EPRA TRUST Publishing

Research Paper

EPRA International Journal of Economic and Business Review -Peer Reviewed Journal

Volume - 8, Issue -6, June 2020 | e-ISSN : 2347 - 9671| p- ISSN : 2349 - 0187

SJIF Impact Factor(2020) : 8.107||ISI Value:1.433 |Journal DOI URL :https://doi.org/10.36713/epra2012

IMPACT OF CURRENT ACCOUNT ON JORDANIAN PUBLIC BUDGET DEFICIT FOR THE PERIOD (1992-2016)

Dr. Mazen Hasan Basha	*Associate Professor / Department of Economics Faculty of Economics and Administrative Sciences, Zarqa University, JORDAN*

#"This research is funded by the Deanship of Research in Zarqa University/ Jordan"

ABSTRACT

Article DOI URL: https://doi.org/10.36713/epra2982

This study aims to measure the impact of current account (CA) on Jordanian public budget deficit (BD) for the period (1992-2016) . The econometrics model was built for purpose of measuring and analyzing the impact of current account on Jordanian public budget deficit. Before estimating the parameters of the econometrics model was used some tests to verify its validity, for example: Test Augment Dickey-Fuller (ADF) to verify that the unit root test problem for stationary of the time series, and use Johansen methodology to test the co-integration, and use the Granger causality Test, and the Vector Auto Regressive (VAR) was used to analyze the study data. The causality test showed that the causal relationship between the two variables is bi-directional, where the direction of the relationship of current account (CA) towards Jordanian public budget deficit (BD) and conversely. The study found that there exist a statistically significant impact for current account (CA) on Jordanian public budget deficit (BD) at the significance level (á = 0.05), and this result is considered compatible with the Jordanian economy.

The study recommends that Jordan need to follow policy in order to improve the payments balance, such as increasing the Jordan's exports of goods or reducing the imports of luxury goods.

KEYWORDS: *Current account, Public budget deficit, Government spending, Trade balance, Sustainable fiscal policy.*

INTRODUCTION

Governments are use the expenditure as one of the arms by which the economy is able to grow and develop, so spending policy largely reflects the goals set by the government and seek to promote the national economy. Also, a study of the relationship between government spending and the trade balance can determine the extent to which economic management succeeds in economic growth and development and corrects the structure of economic, social and political structure. Government expenditure is an important and powerful factor in the budget. The role of the government spending in the economy is to determine the optimal size of this expenditure as well as the extent of its production.

METHODOLOGY

1. The Study Problem

The effect of government spending on the trade balance will be indirectly, as in the framework of dynamic analysis, which is considered the most suitable for the analysis of economic reality, the effect of government spending passes through a number of economic variables so that affects on the trade balance, and therefore the behavior of these variables as a result of increased government spending is an important factor in influencing the budget. In this sense the highlight of our problem with this study through the following question:

Is there exist a statistically significant impact at the significance level (α e" 0.05), for current account on Jordanian public budget deficit.

2. The Study Importance

The importance of this study is to highlight the importance of being a role played by the state in the trade balance theoretically, as well as in highlighting the mechanism effect of current account on Jordanian public budget deficit.

3. The Study Objectives

The study aims to achieve the following objectives:

a - To identify the concepts of government spending and trade balance.

b- An attempt to determine the expected impact for current account on Jordanian public budget deficit.

c- Test the ability of the econometrics model in interpretation of the economic relationship between current account and Jordanian public budget deficit**.**

4. The Study Hypothesis

Based on the above, and in light of the study problem, the study hypothesis was formulated in its null form (H_0), as follows:

H_0: There is no statistically significant impact at the significance level (α e" 0.05), for current account on Jordanian public budget deficit.

THEORETICAL FRAMEWORK

1-Relationship between Government Spending and Trade Balance

The government spending programs provide the public goods such as education, infrastructure, Defense, and security, and some claim that an increase in government spending can boost the trade balance that begins to decrease gradually as increased the government spending. As policy makers were divided on whether the expansion of the government spending negatively or positively affects the trade balance. The traditional view that relates to changes in financial policy with changes in the current account through a number of channels was discussed. Ricardo challenged the traditional view of equivalence principle, which states that any increase in the budget deficit (through tax cuts) will be offset by an increase in special savings, in terms of the private sector and deductions, entirely future tax obligations associated with financing the fiscal deficit, and therefore do not affect the current balance.

