

The Impact of Domestic Savings Gap on the Current Account Balance in Jordan during the Period (1995-2020)

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Abstract: - The study aims to demonstrate the role of the domestic savings gap in the Current Account (CA) balance in Jordan, by analyzing the size and development of the domestic savings gap in Jordan. As well as analyzing the role of domestic savings in the CA, and balance in Jordan. Auto Regressive Distributed Lag (ARDL) and Bound Testing methodology were used to measure the short and long-term impact of deficit determinants in the CA of the Jordanian balance of payments. Several results were found in the current study. First, a positive and significant effect of the public savings gap on the CA deficit in Jordan was found during the period 1995 to 2020. Second, a positive and significant effect of the private sector savings gap on the CA in Jordan during the study period. Finally, the government sector's gap has a greater impact compared to the private sector's gap on the CA in Jordan. The study recommends the necessity of drawing up incentive policies for domestic savings and creating incentives and means that can help increase the mobilization and distribution of savings to finance productive investments to reduce the CA deficit in Jordan.

Key-Words: - domestic savings gap; Current Account balance; Jordan; Auto Regressive Distributed Lag; Deficit.

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1 Introduction

Savings play an important role in providing the needed capital that is responsible for boosting economic growth. Savings represents the excess in income over consumption while the flexibility of any economic unit's decisions on income distribution is expected to be affected by the interest rate.

It is established that one of the conditions for economic balance is that the target investment rates are equal to the savings rates. Hence, the economy is in a state of imbalance if savings rates do not cover the required investment rates. This refers to the problem of low savings rates as a major obstacle to increasing investment rates.

It should also be noted that the increase in investment over domestic savings reflects a deficit in the current balance that a part of local investment financed through foreign savings, thus the deficit leads to an increase in the debt of the local economy from outside sources.

The problem of the balance of payments deficit is seen as a constraint to the improvement of the Jordanian economy. In addition, the CA is considered an essential part of the balance of payments as its balance is reflected by the higher or lower balance of payments. Hence, it is imperative to study the impact of domestic savings as it plays an important role in CA economic analysis. In this matter, Jordan has experienced a continuing deficit between local savings and investment. Therefore, this study aims to look at the size of the savings gap to evaluate the role of CA in the balance of payment deficit and provide policy options in Jordan to reduce this deficit.

The Jordanian economy suffers from a structural imbalance between local savings and investment. . However, the positive role of investment in long-term development and growth is a catalyst for economic growth. Thus, the increase in investment in local savings is a gap that is needed to be addressed to improve account balance. This in turn triggers the following questions; what is the impact of the savings gap on the CA balance?

The importance of the current study is that it contributes to the analysis of the domestic savings gap to avoid possible downsides from the use of external sources in financing investments. It will also provide an economic reform program aimed at controlling financial balances by the competent authorities. Hence, this study deals with one of the causes of the CA balance deficit through investment and domestic savings and their role in analyzing CA dynamics.

The paper is then divided into four sections: section 2 focuses on the literature review; discusses the theoretical framework and hypotheses; section 3 outlines the research methodology; section 4 contains results and discussions in section 5; and section 6 concludes with recommendations and conclusions.

2 Theoretical Literature

The investment is the part of income that is not consumed but used in the production process to expand the productive ground. Domestic saving on the other hand is a self-financing source for these investments and helps in achieving high economic growth rates, [26]. Classical economists believed that balance in the market for goods and services is achieved when saving is equal to investment. Hence, the cost-benefit of flexibility leads to a balance of saving with investment and the flexibility of this price works to preserve the periodic income flow with unlimited investment opportunities.

In the same context, the classical view was that savings in a short period would be linked to investment and increased capital formation. This will lead to an increase in capital supply and price reduction, as an increase in investment, production and economic growth. In Kenzie School of Thought, they speculate that the aggregate demand equals aggregate supply and total output equals consumption, investment, government expenditure and exports minus imports. This can lead to conclude that the domestic resource gap (savings-investment) has a similar CA impact as the general budget deficit that an increase in investment over savings creates a negative gap if it is not compensated by public savings or budget surpluses. Therefore, the external deficit increases by this negative gap along with the government deficit, [14].

[6], [7] tested the causal link between savings and investment in the Jordanian economy. They found that savings do not cause investment in the long run but rather in the short run. [33] studied the causal relationship between investment and savings and found that domestic saving plays an effective role in financing investment in India. [25] argue that the increase in savings led to an increase in investment financing in Turkey. Similarly, [35] found an existing relationship between saving and growth in GDP. Those results are contradicted by Oiler's theory, which speculates that growth hurts saving. [35], found that growth rates are responsible for direct investment, while investment rates can cause negative growth rates to capture similar

results. [22] aimed to identify the determinants of family savings in Algeria and found that saving does not relate to investment.

