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DOES FISCAL EXPANSION ALWAYS WORSEN EXTERNAL BALANCES? AN ECONOMETRIC ASSESSMENT OF G7 ECONOMIES

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ABSTRACT

This study investigates the twin deficit hypothesis, which explores the relationship between fiscal deficits and current account deficits in the context of the G7 nations from 1999 to 2024. This study aims to determine whether rising fiscal deficits lead to higher current account deficits as suggested by Keynesian theory, or if other factors like exchange rates, interest rates, and inflation play a more significant role. Using annual data and advanced econometric methods like the Autoregressive Distributed Lag (ARDL) model and Granger causality tests, the analysis evaluates the short-run and long-run dynamics between deficits, monetary variables (broad/narrow money), interest rates, exchange rates, and inflation (CPI). The results of the study confirm the twin deficit hypothesis, showing that a 1% increase in fiscal deficit increases the current account deficit by 0.45%. However, the results also highlight nuanced effects, meaning higher interest rates reduce current account deficits by attracting foreign capital. On the other hand, exchange rate fluctuations and inflation show weaker, sometimes contradictory impacts. The study identifies structural issues like the delayed adjustment of trade balances (J-curve effect) and the dual role of money supply, where narrow money reduces deficits, but broad money increases them. Diagnostic tests, including stability checks (CUSUM/CUSUMSQ) and unit root tests, validate the model's reliability, though some residuals exhibit non-normality and heteroscedasticity, suggesting areas for refinement. The findings identify the importance of aligning fiscal and trade policies, like fiscal consolidation, export diversification, and institutional reforms, for a more sustainable approach to managing twin deficits. Based on the study, it also adds valuable perspective to the ongoing debate by incorporating recent global shocks like the 2008 financial crisis and COVID-19, offering practical insight to policymakers into managing deficits without ignoring economic growth.

Keywords: twin deficit hypothesis, G7 economies, fiscal deficit, CAD, ARDL model, granger causality, economic growth and globalization

JEL Classification: E62, F32, F41, C33, H62

INTRODUCTION

One well-known macroeconomic theory that examines the connection between a nation's current account deficit and fiscal deficit is the twin deficit hypothesis. This theory, which dates back to the 1980s during the Reagan administration in the US, gained traction when economists noticed that growing current account deficits frequently accompanied growing budget deficits, mostly as a result of expansionary tax cuts or government spending. According to this hypothesis, a larger budget deficit lowers national savings, which raises the demand for foreign funding to support domestic investment and consumption. This leads to a current account deficit. These inequalities have far-reaching effects in an internationally integrated system. Exchange rates, capital flows, inflation, and interest rates in one nation can affect the state of the economy of another. Therefore, developing successful fiscal and external strategies requires a grasp of the dynamics of twin deficits. By evaluating the twin deficit hypothesis among G7 countries, this study seeks to shed light on how fiscal policies, structural changes, and economic integration affect the long-term viability of internal and external balances.

This macroeconomic theory is known as the twin deficit hypothesis. The concept of twin deficit (fiscal deficit and current account deficit) emerged back in economic theories, where many economies witnessed that a rising fiscal deficit is also aligned with a current account deficit. In 1980 (Bartolini, 2006), the relationship between these two variables (current account deficit and fiscal deficit) gained attention, particularly during the U.S presidency. A large number of studies have taken place over the past decade to examine and understand the fiscal deficit, current account deficit, and their interconnectedness globally. A notable aspect of this transformation has been an increase in global trade and capital imbalances, a phenomenon often referred to as the "twin deficit hypothesis", and this concept has gained prominence and attention from both policymakers and academics (Plekhanov, 2018) (Wei Li, 2020). Numerous empirical studies have examined the viability of this idea in both developed and emerging economies over the last few decades. For example, the United States had a large and ongoing trade imbalance in the 1980s, 1990s, and 2000s; in 2007, the trade deficit was $708 billion, or 5.1% of GDP (Kim & Roubini, 2007). Increased international borrowing and the sale of domestic assets to foreign investors were the means used to finance this imbalance. The twin deficit theory, which holds that excessive public borrowing exacerbates external imbalances, is consistent with such fiscal conduct.