This study applying the Vector Auto Regressive (VAR) method to analyze the impact of current account (CA) on Jordanian public budget deficit (BD) . The main challenge in empirical literature is how to measure financial policy that reflects deliberate policy decisions and not just the effect of economic cycle fluctuations. The traditional approach to address this problem is to use the financial statements adjusted periodically to determine deliberate changes in fiscal policy. Assuming that the modified changes periodically in the fiscal balance reflect a decision by the policies makers to adjust taxes rates and spending. The theoretical and experimental relationship has been studied between financial policy and current account widely. Theoretically, the results indicate that the small countries are more vulnerable to major adjustments in the current account if they already suffer from a large deficit in the current account. Interestingly, it believes that changes in the real effective exchange rate do not help drive reductions in the current account deficit in small countries (IMF Working Paper, 2012).

One of the effects of the change in government spending on the current account is the payments balance, using the optimal approach. The optimal behavior of the family was presented in the full employment model prepared by Curie and summarized that the increases in the government spending leads to a surplus in the trade balance. This conclusion is contrary to the Mundell and Fleming, who suggested the analysis of two cases: where government spending is purely wasteful and that private goods are complementary on the public goods at benefit of the consumer, where the government spending affects on the benefit of the consumer, and he pointed out that the effects of the change in government spending depend on whether private consumption and public consumption are alternatives or supplements, and on whether the change is permanent or temporary. Matsuyama takes the residential investment in mind, and showed that the increase in government purchases on goods tradable leads to a surplus in the trade balance.

2- Importance of the Sustainable Fiscal Policy and Current Account

The importance of a sustainable fiscal policy and current account has been increasingly important in a wide range of economists and policy makers. In principle, the economy will be able to maintain the deficit, fiscal or external rituals, as long as it can raise the necessary funds by borrowing. Although such behavior may be possible in the short term, the economy's ability to service its debt by resorting to more borrowing is likely to be questioned once it makes the deficit present. In the case of the public deficit, the financial authorities justify the moderate fiscal deficit by pointing to the need to avoid excessive debt and the accumulation of pressures arising from monetary policy. This leads to a rise in domestic interest rates and, therefore, can also cause high costs in lost production and continued work in making the inflation rate is higher than that, even if not directly finance the deficit by printing money. It is an economic model with a continuous deficit funded by the treasury that issues bonds, while the monetary authority maintains a negative policy.

In a timely manner, the real interest of the treasury obligations rise, which makes it possible that the revenue from the new bond sales will not be enough to pay for the service on the last bond . When the extension option failed, the government was forced to issue money to pay off the deficit. And it showed that this increase in interest expenses might make it necessary for money to grow faster in the future, resulting in higher inflation today. Due to the impact of adverse financial practices on the accumulation of debt, and inflation rates, interest rates and economic growth, and the answer to the crucial question of whether the current fiscal deficit cannot be sustained in the long term it is particularly important for economic policy-makers. Of course, the situation cannot afford it is the path to the crisis, but it is not the same sustainability of fiscal policy and current account. The sustainability of fiscal policy is defined as the ability to maintain current spending and tax structures without any change in the end to the long-term (Julio, 2002).

In light of the foregoing, there are many theoretical and empirical literatures and wide-ranging that examined the relationship between the current account and the budget deficit between other macroeconomic variables. According to the above, it indicates that policy-makers in the United States may be about government spending because of internal difficulties resulting from foreign trade. The Able (1990), applying the Vector Auto Regressive (VAR) method, using a number of explanatory variables related . Also, Abel found that little of support for the government's deficit as the primary explanation for measuring the trade deficit variable. The results indicate that there are no grounds for trade deficit and that the current account indirectly affects on the trade deficit.

3- Theoretical Basis for Building the Econometrics Model of Study

It is known that the economic logic of linking between public budget deficit and current account can be traced back to national income (Y), shown by the following formula:

$$Y = C + I + G + (X-M) \quad \ldots\ldots (1)$$

Whereas:

Y: National income.

C: Private consumption.
I: Real investment spending.
G: Government spending on final goods and services.
X: Exports of goods and services.
M: Imports of goods and services.