Other studies have tested other economic variables than the causal relationship between saving and investment. [1] posit that the causal link between saving, investment and the impact of the savings gap on economic growth. They relied on CT data for 65 developing countries using GDP as an indicator of growth. The study noted that 29 countries, including Algeria, Argentina, Mexico and Paraguay are showing a high savings gap, which led them to conclude that the impact of savings on economic growth in these countries is negative. Moreover, they found that the impact of savings on growth was positive for other developing countries that showed an increase in savings on investment, which indicates a negative impact of the savings gap on growth.

[6] found that consumption and savings are critical factors for families to benefit in African nations. [11] aimed to determine the impact of the saving gap on growth indirectly by using proxies. They adopted the CA impact of the savings gap and budget deficit and applied a demo model to seven groups of countries. The results were consistent with previous studies in that savings played an important role in the CA deficit. Additionally, the study found that savings in high-consumer countries are less efficient. Therefore, previous studies have shown a consensus concerning the saving gaps in increasing investments, as well as, found a negative impact on production and growth. This gap is expected to reflect in export revenues and tax revenues that are supposed to rely on investments and affect GDP indirectly.

[5] aimed to identify the financial and CA gap using data from (2010-2014). They found that consumption, investments and government expenditures exceeded Indonesia's production capacity and the CA deficit is justified by this result. In addition, [21] studied the CA impact of the savings gap and the budget deficit for seven countries covering the periods 1994 to 2011. The study found that savings have a significant impact on the balance sheet and the CA and indicated that, insufficient savings would negatively affect investment. Their results indicate that the budget deficit and the savings gap hurt the CA balance.

In the Jordanian context, [28] aimed to verify the existence of double deficits in Jordan by determining the causal link between government budget deficits and trade balance deficits from 1980 to 2010 by using a common integration methodology. The study found a double deficit in

the Jordanian economy. [16] studied the dynamics of CA balances and emphasized on the statistical nature of the persistence of stocks and their determinants. The study found that exchange rate systems play an important role in the CA. They also argue that trade openness reduces the cost of adjusting the CA as foreign assets and financial development has a significant impact on the CA deficit and the sustainability of the CA. Finally, they found that there were budget deficits that contributed to the continuation of the CA deficit

[25] tested the impact of the balance of payments on some macroeconomic variables such as GDP, inflation, net exports, exchange rate and others in India between 1981 and 2013 by using engagement and regression. Their results indicated that not all variables except the balance of payments were fixed. They suggest that the trade balance, exchange rate movement, inflation, industrial production and GDP could cause balance-of-payments fluctuations in India. The study concluded that the balance of payments was highly influenced by all the aforementioned criteria. However, the exchange rate was found to be statistically unimportant. Besides, [23] analyzed the economic factors determining the CA deficit of the Egyptian balance of payments. The study found a positive relationship between gross domestic investment, general budget deficits and terms of trade. The researcher recommended that government consumer spending should be rationalized to reduce the budget deficit, improving the CA deficit and the need to control monetary expansion and reduce the savings and investment gap. Other hand, [4] argue about a significant negative impact of cash supply, and household consumption expenditure on the commercial balance. They also found a significant positive impact on the trade balance from the real exchange rate, income, inflation and investment.

To this end, this study aims to investigate the causal relationship between savings and investment and to determine the impact of the domestic savings gap in Jordan on the current balance. Hence, the following section explores the Jordanian balance of payments from 1995 to 2020.

2.1 Domestic Savings Gap on the Current Account Balance in Jordan

2.1.1 Current Account

Table 1, shows the growing deficit gap resulting from commodity trade abroad. Hence, the CA of the studied period was characterized by a clear deficit, especially between the periods from 2005 to 2020

except 2002, 2003 and 2004 along with the periods from 2000-1996. Despite the correction programs adopted by the government, CA was largely impacted by the shocks of the 1990s. CA deficit continued to rise to 179.8 million dinars in 1995. Another reason for this accumulated deficit can be referred to as the unrest and political changes in 1986 and 1992 in Jordan.

2.1.2 Trade Balance

The trade balance is one of Jordanian most important economic balances. The trade balance has captured the interest of many Jordanian economists and is considered the most important objective that development plans aspire to achieve. Figure 1, shows that the trade balance deficit during the study period is a deficit. The data shows that from 1995 to 2020, the deficit has increased from 1347.1 million dinars to 7239.4 million dinars. The volatility during this period may refer to some events that have affected the Jordanian economy such as the 1990 Gulf War.