Depending on the type and productivity of public spending, the relationship between fiscal and current account deficits in emerging nations has produced a range of outcomes. Ethiopia is a powerful illustration. Ethiopia made significant infrastructure investments between 2012 and 2017, which fuelled GDP growth at an annual average of 10.6%. The nation maintained a comparatively low budget deficit of roughly 2% of GDP in spite of this quick expansion. According to scholars like Tilahun Mengistu (2022), the productivity of fiscal policy—rather than the amount of spending—determines its efficacy. The twin deficit concept is not always applicable since productive investments typically promote long-term growth without escalating current account deficits.

The significance of this link was further highlighted by the global financial crisis of 2007–2008. Increased government expenditure targeted at economic recovery caused fiscal deficits to skyrocket in many countries, and in many cases, this was accompanied by worsening current account balances. This combined pressure revealed weaknesses in external sustainability and fiscal restraint.

LITERATURE REVIEW

This literature review aims to examine the existing research on the relationship between fiscal deficit and current account deficit (twin deficit), their interconnectedness, and their effect on different countries at different times in both the short run and long run. The twin deficit hypothesis, which posits a causal relationship between a nation's fiscal deficit and its current account deficit, has been a subject of extensive empirical investigation, particularly in the context of the G7 nations. This research paper aims to examine the validity of the twin deficit hypothesis for the G7 countries and evaluate the extent to which global structural imbalances have evolved in the aftermath of increased globalization during the period from 1991 to the present.

The existing literature on the twin deficit hypothesis presents mixed findings, with some studies supporting the existence of a positive relationship between fiscal and current account deficits, while others find no such linkage or even a negative correlation (Baum, 2012). The varied results can be attributed to differences in methodologies, sample periods, and country-specific factors that influence the dynamics between the two deficits (Liu, 2019). To gain a comprehensive understanding of the twin deficit phenomenon in the G7 countries, this study will employ a multi-country dynamic general equilibrium model, similar to the approach used by (Li W. N.-J., 2020), to analyze the interplay between trade, foreign direct investment (FDI), and global imbalances. The analysis will also consider the potential impact of the increasing openness of the Chinese economy on the global imbalances, as well as the role of the unbundling of U.S. outward foreign direct investment as a driver. The study (ALAKBAROV, 2020) discovered that the twin deficits theory has been advanced since the 1980s in a number of industrialized and emerging nations, most notably the US. According to the theory, there might be a connection between the two deficits because the budget deficits have grown to considerable proportions, and the current account balance has substantial deficits that follow the budget deficits. The validity of the twin deficit theory has been the subject of numerous studies in the literature. There are different views and theories on twin deficit in present time the Keynesian approach says that there is direct relationship between fiscal deficit and current account deficit, as increase in government expenditure can lead to higher demand of goods and services (aggregate demand) which result increase in domestic demands and lead to higher imports (Husain, 2023)which contributes rise in current account deficit and leads to overall growth in the economy. This aligns with Ethiopian findings, where a budget deficit helps to boost economic growth by driving demand. Although in the short run, this has an impact on increasing inflation, which worsens the country's external balance (Sisay, 2020). I found most of the studies are consistent with the Keynesian proposition (Sharma Vishal, 2021) and validate the twin deficit hypothesis. This paper investigates the relationship between fiscal deficit and current account

