jordan, because Iraq is Jordan's prime partner. Regional instability and the subsequent military spending for building security and defense influenced Jordan's indebtedness; in 2011, 29% of Jordan's government spending went to defense (Njadat, 2012).
- (B) *The internal causes:* Along with the external factors, internal reasons contributed to Jordan's indebtedness. Some of the internal factors were: the budget deficit, a lack of domestic savings, the multiplicity of authorities that were borrowing, the absence of a centralized management of the public debt (Samara, 1999), and low prices for phosphate and potash, the main exports. In addition, internal financial crises, such as the bankruptcy of Petra Bank in 1989, added to Jordan's borrowing.

Phase II (2000-2011)

(A) The external causes: The main cause of Jordan's indebtedness from 2000 to 2011 is high oil prices. From 1992 to 2002, Jordan relied on oil imported mainly from Iraq. The oil expense did not represent a significant burden on the public budget, since half of the bill was free and the other half was at preferential prices (Fanik, 2002). The cessation of aid and rising oil prices increased the problem of the deficit in the public budget and raised the balance of payments to record levels. Other external causes during this period were a decline in the volume of foreign aid, political instability, population migrations, and deteriorating terms of trade.

(B) The internal causes: Reasons concerning revenues: The internal causes fall into two broad categories; causes related to revenues, and those related to spending. The increase in the budget deficit is revenue related. The budget deficit widened significantly, until it reached more than 2.5 billion dinars in 2011. In addition, tax exemption, tax evasion, and failure in tax collections led to other revenue issues. Several issues contributed to the increase in spending. These included: increases in wages; government policies to support food, fuel, and fodder; payments on external and internal loans; emergency budgets to cope with emergency situations; and jumps in capital expenditures.

4. METHODOLOGY

Theoretical Framework

This study explores the impact of external public debt on *GDP* in Jordan by utilizing the classical production function that depends on capital and labor as follows:

$$Y = f(K, L) \tag{1}$$

where, Y stands for GDP, and K and L stand for capital and labor force, respectively.

Some studies have added exports as an independent third variable to the classic production function. Similarly, Cunningham (1993) and Karagol (2002) entered the external debt burden (D) to the production function. This was justified by the expected effect of the external debt burden on the economy. A country that suffers from the problem of debt will allocate a large part of its resources to serve this debt, affecting the economic decisions concerning different economic sectors. Following Cunningham and Karagol, this study introduces external debt burden (D) as an independent variable in the classic production function as follows:

$$Y = f(K, L, D)$$
(2)

The Econometric Model

This research estimates the following econometric model (equation 3) to assess the impact of the external public debt burden on GDP:

$$LnY_t = a_0 + a_1LnK_t + a_2LnL_t + a_3LnD_t + a_4EXCHR_t + a_5DUM_t + U_t$$
(3)

The variables in the equation are as follows: LnY is the natural logarithm of GDP, LnK is the natural logarithm of gross fixed capital formations, LnL is the natural logarithm of the workforce, LnD is the natural logarithm of the external public debt burden, EXCHR is the exchange rate of the dinar against the dollar, DUM is a dummy variable to monitor the impact of the financial crisis in 1988, U is the error term, and *t* represents time. The DUM variable is equal to 1 for the time period 1989-2011 and zero for the time period 1976-1988.

This study uses annual data for the Jordanian economy from 1976 to 2011. Data on the variables of the study were obtained from the World Bank Statistical Database, the Ministry of Finance, Central Bank of Jordan, and the Department of Statistics.

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To achieve the objectives of this study, we applied the Unit Root Test for stationarity, a cointegration test, and a test of Granger Causality.

1. Unit Root Test for the Stationarity

Time series variables that show a tendency to increase or decrease over time leads to non-stationarity in the series. To examine the stationarity of the time series data, the Augmented Dickey Fuller (ADF) test was utilized as follows:

$$\Delta Y_{t} = a_{0} + \lambda Y_{t-1} + \sum_{j=2}^{k} \rho_{j} \Delta Y_{t-j} + t + u_{t}$$
(4)

 Y_t stands for the natural logarithm of the variable of interest, a_0 is an intercept, (Δ) indicates the first difference, *t* is trend, and u_t is the error term. The null hypothesis to be tested in this case is that the time series of the variables is not integrated of order zero; *i.e.*, it is non-stationary at the level.