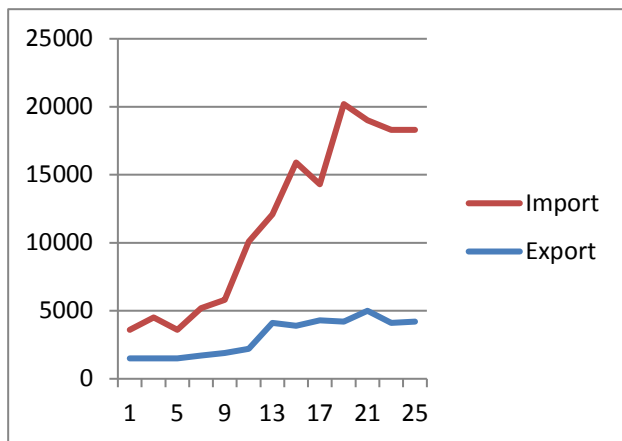


Fig. 1: Jordanian trade balance (exports and imports) was 1 million dinars during the period 1995-2020.

Source: Preparation of researcher based on Jordanian Central Bank data monthly bulletins

The reasons for the increased trade balance deficit can be referred to as the quality of foreign goods in comparison with domestic goods. This has played an active role in increasing the demand for foreign goods. Other reasons such as changing tastes or income, have affected the structural imbalance at the commodity level, and changing supply and demand, thus the impact on prices affecting the balance of payments.

2.1.3 Services Balance

The Jordanian services balance which shows the import and export of services and types of services

(Insurance, commercial shipping, tourism, investment income, as well as workers' remittances) began to recover from the beginning of 1995 when it reached 952 million Jordanian dinars.

The reason may refer to the heavy reliance on remittances from Jordanian expatriates up to 1999. However, from 2000 to 2005, the balance of services fell short because of the non-calculation of the contribution of the active net transfers. While in 2007 and 2008, a surplus was restored owing to increased net investment income and employee compensation up to 2020. To their long-term deterioration because of the loss of the source of remittances.

2.1.4 Current Transfers

Figure 2, shows a noticeable fluctuation for the covered years. The figure shows that Gulf War and the decline in foreign aid have caused a rapid change in the current transfers' figures from 1995 to 2000. This trend changed later on as net remittances the balance of current transfers increased to 1.5 million dinars and 2 billion in 2003 and 2004 reaching 2.5 billion in 2008 and 3506.9 million dinars in 2020.

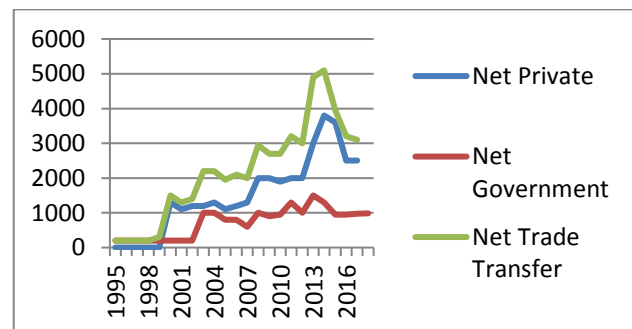


Fig. 2: Net current transfers and their components (In millions)

Source: Preparation of researcher based on central bank data, monthly statistical bulletins

2.2 Hypotheses Development

The domestic savings gap is the difference between total domestic savings and total domestic investment in a country [2]. A positive domestic savings gap suggests that the country has more savings than investments. A negative domestic savings gap, on the other hand, shows that the country is investing more than it is saving [8]. The current account balance is a measure of a country's international commerce that includes the trade balance (exports minus imports), net foreign income, and net transfer payments [11]. A positive current account balance means a nation exports more goods and services than it imports, whereas a negative current account

balance means a country imports more goods and services than it exports [15].

[17] hypothesized a link between the domestic savings gap and the current account balance. One idea is that a positive domestic savings gap is related to a positive current account balance, since surplus savings inside the nation may be utilized to support overseas investment, resulting in an increase in exports and a drop in imports [18]. A negative domestic savings gap, on the other hand, may be connected with a negative current account balance, because the deficit in domestic savings may need to be funded by borrowing from other nations, resulting in an increase in imports and a drop in exports [20].

A variety of factors, including income, government expenditure, and consumer confidence, can all have an impact on the domestic savings gap. People may be more likely to save a bigger share of their income if income levels are high and consumer confidence is high, resulting in a positive domestic savings gap [28]. People may be less likely to save and more likely to spend if income levels are low and consumer confidence is low, resulting in a negative domestic savings gap [34]. A variety of variables, including currency rates, the competitiveness of local sectors, and the degree of demand for domestic products and services in international markets, can all have an impact on the current account balance. For example, if a nation has a favourable exchange rate and competitive industries, it may be able to export more products and services, resulting in a positive current account balance [36]. If a country's exchange rate is unfavourable and its industries are less competitive, it may become increasingly reliant on imports, resulting in a negative current account balance [9]. It should be noted that the domestic savings gap and the current account balance are not always independent factors. For example, if a nation has a positive domestic savings gap, it may be able to use those extra funds to finance overseas investment, resulting in more exports and a positive current account balance [27]. However, if the country's domestic savings gap is negative, it may need to borrow from other nations to finance investment, resulting in a rise in imports and a negative current account balance [10], [24]. According to [21], the relationship between the domestic savings gap and the current account balance is likely to be complex and may be influenced by a variety of other factors, such as a country's level of economic development, infrastructure, credit availability, and overall economic and political stability. To assess the degree and nature of the association between these

two variables, more study and analysis would be required.