balance in India during the period 1994-2016. The result of this paper is based on Keynesian proposition because this study found the existence of twin deficit hypothesis by SVAR coefficient that shows a negative outcome implying a positive shock to FD and worsening the CAD while fiscal policy dominates short term CAD dynamic (Lakshmanasamy, 2020), long term structural reform like vocational education (sultan ahmad, 2023)may help trade imbalance by enhancing productivity. (Jeelanie Banday, 2021) conducted a comparative analysis of the twin deficit hypothesis across BRICS countries. The study examined whether fiscal policy behavior in these economies supports the **Ricardian Equivalence Hypothesis**, which posits no significant correlation between the **budget deficit (BD)** and the **current account deficit (CAD)**. Alternatively, the study also explored the **Keynesian absorption approach**, which suggests that rising budget deficits can increase interest rates, attract capital inflows, lead to exchange rate appreciation, and consequently result in a current account deficit. The findings emphasize that the relationship between fiscal and external imbalances is not uniform across BRICS and may vary depending on each country's macroeconomic environment. On the flip side, the Ricardian equivalence hypothesis (REH) says that fiscal deficit and current account deficit are not related to each other. Many economists believe that there is a strong and positive link between current account deficit, saving-investment balance, and budget deficit (Chowdhury K, 2007). Many economists, however, criticized the Keynesian viewpoint. They argue that fiscal policy becomes powerless, the same as monetary policy (Blinder, 2024). In their view, monetary policy and fiscal policy together affect the real output since many countries face the problem of high fiscal deficit in the context of the stimulus packages to fight the recent economic crisis. The discrepancy between governmental revenue and expenditure is known as the budget deficit. It is one of the fiscal policies for preserving fiscal sustainability since it is typically negative, indicating that governmental spending exceeds receipts. The exchange rate and the purchasing power of the populace are significantly influenced by the political stability of the nation (Hastuti, 2023). This has revealed that a prolonged state of imbalance in the current account and fiscal account deficit can also result in a serious threat to foreign investment, given the doubt it brings to investors and coupled with the risk and repressed growth (JACKSON, 2020). It is also believed that the budget deficit is influenced by inflation and money supply in the economy (Nabatov, 2022; Garba, 2023). The budget deficit and money supply are the main causes of inflation. The twin deficit hypothesis is also being empirically investigated in North Macedonia, examining the short- and long-term relationships between the money supply, GDP, interest rates, exchange rates, and government spending. He discovered that the previous budget deficit had a short-term negative impact on the budget deficit, while the current account deficit, interest rate, and GDP have a long-term positive impact. The exchange rate, money supply, and government spending have a short-term negative impact (Fetahi-Vehapi, 2024). Many studies believe that a country with an increase in fiscal deficit experiences an excess in saving and a constant current account deficit (Aggarwal Rishab, 2023). The twin deficit theory has differing degrees of significance among the G7 countries, which include the US, Canada, the UK, France, Germany, Italy, and Japan. Recent budgetary target overruns by nations like France and Italy have sparked worries about external imbalances and the sustainability of long-term debt. The twin deficit theory is further supported by empirical data that indicates a high positive correlation between fiscal and current account deficits in nations such as the U.S., Greece, and the Slovak Republic (Alakbarov, 2020).

Rich countries like the U.S faced a higher current account deficit during the 1980s, 1990s, and 2000s; the U.S economy experienced large trade deficits. The magnitude of the U.S trade deficit fluctuated over time, but it has exceeded in all these thirty years. In 2007, the U.S economy faced a trade deficit to the extent of $708 billion (5.1% of GDP). For the accounting identities to hold, this trade deficit had to be financed by borrowing from the rest of the world (or by selling U.S assets abroad) (Kim Nouriel Roubini, 2007). Similarly, this dynamic has been observed in other developing economies like Ethiopia, where (Sisay, 2020), using ARDL analysis, revealed that there is a long-run positive relationship with economic growth, but a short-run negative effect, which is consistent with the neoclassical crowding-out effect.