The current account (CA) can be determined according to the following formula:

$$CA = (X - M) + F \quad \ldots\ldots (2)$$

Whereas:

CA: Current account.

F: Net income criteria and cash flows for transportation.

According to the national income, the national saving in an open economy is written as follows:

$$S = I + CA \quad \ldots\ldots (3)$$

It is worth mentioning that we look at the national saving more closely and to distinguish between the saving decisions by the private sector and the provision of the decisions which taken by the government, as that:

$$S^p + S^g = S \quad \ldots\ldots (4)$$

Where, (S^p) is defined as part of the disposable income (Y^d), which is saved rather than consumed. In general, the private consumption (C) is written as follows:

$$C = (Y - T) - C - Y^d$$
$$= S^p \quad \ldots\ldots (5)$$

Whereas:

T: Taxes.

Y^d: Disposable income.

The government saving (S^g) takes the following form:

$$S^g = T - G - Tr \quad \ldots\ldots (6)$$

Using the national saving (S^p), and equation (3), we have:

$$S = S^p + S^g$$
$$= (Y - T - C) + (T - G - Tr)$$
$$= I + CA \quad \ldots\ldots (7)$$

To analyze the effects of the government saving decisions in an open economy, can rewrite the equation (7), as follows:

$$S^p = I + CA - S^g$$
$$= I + CA - (T - G - Tr) \quad \ldots\ldots (8)$$

Equation (8) indicates that the private saving in a country can take three forms:

a- Investing in local capital.
b- Buying wealth from foreigners.
c- Purchase of the local government debt newly issued (Tr -G - T).

By re-arranging the equation (8), we obtain:

$$CA = (I - S^p) + (T - G - Tr)$$
$$= (I - S^p) + BB \quad \ldots\ldots (9)$$

Whereas:

BB: Budget balance.

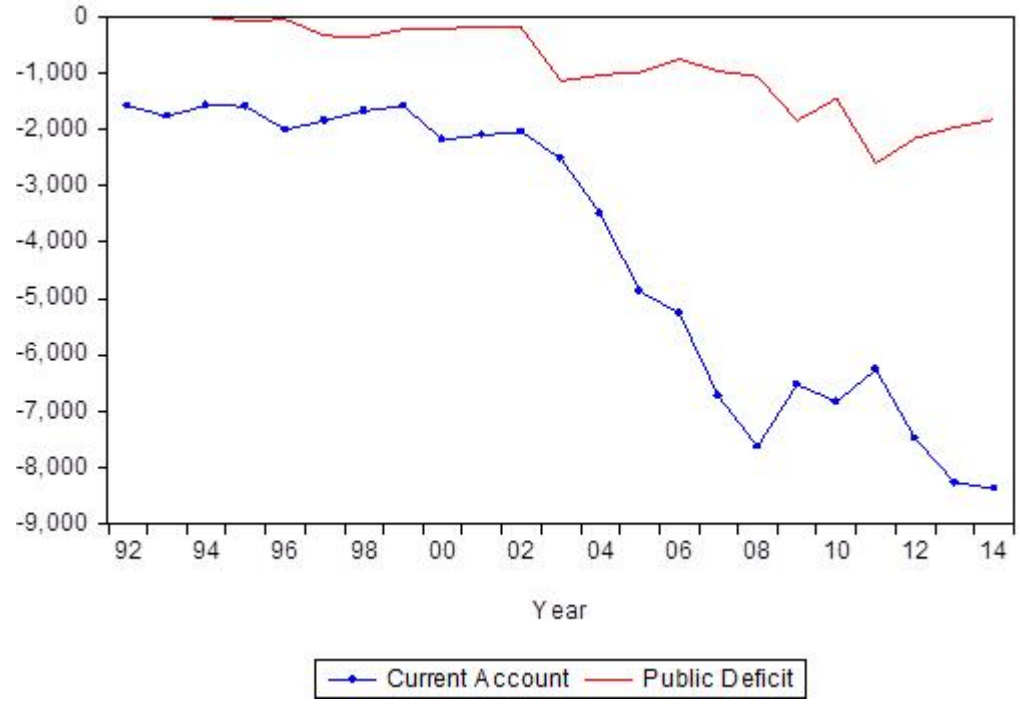
And, the budget balance measures the extent of the government's ability to borrow for finance their expenditures, and it defined by the following formula:

$$(T - G - Tr) = BB \quad \ldots\ldots (10)$$

Looking at Equation (9), which represents the identity of the macroeconomic, we see two cases are possible to occur:

The first case: if we assume that the difference between the national saving (S^p) and investment (I) is stable over time, so the fluctuations in the balance of the public sector will be fully translated into the current account, and the opposite is true..