This study is based on the following main assumption, which is informed by the investigation of past and theoretical studies linked to the focus of the study, and is based on the research question and its goals:

H0: There is a significant association between the savings gap and the current account in Jordan.

3 Methodology

The current study relied on the standard quantitative method using time series to build a standard economic model. This model was generated to measure the short- and long-term impact of the CA deficit determinants for the Jordanian balance of payments. Therefore, the study collected quarterly data on study variables from the Central Bank's covering the period from 1995 to 2020.

3.1 Model Description

The current study adopted the Kinzeian model of an open economy, which assumes that GDP (Y) is distributed between private consumption (C), government expenditure (G), investment spending (I), exports (X) and imports (M), according to the congruence of national accounts measured by expenditure must be equal to national:

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

Where goods and services produced by a country's economy (Y) are absorbed locally through consumption, investment, and government spending. Hence, they represent the sum of these variables by local absorption Domestic Absorption (A) whereas:

$$A = C + I + G \quad (2)$$

Upon compensation of (2) in (1) and rearrangement, it becomes:

$$Y - A = X - M \quad (3)$$

If the difference between exports and imports represents the trade balance, which is the main aspect of the CA. It is in deficit when the GDP is lower than the local absorption ($Y < A$) that is ($X > M$), It is in excess when ($Y > A$) i.e. local absorption is lower than the domestic product then ($X < M$).

The local savings also includes both public and private savings.

$$S = S_g + S_p \tag{4}$$

S represents total savings, S_g government savings, S_p private savings saving is the difference between gross income and gross domestic expenditure, while domestic investment includes both government and private investment, as well as inventory.

$$I = I_g + I_p + k \tag{5}$$

Where I am the total investment, I_g is the government investment; I_p is the private investment, and k plus inventory if the domestic investment is greater than domestic saving. This shows that total spending exceeds the level of output in the economy. Then imports will be larger than exports and vice versa. This will be reflected in an increase in exports, which in turn represents the CA deficit or surplus. CA assume that there is no deficit or government surplus. Thus, the starting point in the model is the estimate of CA identity (CA) with different savings (S) and investments (I).

$$CA = S - I \tag{6}$$

Hence, any imbalance in the relationship between savings and investment is a balance-of-payments CA imbalance. This concept has been estimated in prior studies that have attempted to explain the CA deficit. It is the difference between national savings and investment, this approach has been widely applied in modern literature to explain the long-term and short-term importance of macroeconomic factors [13].

We split formula three by GDP, GDP (Y) to become:

$$CA/Y = S_p/Y + (S_g/Y) - I/Y \tag{7}$$

In the expression of a savings dent attributed to GDP, it consists of different variables:

$$(S_p^v)/Y = f [(Y/N) / ((Y^*) / (N^*))]. REER . S_g/Y . I^f/Y \tag{8}$$

The interim real estimate should improve the CA according to the consumption homogeneity hypothesis [29]. Thus, the connection between the real exchange rate and saving can only be determined experimentally.

Under full employment, savings and investments are in line with planned variables fixed investment and may be considered a planned investment that limits the increase in stockpiles. On the one hand,

full employment can absorb unexpected sales and product developments. The investment ratio (I_f/Y) is particularly related to private savings when access to international capital markets is restricted [19; 32].

While there is a direct linear relationship between private savings ratio, government deficit and investment ratios, it supposed to be a semi-flexible relationship between the ratio of private savings and per capita income, I_f per capita economic growth in the catch-up economy is 1% higher than per capita economic growth in the Reference State, the saving rate is rising steadily, So PCI means the natural logarithm of per capita income The real actual exchange rate is also represented by logarithm, therefore the regression equation for the special saving ratio is:

$$(S_p^v)/Y = a_0 + a_1 (PCI - PCI^*) + a_2 REER + a_3 S_g/Y + a_4 I^f/Y + \epsilon \tag{9}$$

A return to the CA equation results in a CA balance compatible with the full labor market of employment:

$$CA/Y = a_0 + a_1 (PCI - PCI^*) + a_2 REER + (1 + a_3) S_g/Y + (a_4 - 1) I^f/Y + \epsilon \tag{10}$$