If Y_t is stationary in its original form, the level, then it is integrated of order zero; $Y_t \sim I(0)$. If it becomes stationary after taking the first difference, it is integrated of order one; $Y_t \sim I(1)$. In general, if the series is stationary after taking (*d*) differences, then is integrated of order *d*; $Y_t \sim I(d)$ (Enders, 2015).

2. Cointegration Test

Cointegration involves two or more time series (X_t and Y_t). The series are said to be cointegrated if the fluctuations in one of the series will eliminate the volatility in the other(s). In essence, the two series will be stationary as a group, even though they are individually non-stationary (Gujarati, 2009).

Time series are characterized as cointegrated when the meet the following conditions: (a) the series are integrated of the same level and (b) the residual series, estimated from variables, are integrated of order zero. The cointegration relationship will be tested using the Johansen test.

3. Granger Causality Test

A variable X causes another variable Y if the future values of Y are better predicted by the current and previous values X than by the previous values of Y only. Because economic relations overlap, Y may affect X and vice versa at the same time. A model for that purpose was developed by Granger (1969):

$$Y_{t} = \sum_{n=1}^{p} A_{n} X_{(t-p)} + \sum_{n=1}^{p} B_{n} Y_{(t-p)} + CZ_{t} + E_{t}$$
(5)

$$X_{t} = \sum_{n=1}^{p} A'_{n} Y'_{(t-p)} + \sum_{n=1}^{p} B'_{n} X'_{(t-p)} + C' Z_{t} + E'_{t}$$
(6)

Z a vector of controlling variables added to the model and (p) is the optimal lag length of the model. To estimate the causal relationship between the variables using equations 5 and 6, one must test the significance level for the parameters of the current and past values of the variable X as a group. If the calculated value of the F testis less than the critical value, it means there is no causal relationship (Enders, 2015).

5. EMPIRICAL RESULTS

1. Unit Root Test

The unit root test was used to determine whether variables of the study are stationary or not. The null hypothesis of no stationarity is tested against a stationary time series. The results of the ADF test are shown in Table 1.

The Results of the ADT Test								
Variable		j	Level			First	Difference	
	t-Statistic	Lag	Probability	Stationarity	t-Statistic	Lag	Probability	Stationarity
Lngdp	1.8847	0	0.9838	No	-2.9012	0	0.0050*	Yes
Lnlabor	3.1032	0	0.9992	No	-4.3398	0	0.0001*	Yes
Lngfcf	2.3171	1	0.9940	No	-4.6069	1	0.0000*	Yes
Lndst	1.3777	1	0.9549	No	-7.2314	1	0.0000*	Yes
Exchr	0.9801	0	0.9098	No	-4.1384	0	0.0001*	Yes

Table 1 The Results of the ADE Test

^{*}The results are at 5% significance level or higher.

An intercept and trend are included in the model.

The ADF test results show that the time series for all variables of the study are non-stationary at levels, but stationary after taking the first difference. Thus all variables are integrated of order one.

2. Cointegration Test

The Johansson method was used to estimate the cointegration among the following variables: GDP, gross fixed capital formations, workforce, the external public debt burden, the exchange rate, and the dummy variable. Tables 2 and 3 show the results for the Johansson cointegration test using Trace and Max-Eigen statistics.

The Results of Johansen (Trace) Test					
Null Hypothesis	Trace statistic	Critical value (5%)	Probability		
$\mathbf{R} = 0$	191.5628	103.8473	0.0000		
$R \leq 1$	120.4887	76.9728	0.0000		
$R \leq 2$	64.2037	54.0790	0.0048		
$R \le 3$	41.6302	35.1928	0.0088		
$R \leq 4$	21.9723	20.2618	0.0288		
$R \le 5^*$	7.3683	9.1645	0.1083		

Table 2
The Results of Johansen (Trace) Test

^{*}denotes rejection of the hypothesis at the 0.05 level

Table 2 shows that the calculated value of the Trace statistic (7.3) is less than the critical value at the 5% significance level (9.16) when assuming the existence of five cointegration relations between the variables. Therefore, we reject the hypothesis of five cointegration relations and accept the alternative one of the existence of only four cointegration relations.