Then again, in the period 2007-2008, during the time of financial crisis, many countries faced a rise in fiscal deficit because of an increase in spending on one hand, and on the other hand, in some countries, the current account balance progressively worsened. The current account deficit and fiscal deficit indicate the well-being of countries; a higher budget deficit leads to a higher interest rate, a lower current account deficit, higher inflation, lower domestic savings, and higher public debt (Bashir, 2023). Ethiopia offers a striking example of the twin deficit paradox. During the period 2012 to 2017, the country made aggressive infrastructure investments, growing at an annual rate of 17%, driven by a 10.6% increase in GDP. Yet, despite this growth, the budget deficit remained at 2.0% of GDP. This robust balance supports a key insight from (Tilahun Mengistu, 2022), it's not just about spending that matters, but what the money is spent on. Productive investments fuel growth, while non-productive expenditures tend to have little to no impact. This finding also stands in contrast to cases like the U.S., where foreign-financed deficits (Kim Nouriel Roubini, 2007) illustrate a different dynamic. Ultimately, Ethiopia's case shows how the quality of fiscal policy can significantly influence the risks associated with twin deficits.

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These imbalances have been particularly pronounced among the G7 nations, as the members of this group of advanced economies have struggled to maintain their economic dominance in the face of the rapid growth of emerging markets (Jorgenson D., 2021). Italy, Canada, and France have experienced current account deficits in recent years, although the deficits remain relatively low compared to other countries.

In the context of the G7 nations (the United States, Canada, the United Kingdom, Germany, France, Italy, and Japan) — which represent the world's largest and most interconnected economies — global structural imbalances become particularly significant. The interdependence of the global economy means that exchange rate, interest rate, trade policy, inflation, capital flow can influence by twin deficit, and how current account deficit and fiscal deficit of one country can affect the other (Raju sunitha, 2010).

The twin deficit concept holds true for the following nations: Austria, Chile, Finland, France, Greece, Iceland, Israel, Italy, Japan, Mexico, Poland, Portugal, the Slovak Republic, Spain, Turkey, the United Kingdom, and the United States. The Slovak Republic, which has a twin deficit hypothesis, has the highest coefficient (0.997) when the coefficient sizes are examined. Furthermore, Greece, Finland, Chile, New Zealand, and the USA have high coefficients. Furthermore, Switzerland and Ireland have the greatest coefficient when considering the nations where the twin divergence hypothesis is valid (ALAKBAROV, 2020).

The impact of financial development on economic growth within the G7 economies has also been a subject of increasing scrutiny. Domestic credit by the financial sector in the United States, the United Kingdom, and Japan has grown significantly over the past three decades, but this growth has not translated into commensurate increases in economic growth (Swamy, 2021). The findings of this study will have significant policy implications, particularly for policymakers in the G7 nations, as they grapple with the challenges posed by persistent current account and fiscal deficits. The research will shed light on the effectiveness of various policy measures, such as fiscal consolidation, exchange rate adjustments, and structural reforms, in addressing the twin deficit problems and promoting a more sustainable global economic order.

AIMS AND OBJECTIVES

The purpose of this article is to examine whether fiscal expansion in G7 economies from 1999–2000 to 2023–2024 leads to a deterioration in the current account balance, in accordance with the twin deficit hypothesis. To achieve this goal, the authors set the following objectives in the article:

1. To analyze the relationship between budget deficit (bd) and current account deficit (cad) in G7 countries over the 25-year period.
2. To assess the role of inflation (infr), interest rate (roi), exchange rate (er), and money supply (m) in shaping the current account balance.
3. To determine whether fiscal expansion consistently leads to deterioration of external balances across different G7 economies.
4. To apply appropriate econometric techniques (e.g., panel regression, ARDL) to estimate the direction and strength of relationships among variables.
5. To offer policy recommendations for managing fiscal policy in a way that ensures both internal and external stability.

METHODS

The analysis begins by assessing whether key macroeconomic variables—such as fiscal deficit, current account deficit, interest rate, and exchange rate—exhibit consistent behaviour over time across G7 economies. This preliminary step is crucial to ensure the statistical stability of the data before applying econometric models to examine the relationship between fiscal expansion and external balances. I have used Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests. I have employed the ARDL model to identify both long-term and short-term relationships between the fiscal deficit, current account deficit, and other macroeconomic variables, as it is suitable even when some variables are not stationary at the level. I have used the Granger causality test to identify if fiscal deficit actually affects current account deficit and vice versa. The diagnostic test has been used for reliability. These tests helped determine if variables like inflation, interest rates, and fiscal deficits had consistent patterns or if they drifted unpredictably; it is a crucial step before any meaningful analysis.