If Ricardi parity is probable (α₃ = -1), public finances have no effect on the CA balance, in the case of a total international capital deficit (α₄ = 1), domestic fixed investment is financed entirely from domestic savings. This provides a description of the CA deficit function. Factors affecting this relation are represented as follows:

$$CA_t = \beta_0 + \beta_1 BD_t + \beta_2 GDP_t + \beta_3 I_t + \beta_4 M_t + \beta_5 M2_t + \beta_6 REER_t + \beta_7 SG_t + \beta_8 Spt + \beta_9 TOT_t + \beta_{10} X_t + U_t \dots \tag{11}$$

Where that:

CA, which is the dependent variable, BD: General State Budget Deficit, GDP: GDP, Total investment, IMP: total imports, M2: Broad Monetary Presentation, Used to Reflect the Degree of Development of the Financial Sector, REER: Effective real exchange rate, SG: Total public savings, SP Total private savings, TC: Terms of Trade (International Exchange Rate), X: Total exports. If your paper deviates significantly from these specifications, our Publishing House may not be able to include your paper in the Proceedings. When citing references in the text of the abstract, type the corresponding number in square brackets as shown at the end of this sentence [1].

4 Results and Discussion

4.1 Unit Root Test Results

The study collected quarterly data to avoid seasonal effects. Hence, the data were filtered by using the X-13 ARIMA method and by extrapolating Table 1, results of the Phillips-Peron test. The results show that there are zero-I (0) static variables at the level (CA, budget deficit). In addition, there are other static I (1) variables after taking the first difference which is (GDP, investment, expanded cash supply, export volume, import volume and effective real exchange rate, public savings, private savings and terms of trade). The influence of the variables was measured by a probability of less than 5%.

Table 1. Phillips-Peron test

Result	probability	Statistic T	Result	probability	Statistic T	variables
			Stable*	0.0000	-6.081	CA
Stable*	0.0003	-5.153	unstable	0.8245	-1.495	GDP
Stable*	0.0091	-4.090	unstable	0.5954	-1.996	I
Stable*	0.0000	-9.458	unstable	0.2615	-2.645	M2
			Stable*	0.0000	-9.729	BD
Stable*	0.0000	-8.941	unstable	0.5962	-1.995	X
Stable*	0.0000	-10.04	unstable	0.6261	-1.939	IMP
Stable*	0.0024	-4.519	unstable	0.8612	-1.378	REER
Stable*	0.0032	-4.430	unstable	0.6103	-1.969	SG
Stable*	0.0059	-4.233	unstable	0.4822	-2.202	SP
Stable*	0.0000	-8.427	unstable	0.1716	-2.886	TC

* * * indicates the rejection of the no-silence hypothesis at the indicative level of 1% and 5% respectively.

The difference in variables' stability based on the unit root test was measured. Self-regression model was used for distributed delay periods Auto Regressive Distributed Lag (ARDL) and boundary testing methodology (Bound Testing) [30; 31]. To study the relationship between non-integral variables, the ARDL model is characterized by

considering the number of appropriate delay periods for each variable in tandem with an integrated degree. This reflects positively on the efficiency of the assessment for short-term and long-term indicators.

To test the existence of long-term relationships between variables, the results of the estimate were shown in Table (2) and the error correction limit factor signal for the CA deficit determinant model for Jordan's balance of payments is negative and it's significant at ($> 1\%$).

Table 2. Test of error correction limit

Variable	limit	Standard error	T-statistic	probability
C	-1983.522	7121.940	-0.278509	0.7815
(-1)BD	0.003358	0.144660	-0.023216	0.9815
(-1)GDP	-0.300820	0.210016	-1.432363	0.1567
(-1)I	-0.000198	0.003336	-0.059317	0.9529
(-1)IMP	0.292440	0.264592	1.105245	0.2730
(-1)M2	-0.020764	0.037150	-0.558938	0.5781
REER (-1)	12.50846	4.227903	2.958531	0.0043
(-1)SG	0.000233	0.000976	0.238531	0.8122
(-1)SP	0.000104	0.002362	0.043878	0.9651
(-1)TC	7.536472	3.467278	2.173599	0.0333
(-1)X	1.401270	0.710729	1.971595	0.0528

4.2 Short-term Impact Result

Short-term impact results are shown in Table 3, which shows that CA deficits do not respond to most of the study variables except for the effective real interest rate and the rate of trade.

Table 3. Short-term ARDL results

Error correction limit Factor	Std. Error	T-statistic	Probability
-1.011004	0.121930	-8.291668	0.0000

The results showed that the CA deficit response to the study's variables was not significant. However, it was at for the effective real interest rate and rate of trade have shown a significant relation of 0.0043, 0.0333, respectively.