The second case: Ricardo's hypothesis (REH), which indicates that the increased in public budget deficit, is caused by the current account, as shown in the following figure No. (1) (Merza, & et al., 2012).



Source: *Merza, & et al., (2012).*

Figure (1): The relationship between current account and public budget deficit.

PREVIOUS STUDIES

- Study of (Asrafuzzaman, et al., 2013) entitled: An Empirical Investigation of Budget and Trade Deficits.

This study aimed to study the causal relationship between budget deficit and the trade balance on the basis of the data series for the period (1972-2011). The Vector Auto Regressive (VAR) method and the causal IRF were applied after the success of the ADF and PP methodologies to test the unit root and testing the co-integration. This study revealed that the budget deficit is caused by the trade deficit and the opposite is true, in the long run. Indeed, the long-term relationship depends on environment of the comprehensive macroeconomic and the supply of other related variables. The study showed that the government should be reducing budget deficit to improve the trading account balance.

- Study of (Merza, et al., 2012) entitled: The Relationship between Current Account and Government Budget Balance: The Case of Kuwait.

This study aimed to examine the relationship between current account and balance of government spending in Kuwait for the quarterly period (1993 and 2010). The hypothesis states that any increase in the budget deficit will lead to a similar increase in the current account deficit. To analyze the relationship between the two variables, the co- integration test for Johansen and the Vector Auto Regressive (VAR) method were used, and the IRF was calculated. The causality test showed that the direction of the causal relationship is from the current account towards the balance of the budget. The study showed that there exists a negative relationship in the long run between the current account and the balance of the budget that leads to increase the current account that leads to a decrease in the government budget surplus or increase in budget deficit, and this result is commensurate with the economy of Kuwait.

- Study of (IMF Working Paper, 2012) entitled: Fiscal Policy and Current Account.

This study aimed to analyze the relationship between the fiscal policy and current account with a focus on small countries, which are defined as countries with a population of less than 2 million people between (1970 and 2009). The study used the method of Vector Auto Regressive (VAR) to analyze its data on (155) countries, of which (42) are small countries. The results of the Vector Auto-regression method indicate that the improvement in the financial balance leads to an improvement in the current account balance at a rate (0.4%) of the gross domestic product (GDP). The results showed that the real effective exchange rate has no significant effect on the current account in small countries, and the study showed that the fiscal policy has a significant effect on the current account in small countries, which in turn will affect on the imports.

- Study of (Working Paper Series, 2008) entitled: Fiscal Policy, the Current Account and Riparian Equivalence.

This study aimed to analyze the experimental relationship between fiscal policy and current account of the balance of payments, and expresses how this relationship is equivalent between current account and government spending according to government debt to GDP. The results showed that the debt-to-GDP ratio reaches to (90%), and that the relationship between the current account and the government balance is positive, that is, any increase in fiscal policy leads to an increase in the current account and turns into a negative impact in countries where debt is high, where the rise in fiscal policy does not lead to a rise in the current account.

- Study of (Michele, 2007) entitled: Government Consumption Expenditure and the Current Account.

This study aimed to analyze the effect of changing two elements on the current account, namely government spending on goods and government spending on working hours. The researcher found that the change in government spending on working hours has no direct impact on the current account and that its effect is less than the one compared to the effect of the change in government spending on goods. Also, the study found that the consumption of government spending on commodities leads to exaggerate in estimation of its role in accounting for movements in trade balance.

- Study of (Julio, 2002) entitled: Sustainability of a Fiscal Policy and a Current Account.

This study showed the importance of a sustainable fiscal policy and the current account. The study used the co-integration test for Johansen. It demonstrated that the economy is able to maintain on deficits and external financial flows, as long as the necessary funds can be raised by borrowing. And, in this study was to determine the status cannot be tolerated widely as one where the variables are economic cannot be sustained indefinitely on the historical pathways which involved on it the current policies and the behavior of the private sector. The result in this case, that the economy is not in the path of a stable situation in the long term and must changing some policies in the future.