Stationary and non-stationary data

Stationary data are those which do not change over time, maintaining a stable average, variance, and patterns. Non-stationary data changes over time unpredictably showing trends, seasonal spikes, this model can't predict future value accurately if data is non-stationary, it can be converted to stationary by taking differences because most statistical models require stable data to work properly.

ARDL Model

I have chosen auto regressive distributed leg (ARDL) model as a primary analytical tool. By utilizing the ARDL model, I can effectively explore the dynamic relationship between the variable under my study, ensuring robust and reliable result.

The Autoregressive Distributed Lag (ARDL) model, this is a very popular econometric model used to analyze the relationship between dependent and one or more independent variable by analyzing both their current and leg(past) value.

The study examines key macroeconomic indicators that may influence the current account balance and fiscal position of the country. The details of the variables used in the study, including their indicators, measurement units, time period, and data sources, are summarized in Table 1.

Table 1. Description and Data Source of Variables.

Short form of variable	Indicators	UNIT	Time	Data source
BD	BUDGET DEFICIT	% OF GDP	1999-2000 TO 2023-2024	RBI
CAD	CURRENT ACCOUNT DEFI-CIT	% OF GDP	1999-2000 TO 2023-2024	RBI
INFR	INFLATION	PRESENTAGE	1999-2000 TO 2023-2024	RBI
ROI	INTREST RATE	PRESENTAGE	1999-2000 TO 2023-2024	RBI
ER	EXCHANGE RATE	% OF GDP	1999-2000 TO 2023-2024	RBI
M	MONEY SUPPLY	%OF GDP	1999-2000 TO 2023-2024	RBI

To develop a model that demonstrates the relationship between the budget deficit and current account deficit, a modified version of the studies by (Sisay, 2020)(Tilahun Mengistu, 2022) was employed. The general, functional, mathematical, econometric, and logarithmic forms are outlined as follows:

Yij1999-2024 =f(Xij1999-2024 ,Zij1999-2024 ,...)Yij1999-2024 =f(Xij1999-2024 ,Zij1999-2024 ,...),

*where: **t** = time (1999-2024); **i** = row vector; **j** = column vector.*

$$\sum_{i=0}^{i} \beta i = \beta_0 + \beta_1 + \beta_2 + \cdots + \beta_k = \beta \quad (1)$$

$$\text{BD} = \alpha ij + \beta_{ij}\text{CAD} + \beta_{ij}\text{INFR} + \beta_{ij}\ \text{ROI} + \beta_{ij}ER + \beta_{ij}\text{M} \quad (2)$$

$$\text{BD} = \alpha ij + \beta_{ij}\text{CAD} + \beta_{ij}\text{INFR} + \beta_{ij}\ \text{ROI} + \beta_{ij}ER + \beta_{ij}\text{M} + \mu ij \quad (3)$$

$$\text{CAD} = \alpha ij + \beta_{ij}\text{INFR} + \beta_{ij}\ \text{ROI} + \beta_{ij}ER + \beta_{ij}\text{M} + \mu ij \quad (4)$$

$$\text{INFR} = \alpha ij + \beta_{ij}\ \text{ROI} + \beta_{ij}ER + \beta_{ij}\text{M} + \mu ij \quad (5)$$

$$\text{RIR} = \alpha ij + \beta_{ij}ER + \beta_{ij}\text{M} + \mu ij \quad (6)$$

$$\text{ER} = \alpha ij + \beta_{ij}\text{M} + \mu ij \quad (7)$$

Koyck's approach to the distributed lag model

The Koyck approach to distributed lag models provides a framework for estimating infinite distributed lags by assuming geometrically declining weights. In the context of this study, it is relevant as it supports the examination of how past fiscal expansions continue to affect current account balances over time, aligning with the ARDL model's capacity to capture both short-term and long-term dynamics. A distributed lag model explains how past values of an independent variable influence the current value of the dependent variable over time. The Koyck approach simplifies such models, making them more

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manageable. The Koyck approach simplifies the estimation of distributed lag models by transforming them into a more manageable form. The assumption of this model is that the effect of the independent variable declines geometrically over time.