4.3 Bound Test

The results of the boundary test of long-term integrative relationships show that all calculated values are larger than the tabular values shown in Table 4. Therefore, there are long-term equilibrium relations between the variables ($F=5.173412$) was higher than the top critical value of 3.86. There are thus common long-term integration relationships as shown in table 4.

Table 4. Bound Test

F -statistic	Value	K
Critical values	5.173412	10
SIG	I(0) BOUND	I(1) BOUND
10%	1.83	2.94
5%	2,06	3,24
2.5%	2.28	3.5

4.4 Long-term ARDL Assessment Results

The results of the long-term ARDL estimate were shown in Table 5. Thus, there are positive impacts on Jordan's balance-of-payments CA deficit. Table 5, also shows that the variable budget deficit has an impact of 0.400443 million dinars and the variable effective real interest rate of 11.655566 million dinars. While the trade rate and export volume variables of 6.221645, and 2.907174 million dinars, respectively, which have significant values at less than 5%.

While the results in Table 5 show that, there are variables that have a significant effect at a lower or equal 5% significance level. However, GDP and the volume of investment, public savings, and private savings were not significant at 5%.

Table 5. Long-term ARDL assessment

Variables	Limit	Standard Error	T Statistics	Probability
C	7086.86	5614.07	-1.2623	0.2112
BD	0.40044	0.11084	3.61291	0.0006
GDP	-0.1267	0.11921	-1.0628	0.2917
I	0.00309	0.0026	1.18829	0.2389
IMP	-0.8258	0.177	-4.6654	0
M2	-0.0517	0.02411	-2.1455	0.0355
REER	11.6556	3.06621	3.8013	0.0003
SG	0.0009	0.00077	1.18027	0.2421
SP	-0.0021	0.00184	-1.1652	0.2481
TC	6.22165	2.83785	2.19238	0.0318
X	2.90717	0.52381	5.55008	0

4.5 Diagnostic Tests

Serial Correlation LM test, Heteroscedasticity and (CUSUM) were applied to measure the results of the ARDL model. Table 6, shows the consistency of models and the absence of standard model problems. The LM test of the study model showed that there were no correlation issues. In addition, to the contrast heterogeneity test, the F significance level was greater than 5% in all models, indicating constant error variation.

Table 6. Autocorrelation test and variation instability test

Test	F-statistic	probability
Serial Correlation LM test	1.070040	0.3490
Heteroscedasticity	1.151447	0.3163

4.6 Causality Test

This test is used to determine the direction of causation between the variables used in the model. Table 7 shows the causal relationships between study variables and their trends. The results indicate a one-way causal relationship going from each line. (GDP, investment volume, import volume, broad cash supply, effective real exchange rate, public saving, private savings, and volume of exports) at less than 5%.

Table 7. Causality test

Null Hypothesis:	F-Statistics	Probability	Result
BD_ does not Granger Cause CA	0.40454	0.6685	Does not accept
CA does not Granger Cause BD	2.99922	0.0549	Does not accept
GDP_ does not Granger Cause CA	8.04338	0.0006	Accept causal relationship
CA does not Granger Cause GDP	1.60288	0.2071	Does not accept
I_ does not Granger Cause CA	10.9150	6.E-05	Accept causal relationship
CA does not Granger Cause I	1.57449	0.2128	Does not accept
IMP does not Granger Cause CA	7.89407	0.0007	Accept causal relationship
CA does not Granger Cause IMP	1.74021	0.1814	Does not accept
M2 does not Granger Cause CA	8.53365	0.0004	Accept causal relationship
CA does not Granger Cause M2	1.53443	0.2212	Does not accept
REER does not Granger Cause CA	6.30469	0.0027	Accept causal relationship
CA_ does not Granger Cause REER	0.30258	0.7397	Does not accept
SG does not Granger Cause CA	13.3052	9.E-06	Accept causal relationship
CA does not Granger Cause SG	0.14000	0.8696	Does not accept
SP does not Granger Cause CA	8.71450	0.0003	Accept causal relationship
CA does not Granger Cause SP	2.60517	0.0795	Does not accept
TC does not Granger Cause CA	2.33337	0.1029	Does not accept
CA does not Granger Cause TC	0.04334	0.9576	Does not accept
X does not Granger Cause CA	7.14584	0.0013	Accept causal relationship
CA does not Granger Cause X	2.34824	0.1014	Does not accept

4.7 Stability Test

To ensure that there is no structural change in the model. Cusum Test and Cumulative Sum Test were adopted [12]. The results showed that the validity of the models and stability of results are within the 5% range as shown in figure 3.