THE APPLIED PART

1. Collection Data

The study is mainly depending on the secondary data related to current account (CA) and Jordanian public budget deficit (BD), selected from the statistical reports of Jordanian Central Bank. The researcher selected the period (1992-2016) in order to achieve the study objectives and its hypothesis.

2. Estimation and Analysis of the Econometrics Model

To measure the impact of current account (CA) on Jordanian public budget deficit (BD) for the period (1992-2016), we used for this purpose, the following econometrics model:

$$BD_i = \gamma_0 + \gamma_1 CA_i + \varepsilon_i \quad \text{..... (1)}$$

Whereas:

CA_i: Current account.

BD_i: Public budget deficit.

ε_i: Random error.

¥$_0$, ¥$_1$: Parameters of the econometrics model.

To estimate the parameters of the econometrics model given in relationship (1), was used the Vector Auto Regressive (VAR) method, and applying the ordinary least squares method (OLS).

To verify the validity of the econometrics model, some statistical and econometrics tests must be performed before conducting the estimating process of the model parameters, as follows:

a- Unit Root Test:

Often suffer time series data in econometrics studies from the unit root problem, and to address that we used Augment Dickey & Fuller (ADF) Test. And this test can be illustrated by the following relationship:

$$\Delta Y_t = \alpha_0 + \alpha_1 Y_{t-1} + \text{“ } \lambda \Delta Y_{t-1} + \varepsilon_{ti} \quad \text{..... (2)}$$

Whereas:

Δ: The first difference.

By depending on the time series data for the period (1992-1992), and using (E-views) program, we obtained on Augment Dickey & Fuller (ADF) test results in the (Level) and (first . . . . . As shown in the following Table No. (1):

Table (1): Results of (ADF) test in the (Level) and (first Difference) for the study variables (CA, BD)

Variables		Level			First Difference *		
		Boycott	Boycott & direction	Without Boycott & direction	Boycott	Boycott & direction	Without Boycott & direction
CA		0.271	-1.909	2.037	-3.956***	-4.050**	-3.378***
BD		-1.061	-3.322	-0.039	-6.722***	-4.521**	-6.384***
Critical values	1%	-3.769	-4.440	-2.674	-3.788	-4.467	-2.679
	5%	-3.004	-3.632	-1.957	-3.012	-3.644	-1.958
	10%	-2.642	-3.254	-1.608	-2.646	-3.261	-1.607

(*) Two slowdown periods were used for Augment Dickey & Fuller (ADF) Test.
(***) and (**) indicate that the results of test were significant at the significance level (1%) and (5%) respectively.

It is clear from the results listed in the previous Table No. (1), that the study variables (BD, CA) are unstable at their (levels) and at all significance levels (1% or 5%), but they became static (stable) variables when taking the (first difference) at the significance level (1% or 5%), which means that the Vector Auto Regressive (VAR) method can be used to estimate the parameters of the econometrics model.

b- Co-integration Test:

To verify the existence of equilibrium and relationship of at least one long-term between the time series data, the methodology was used (Johansen) for co-integration as one of the most common tests in the modern economic studies. And the following Table (2), shows the results for co-integration test for (JJ):

Table (2): Results of the (Johansen) test for co-integration

Hypothesized No. of CE(s)	Eigen Value	Trace Statistic	Critical Value	Prob. (**)
None (*)	0.785030	35.03379	25.87211	0.0027
At most	0.264076	5.825928	12.51798	0.4827

(*) Denotes rejection of the hypothesis at the significance level (0.05) .
(**) P-values of MacKinnon-Haug-Michelis (1999) .
Trace test: Indicates co-integrating at the significance level (0.05).