The Results of Johansen (Max-Eigen) Test					
Null Hypothesis	Max-Eigen statistic	Critical value (5%)	Probability		
$\mathbf{R} = 0$	71.07412	40.9568	0.0000		
$R \leq 1$	56.2850	34.8059	0.0000		
$R \le 2^*$	22.5734	28.5881	0.2422		
$R \le 3^*$	19.6579	22.2996	0.1123		
$R \le 4^*$	14.6040	15.8921	0.0788		
$R \le 5^*$	7.3683	9.1645	0.1083		

Table 3

^{*}denotes rejection of the hypothesis at the 0.05 level.

Table 3 shows that the calculated value of the Max-Eigen statistic (22.57) is less than the critical value at the 5% significance level (28.59) when assuming the existence of two cointegration relations between the variables. Therefore, we reject the hypothesis of the existence of two or more cointegration relations and accept the alternative one of the existence of only one cointegration relationship.

The long-term equilibrium relationship between the variables is calculated as follows, where the *t*-statistics are shown parenthetically below the coefficients.

$$LnGDP = -8.6 + 0.748 LnK + 1.44 LnL - 0.40 LnD + 11.7 EXCHR - 4.85 DUM$$
(7)
(-4.89) (9.18) (8.13) (-5.49) (9.40) (-12.28)

Equation 7 shows that external public debt burden has a negative impact on GDP. An increase in the external debt burden by on 1% will lead to a decline in GDP by 0.4%, and this result is consistent with the study expectations. This result may be due to the fact that the Jordanian external debt is long-term debt. This means that the service of the debt will continue for a long time, and this negative impact will constrain some economic policies.

The effect of the labor force and fixed capital formation on *GDP* was positive and agrees with the economic theory and the previous empirical studies. Labor force had a greater impact than capital formation on the economy, possibly due to the emergence of many exporting industries that target non-traditional markets, such as the United States under Free Trade Agreements and the Qualified Industrial Zones, which raised the export sector's contribution to GDP. The impact of the exchange rate was positive on GDP in the long term. This may be due to increasing export competitiveness in the global market after the rise of the exchange rate, which positively impacted the growth of GDP, or due to the over valuation in the exchange rate of the dinar against the dollar, or due to both factors.

3. Granger Causality Test

This test indicates that if there was cointegration among the variables, there must be a causal relationship between them. Table 4 shows the directions of causality among the variables of the study at the 10% significance level.

			•		
	Direction of causality	/	F-statistic	Probability	Lags
LnD	\rightarrow	LnGDP	8.999	0.0052***	1
LnGDP	\rightarrow	LnD	2.097	0.1570	1
LnD	\rightarrow	EXCHR	6.275	0.0175**	1
EXCHR	\rightarrow	LnD	0.809	0.3750	1
LnK	\rightarrow	LnGDP	2.938	0.0962^{*}	1
LnGDP	\rightarrow	LnK	0.170	0.6825	1
LnD	\rightarrow	LnL	3.222	0.0821^{*}	1
LnL	\rightarrow	LnD	2.246	0.1430	1
EXCHR	\rightarrow	LnL	23.197	0.0003***	1
LnL	\rightarrow	EXCHR	1.395	0.2520	1

Table 4The Results of Granger Causality Test

Note: (*), (**), and (***) denote rejection of the hypothesis at 0.10, 0.05, and 0.01 levels, respectively.

From Table 4, one can extract the following important relationships. There is a causal relationship from the burden of the external debt to *GDP* in one direction. There is a causal relationship of the burden of the external debt to the exchange rate in one direction. There is a causal relationship of the capital formation to *GDP* in one direction, and there is a causal relationship of the external debt burden to the labor force in one direction.

6. CONCLUSION

This study analyzed the relationship between the external debt burden of Jordan and a number of economic variables for the time period 1976-2011. The results of the econometric tests indicated that the external debt burden has a negative impact on economic growth, which indicates that the uses of foreign loans have not led to the desired growth intended by external borrowing. This may be due to Jordan spending large amounts of this debt on infrastructure, and the use of loans for consumption purposes, such as energy subsidies, bread, and feed. In addition, spending on some projects may not have achieved the desired results.

The main result of this paper is consistent of the findings of H that (2011) and Anwar (2012). This result is not consistent with other studies that found a positive relationship between debt and economic growth (Patrizio, 2011;Checherita and Rother, 2010).