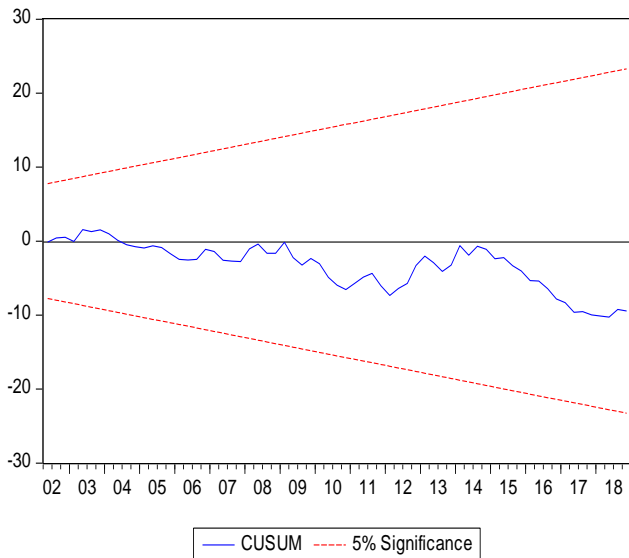


Fig. 3: CUSUM test for the first form

4.8 Discussion

The results of the study showed the following. First, there is a positive and significant impact of the public sector gap on Jordan's CA deficit during the period 1995 to 2020. Second, there is a positive and significant impact of the private sector savings gap on Jordan's CA during the study period. Third, the government sector gap has a greater impact than the private sector on Jordan's CA. Fourth, there is a one-way causal relationship going from both the public savings gap and the private savings gap to the CA in Jordan.

First, the public sector gap has a favourable and large influence on Jordan's CA deficit from 1995 to 2020. The public sector gap (the difference between the government's total revenue and total spending) has the potential to have a positive and significant influence on Jordan's current account deficit (CA deficit) from 1995 to 2020. However, it is impossible to make a more complete analysis without further information regarding the specifics of the situation in Jordan.

The public sector gap might affect the CA deficit in several ways, including, if the government is running a deficit (expenditures exceed receipts), it may be forced to borrow money from overseas to support its activities. This might exacerbate the country's CA deficit since it would be importing capital rather than exporting it. On the other hand, if the government has a surplus (revenues exceed expenditures), it may have extra cash to invest in overseas assets. Because the government would be exporting capital rather than importing it, the CA deficit may be reduced. The public sector gap may also have an indirect impact on the CA deficit due to its impact on economic growth. If the government

runs a deficit and borrows excessively, interest rates may rise, dampening economic activity and reducing exports. On the other hand, if the government runs a surplus and invests in infrastructure and other productive assets, it may boost economic growth and exports.

It should be noted that the link between the public sector gap and the CA deficit is likely to be complicated and diverse, with other factors such as currency rates, trade policy, and global economic circumstances all playing a role. To properly comprehend the influence of the public sector gap on Jordan's CA deficit from 1995 to 2020, a detailed examination of the relevant data and consideration of all of these aspects would be required. This observation is consistent with findings of [1], [3]. This observation, on the other hand, contradicts the results of [2], [8], [11].

Second, the private sector savings gap has a favorable and considerable influence on Jordan's CA during the research period. The private sector savings gap (the difference between the private sector's total income and total spending) may have a positive and considerable influence on Jordan's current account (CA) throughout the time you are studying. However, it is impossible to make a more complete analysis without further information regarding the specifics of the situation in Jordan.

The private sector savings gap might affect the CA in several ways. If the private sector saves more than it spends, it may have spare capital to invest in overseas assets. Because the government would be exporting capital rather than importing it, the CA deficit may be reduced. However, if the private sector spends more than it saves, it may be forced to borrow cash from abroad to support its consumption. This might exacerbate the country's CA deficit since it would be importing capital rather than exporting it. The private sector savings gap may have an indirect influence on the CA because of its effect on economic growth. If the private sector saves and invests extensively, it has the potential to drive economic development and enhance exports. On the other hand, if the private sector spends and borrows excessively, interest rates may rise, dampening economic activity and reducing exports.

It should be noted that the link between the private sector savings gap and the CA is likely to be nuanced and varied, with other factors such as currency rates, trade policy, and global economic conditions all playing a role. To properly comprehend the influence of the private sector savings gap on the CA in Jordan over the period under consideration, you must undertake a detailed

examination of the relevant data and take into account all of these elements. This discovery is similar to the findings of [18], [21], [20]. This discovery, however, contradicts the findings of [22], [28], [36].

Third, the government sector disparity has a higher influence on Jordan's CA than the private sector deficit. The government sector gap (the difference between total revenue and total spending) may have a higher influence on Jordan's current account (CA) than the private sector. However, it is impossible to make a more complete analysis without further information regarding the specifics of the situation in Jordan.