It is clear from the results listed in the previous Table (2), that there exists a long-term integrative relationship between the variables, that is, the co- integration of the degree one I(1), and therefore the null hypothesis will be rejected. This means that there exists a balance relationship in the (Long-Run), and this result will be help us to move the second stage, a stage for estimation the parameters of the model in the (Long & short Run).

c. Response Function

The following Figure No. (2), indicates to the response function of the study variables:

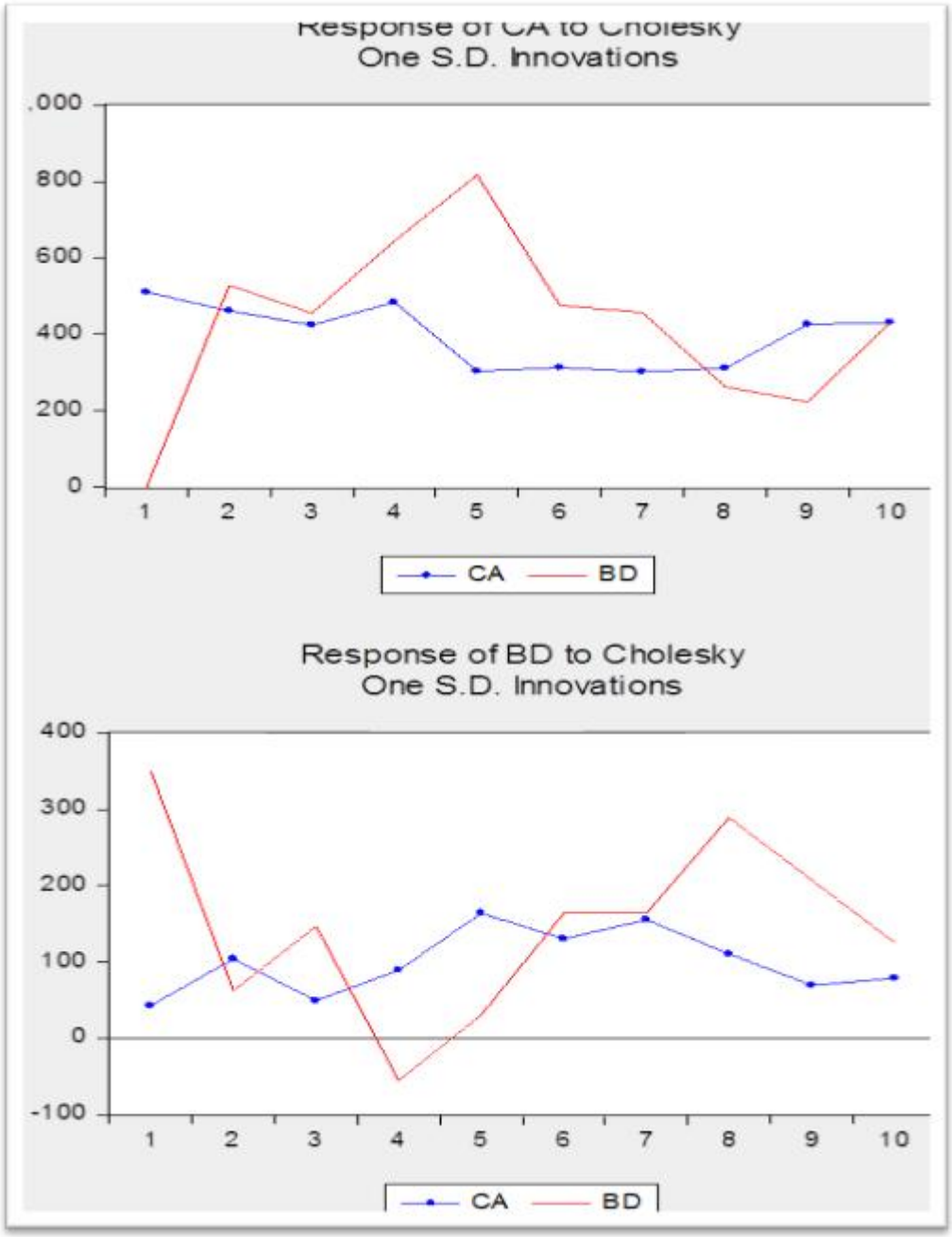


Figure (2): Response function of the study variables

d. Causality Test

The causality test is used to determine the type of causal relationship between the variables, and whether they are one-way or two-way, or that there is no causal relationship between the study variables. To achieve this purpose, the Granger Causality Test was used. And Table (3) shows the results of Granger test of causality between the current account (CA) and public budget deficit (BD):

Table (3): Results of Granger Causality Test

Shape of Function	Relationship Direction	Number of Observations	(F) Calculated	Prob.
CA = f(BD)	CA? BD	25	5.887 *	0.025
BD = f(CA)	BD? CA	25	6.764 *	0.018

It is clear from the results in the previous Table No. (3), that the direction of causality is from current account (CA) to public budget deficit (BD) and conversely, this means that the causal relationship between the two variables is bidirectional, as confirmed by the calculated (F) values In both cases, it is statistically significant at the significance level (0.05).

e- Results of Estimating the Parameters of the Study Model:

After the tests (unit root test, co- integration test, and causality test) were verified, it was now possible to apply the ordinary least squares (OLS) method to estimate the parameters of the study econometrics model showed in relationship (1). And the following Table No. (4), shows the results of estimating the parameters of the study econometrics model.