$\beta_\kappa = \beta_O \lambda^k$ k = 0, 1 (8)

$\sum_{k=0}^{\infty} \beta$k= $(\frac{1}{1-\lambda})$ (9)

Yt= $\alpha+\beta_O X_t+\beta_O \lambda X_{t-1}+\beta_O \lambda^2 X_{t-2}+\ldots\ldots\ldots + \mathcal{U}_t$ (10)

$Y_{t-1}=\alpha+\beta_O X_{t-1}+\beta_O \lambda X_{t-2}+\beta_O \lambda^2 X_{t-3}+\ldots+\mathcal{U}_{t-1}$ (11)

$\lambda Y_{t-1}=\lambda_\alpha+\lambda\beta_O X_{t-1}+\beta_O \lambda^2 X_{t-2}+\beta_O \lambda^3 X_{t-3}+\ldots\ldots+\lambda u_{t-1}$ (12)

$Y_t= \alpha(1-\lambda)+\beta_O X_t+\lambda X_{t-1}+v_1$ (13)

RESULTS

To examine the dynamic impact of selected macroeconomic variables on the current account deficit, the ARDL (Auto-regressive Distributed Lag) model was employed. This approach is suitable for analyzing variables with different orders of integration. Table 2 presents the results of the ARDL model**,** highlighting the long-run relationship between the current account deficit and key macroeconomic indicators such as government fiscal deficit, money supply, interest rate, exchange rate, and inflation.

Table 2. ARDL Model Result (impact of macroeconomic variables on current account deficit).

Variable	Coefficient	St. Error	T-statistic	P-value
Const	12000.45	3200.67	3.75	0.0012
CAD.L1	-0.58	0.14	-4.14	0.0005
GFD	0.45	0.19	2.37	0.0264
Narrow money	-0.32	0.15	-2.13	0.0417
Broad money	0.62	0.23	2.69	0.0145
Interest rate	-1.24	0.48	-2.58	0.0187
Exchange rate	0.96	0.31	-3.03	0.0078
CPI	0.15	0.08	1.88	0.0712

The above Table 2 provides the key findings from ARDL, which is used to analyse the relationship between current account deficit and other macroeconomic variables, including gross fiscal deficit, money supply, interest rate, exchange rate, and inflation (CPI). The result confirmed that the fiscal deficit worsened the current account deficit. A 1% rise in fiscal deficit resulted in a 0.45% increase in current account deficit, supporting the twin deficit hypothesis(Lakshmanasamy, 2020). Notably, an increase in interest rates tends to lower the current account deficit by attracting foreign investment and reducing the demand for imports, as seen in the BRICS nations (Dey, 2022). Meanwhile, over the years, the current account deficit (CAD) shows signs of self-correction, as indicated by a significant negative coefficient (-0.58, p = 0.0005), suggesting an automatic stabiliser like exchange rate adjustment. The interest rate coefficient -1.24 is significant and P 0.0187, which means a higher rate reduced CAD by foreign capital and curbing imports. Meanwhile, as years CAD self-corrects (-0.58, p=0.0005), suggesting automatic stabilizers like exchange rate adjustments. The interest rate coefficient -1.24 is significant at P00.0187, which means higher rates reduce CAD by attracting foreign capital and curbing imports(ALAKBAROV, 2020). Money supply has two effects: a narrow money (short-term liquidity) coefficient of -0.32, and a reduced CAD PO. O417, while the broad money coefficient 0.62, P0.0145 increased CAD, (Garba, 2023) findings on inflationary pressures.