This research shows a causal relationship between the external debt burden and the exchange rate, indicating that increasing the external debt burden may lead to increasing pressure on the dinar. If the government wants to maintain the stability of the exchange rate, it must adopt fiscal and monetary policies that help in reducing the size of the external debt. Two of the most important polices would be controlling government spending and not expanding borrowing from sources with high costs.

The external debt crisis in Jordan resulted from internal and external reasons. Among the most important internal reasons are the budget deficit and balance of payments, population growth, lack of efficiency of the tax system, and financial and administrative corruption. The external reasons include: rising oil prices, and reduction in foreign aid, relying on short-term loans, and political instability in the Middle East. The government has to take all these factors into consideration to resolve the large debt problem.

References

- Ajam, Maytham; Ali, Saud; and Dafi-Allah, Mustafa (2006). "The Trap of External Indebtedness of Developing Countries," *Al-Kindi Publishing and Distribution House*, Irbid.
- Bader, M. (2006). "The Effect of Twin Deficits on the Foreign debt in Jordan: An Econometric study", *Hashemite University*, Jordan.
- Bader, M. and Magableh, I. (2009). "An Enquiry into Main Determinants of Public Debit in Jordan", *Dirasat-Administrative Science*, The University of Jordan, Vol. 36, No. 1.
- Central Bank of Jordan, (2013), Monthly Bulletin.
- Checherita, C. and Rother, P. (2010). "The Impact of High and Growing Government Debt on Economic Growth, an Empirical Investigation for the Euro Area", *Working Paper Series*, European Central Bank, No.1237.
- Cunningham, R.(1993). "The Effects of Debt Burden on Economic Growth inHeavily Indebted Nations", *Journal of Economic Development*, Vol. 18, No. 1.
- Enders, Walter (2015). "Applied Econometric Time Series," 4th Edition, John Wiley & Sons, Inc.
- Fanik, Fahad(2002). "The War in Iraq and the Expected Economic Impacton Jordan", Association of Banks in Jordan, Amman.
- Granger, C. (1969). "Investigating Causal Relations by Econometric Models and Cross-Spectral Methods", *Econometrica*, Vol. 37, No. 3, pp. 424-438.
- Gujarati, Damodar N. (2009), Basic Econometrics, 5th edition, McGraw-Hill Inc.
- Hthat, Mohammad (2011). "An Empirical Study of the Impact of External Debt on Economic Growth, The Case of Algeria.
- www.kantakji.com/fiqh/Files/Economics/7f.doc
- Imran,S. and Anwar, T. (2012). "Public Debt and Economic Growth in Pakistan: Time Series Analysis from 1972-2010", Academic Research International, Vol. 2, No.1.
- Jnohat, Fadhilah (2006). "The Problem of External Debt and Its Impact on Economic Development in the Arab Countries, The Case of Some Developing Countries", *Ph.D. dissertation*, University of Algeria, Algeria.
- Karagol, E. (2002). "The Causality Analysis of External Debt Service and GNP: The Case of Turkey", *Central Bank Review*, pp. 39-46.
- Maghyereh, A.; Omet, G.; and Kalaj, F. (2002). "External debt and economic growth in Jordan: threshold effect", Available at: SSRN: http://ssrn.com/abstract=317541.
- Njadat, Abdulsalam (2012). "The Jordanian Foreign Debt and its Impact on the Jordanian National Security during the Period (1990-2010)", The Iraqi Journal of Economic Sciences, Vol. (10), issue (3).
- Patrizio, Lainà (2011)."Dynamic Effects of Total Debt and GDP: A Time-Series Analysis of the United States", *Master's thesis*, Aalto University.
- Qaharia, Amal (2008). "The Reasons for the Emergence of the External Debt Crisis", The Journal of Economies of North Africa, Issue 3, pp. 149.

- Samara, Omar (1999). "External Debt Management, The Case of Jordan", Master Thesis, Yarmouk University, Irbid, Jordan.
- Shehab, Magdi (1998). "International Trends to Meet External Debt Crisis, House of New University for Publication, Alexandria.
- Zaki, Ramzy (1987). "The International Credit Crisis", first edition, *Directorate General for Economic Affairs*, the League of Arab States.