Table (4): Results of estimating the parameters of the study model

Variables	Coefficient	t-test	Prob.
Constant (γ_0)	-1748.049	-4.222	0.004
CA	2.789	7.736*	0.000
F- test	59.841	-	0.000
R^2	0.74	-	-
D.W.	2.04	-	-

It is clear from the results listed in the previous Table No. (4), the following:

A- The validity of the model is proven, as supported by the calculated (F) value of (59.841) and the value of statistical significance (Prob.) of (0.000) which is less than the significance level (0.05). This means it has been possible to measure the impact of current account (CA) on Jordanian public budget deficit (BD) on the one hand, as well as the model can now be made for the forecasting purposes in Jordanian public budget deficit (BD) on the other hand.

B- Confirm the significance of the regression coefficient ($¥_1$) of budget deficit (CA), as supported by the calculated (t) value of (7.736), as well as the value of the statistical significance (Prob.) of (0.000) which is less than the significance level (0.05). This means that there exists a statistically significant impact of current account (CA) on Jordanian public budget deficit (BD) at the significance level (0.05).

In light of the previous results, the predictive econometrics model can be written as follows:

$$BD_i = -1748.049 + 2.789\ CA_i \quad \text{..... Forecasting Model}$$

3. Discussion the Results

The results of estimation and analysis of the study econometrics model concluded the following:

a. The results showed that the study variables (CA, BD) are static (stable) when taking the first difference at the significance level (0.01), which means the possibility of using the Vector Auto Regressive (VAR) method in the study.

b. Existence of a long-term integrative relationship between the variables, that is, the co- integration is considered to be of the first degree I (1), and this means that there exists a balance relationship in the (Long-Run), and this result will be help us to move the second stage, which is the stage for estimating the parameters of the model in the (Long & short Run).

c. The causality direction is from public budget deficit (BD) to current account (CA) and conversely, this means that the causality relationship between the two variables is bi-directional.

d. There exists a statistically significant impact for current account (CA) on Jordanian public budget deficit (BD) at the significance level (0.05). This means that the current account (CA) contributes to stimulating the Jordanian public budget deficit (BD).

e. Possibility of applying the study econometrics model, whose validity has been verified for purposes of forecasting of the Jordanian public budget deficit (BD).

RECOMMENDATIONS

In light of the study findings, it found some of the recommendations and suggestions, including the following:

1. Necessity of Jordan adopting a policy to combat the budget deficit and corrective economic policies.

2. Necessity to follow Jordan's policy to improve the balance of payments, such as increases Jordan's exports of goods or import reduction of luxury goods.

3. Necessity of adopting economic policies and facilities to encourage the foreign investment in Jordan.

REFERENCES

1. Asrafuzzaman, & et al., (2013). An Empirical Investigation of Budget and Trade Deficits .
2. Baker (2014). Government Receipts Expenditure .
3. IMF Working Paper, (2012) . Fiscal Policy and Current Account .
4. Julio, Cesar, (2002). Sustainability of a Fiscal Policy and a Current Account .
5. Menyah, & et al., (2013). Government Expenditure and Economic Growth .
6. Merza, & et al., (2012). The Relationship between Current Account and Government Budget Balance: The Case of Kuwait.
7. Michele, Cavallo, (2007). Government Consumption Expenditure and the Current Account .
8. Noor, Mohammad, (2011). Impact of Government Expenditure on Jordanian Economy .
9. Ryuhel, Okumura, (1998). Productive Government Expenditure and Current Account .
10. Statistical Reports of Jordanian Central Bank for the Period (1992-2016).
11. Working Paper Series, (2008). Fiscal Policy, the Current Account and Riparian Equivalence .