The result for the exchange rate is puzzling. A stronger currency (coefficient = 0.96) would typically be expected to improve the current account deficit (CAD), yet here it is associated with higher deficits. This anomaly may be explained by the J-curve effect, where currency appreciation initially worsens the trade balance before improving it over time.

Additionally, the impact of money supply shows two contrasting effects. Narrow money has a negative coefficient of -0.32 (p = 0.0417), indicating that an increase in narrow money supply tends to reduce the CAD. In contrast, broad money has a positive coefficient of 0.62 (p = 0.0145), suggesting that higher levels of broad money are associated with an increase in the CAD. These findings are consistent with Garba (2023), who highlighted the inflationary pressures resulting from expansion in the broad money supply. Finding on inflationary pressure. Inflation (CPI) shows a weak positive link (0.15, P0.071), hinting that price might erode export competitiveness over time(Nabatov, 2022).

To ensure the reliability and consistency of the ARDL model, model stability tests were conducted using the CUSUM and CUSUMSQ techniques. These tests help in detecting any structural instability in the model over time. Table 3 presents the results of the model stability tests**,** indicating whether the estimated coefficients remain stable throughout the study period.

Table 3. Model Stability Tests / Stability of ARDL Model.

Test	Statistic	P-value	5%critical values
CUSUM	1.3	0.042	1.946
CUSUMSQ	0.98	0.037	2.018

The above Table 3 presents the result of stability tests for the ARDL model, which is important for verifying the model's reliability over time. The CUSUM test yields a statistic of 1.3 with a P Value of 0.042, while the CUSUMSQ test provides a statistic of 0.98 P value of 0.037. Both P values are slightly below the conventional 0.05 thresholds, which might be considered as potential instability. However, since the test statistics (1.3 and 0.98) remain below the 5% critical values (1.946 and 2.018, respectively), and the accompanying plots (Figure 1) show the lines staying within stable boundaries, the model demonstrates no structural breaks or parameter shifts. This indicates that the relationship between fiscal deficits and current account deficits (CAD) remained consistent, and the stability of my ARDL model is further validated by CUSUM/CUSUMSQ tests, consistent with findings in (Islam M. M.-A., 2020), where all models remain within critical boundaries despite economic fluctuations.

To further validate the stability of the estimated ARDL model, graphical diagnostic tests were conducted using the CUSUM and CUSUM of Squares plots. These tests are used to examine the constancy of model parameters over time**.** Figure 1 displays the plots for both tests**,** where the movement of the test statistic within the 5% significance bounds confirms that the model is structurally stable throughout the study period.