There are several reasons why the government-private sector imbalance may have a bigger influence on the CA than the private sector. Because the government sector is usually considerably bigger than the private sector, its actions may have a greater impact on total economic activity and the CA. Furthermore, the government sector has a larger potential to influence macroeconomic policy and resource allocation, which may have an impact on the CA. For example, the government may influence currency rates and trade policy, which can affect export demand and local company competitiveness. However, the government sector may be more vulnerable to fiscal imbalances (e.g., budget deficits or surpluses) that might influence the CA. For example, if the government is running a deficit and borrowing significantly, importing capital rather than exporting it may raise the CA deficit. However, if the government runs a surplus and invests in foreign assets, it may be able to lower the CA deficit by exporting capital rather than importing it.

It should be noted that the link between the government sector gap and the CA is likely to be complicated and nuanced, with other factors such as currency rates, trade policy, and global economic conditions all playing a role. To properly comprehend the influence of the government sector gap on the CA in Jordan, a complete examination of the relevant data and consideration of all of these aspects would be required. This discovery is similar to the findings of [15] as well as [2]. This discovery, on the other hand, contradicts the findings of [17], [20], [22].

Fourth, there is a one-way causal link between Jordan's CA and both the public and private savings gaps. Likely, the public savings gap (the difference between the government's total revenue and total spending) and the private savings gap (the difference between the private sector's total income and total expenditure) have a one-way causal

relationship with Jordan's current account (CA). However, it is impossible to make a more complete analysis without further information regarding the specifics of the situation in Jordan.

The public and private sector savings disparities might affect the CA in various scenarios. If the government has a surplus (revenues exceed expenditures) and invests in foreign assets, it may be able to lower the CA deficit by exporting capital rather than importing it. This would imply a one-way causal link between the public-sector savings gap and the CA. If the private sector saves more than it spends and invests in overseas assets, the CA deficit may be reduced by exporting capital rather than importing it. This would imply a one-way causal link between the private savings gap and the CA.

It should be noted that the link between the public and private sector savings gaps and the CA is likely to be complicated and varied, with other factors such as currency rates, trade policies, and global economic conditions all playing a role. To properly understand the causal link between the public and private sector savings gaps and the CA in Jordan, a complete examination of the relevant data would be required, taking into account all of these aspects. This conclusion is consistent with that of [1], as well as [9]. This observation, however, contradicts the findings of [2], [10], [24].

5 Conclusion

In light of prior findings, the report advises developing policies to encourage domestic saving and introducing incentives to aid in the mobilization and distribution of savings to finance productive projects and lower Jordan's CA deficit. Increase domestic savings: Increasing domestic savings is one strategy to overcome the negative domestic savings gap and reduce dependency on foreign borrowing. This might be accomplished through raising government savings, encouraging citizens to save more, and supporting the creation of a savings culture within the country. Encourage foreign direct investment: Increasing foreign direct investment (FDI) in the nation is another strategy to solve the current account imbalance. This might be accomplished by strengthening the business climate, decreasing bureaucracy and regulatory hurdles, and increasing economic and political stability in the country.

Furthermore, boosting exports might assist to minimize the current account deficit by increasing foreign currency inflows. This might be accomplished by efforts like strengthening the

country's infrastructure and transportation networks, investing in R&D to boost the competitiveness of local firms, and marketing Jordan as a tourist and other service industry destination. Finally, cutting public debt can assist to improve the current account balance by freeing up resources for investment and lowering the need for foreign funding. This might be accomplished by implementing fiscal austerity measures and structural changes to increase the efficiency of government expenditure.

The study's limitation is the economy's complexity: Jordan's economy is complicated and is impacted by a variety of variables, including domestic and international political and economic changes. This can make determining the precise impact of the domestic savings gap on the current account balance difficult. Nevertheless, this study's other suggestions are to enhance domestic capital markets: Promoting the growth of domestic capital markets, such as stock and bond markets, can assist to direct domestic funds toward local investment possibilities, minimizing the need for external funding. Encourage private sector investment as well: Encouragement of private sector investment can also aid in closing the domestic savings gap and improving the current account balance. This might be accomplished by measures such as offering tax breaks for investment, enhancing loan availability, and lowering regulatory impediments to corporate activity.

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Contribution of Individual Authors to the Creation of a Scientific Article (Ghost-writing Policy)

- Yaser Ahmad Arabyat, Mutasim Aldabbas and Mohammad Zakaria Alqudah Conducted the Simulation, Original Writing and Optimization.
- Khawla Kassed Abdo and Taha Barakat Al-Shawawreh Has Implemented Statistical Analysis.
- Mohammad Zakaria Alqudah has organized and executed the Experiments of Section 4.
- Yaser Ahmad Arabyat was Responsible for the Conclusion.

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