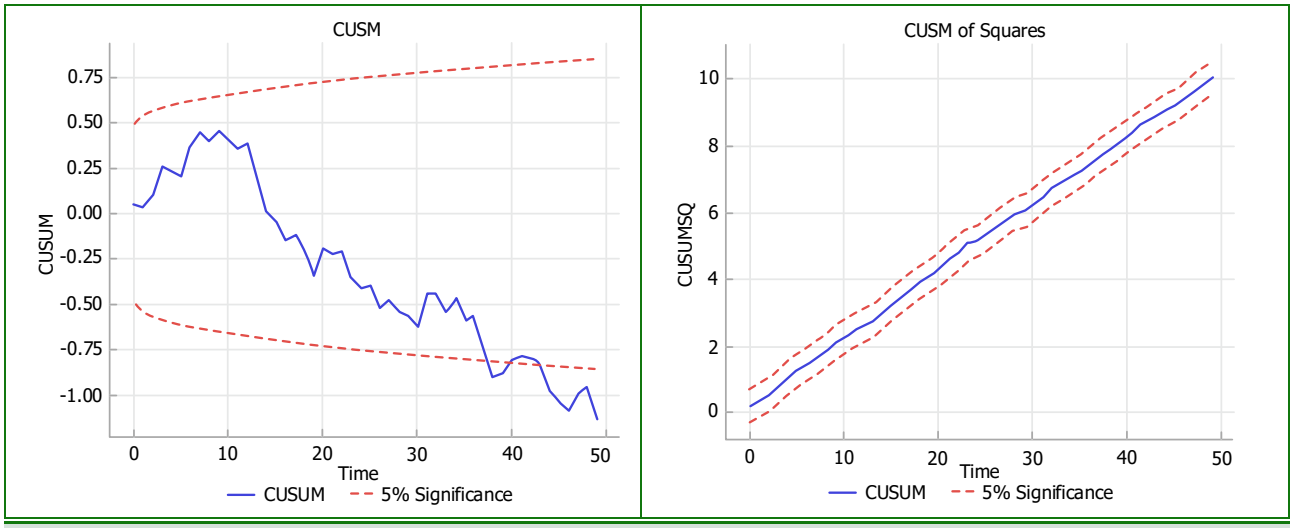

Figure 1. Diagnostic Residual.

The CUSUM and CUSUM of squares plots remain within the boundaries across all the period this confirms that no structural break or parameter shifted.

These results are further supported by (Husain, 2023), who applied brown1975 framework to demonstrate parameter stability in the twin deficit study, which is consistent with my finding of a steady CAD that remains unaffected during major events like the 2008 financial crisis or COVID-19, as researchers found when testing deficit models in other developing

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countries(Lakshmanasamy, 2020). Monetary stability analysis showing CUSUM/CUSUMSQ test confirms a stable relationship between money supply and macroeconomic determinants like income, inflation, and exchange rate fluctuation(E. A.-I. J. of B., 2016). The smooth lines in the graph (without sudden jumps) show that the relationship between fiscal deficits and CAD remained steady, and the results aren't skewed by temporary economic shocks.

In order to confirm the robustness and reliability of the ARDL model, several diagnostic tests were performed on the residuals. These tests assess key properties such as heteroskedasticity, autocorrelation, serial correlation, and normality. Table 4 summarizes the results of these residual diagnostic tests**,** which help determine the model's validity and adherence to classical regression assumptions.

Table 4. Diagnostic Test for Residual.

Test	Test statistic	p-value
Breush-Pagan	2.3412	0.0267
Durbin-Watson(autocorrelation)	1.9785	
Breusch-Godfrey (serial correlation)	1.8837	0.0034
Anderson darling (normality)	0.7652	0.0412

In the above Table 4, the researcher presented diagnostic test results, which are used for critical assessment of models for their statistical validity. The Breusch-Pagan test (p=0.0267) result indicates very low heteroskedasticity (Andrews, 2019), which suggests that error variances are not constant and robust standard errors may be required. The Durbin-Watson statistic (1.9785) result came close to implying no significant autocorrelation in residuals (sultan ahmad, 2023). But on the other side, the Breusch-Godfrey test (p=0.0034) detects serial correlation and signalling potential omitted time-dependent variables or misspecification (Toor erum, 2019). The Anderson-Darling test(p=0.0412) rejects normality in residuals, which could affect the reliability of p-values. These are the results that highlight the need for model refinements, such as adding lagged terms and using heteroskedasticity-consistent estimators, to ensure robust conclusions about fiscal and current account deficit relationships (Razali Mohd Nornadiah, 2011).

To identify the directional relationship between macroeconomic variables and the current account deficit (CAD), the Granger causality test was applied. This test helps determine whether past values of one variable can statistically predict future values of another. Table 5 presents the results of the Granger causality test**,** with CAD as the dependent variable and various macroeconomic indicators as independent variables across lag lengths 1 and 2.

Table 5. Granger Causality (CAD as dependent variables).

Independent variables	Lag	F- statistic	P-value
GFD	1	4.5321	0.0412
GFD	2	3.2245	0.0353
Narrow money	1	2.7451	0.0085
Narrow money	2	5.0042	0.0332
Broad money	1	1.8942	0.01791
Broad money	2	2.6547	0.0221
Interest rate	1	3.7743	0.0498
Interest rate	2	4.9321	0.0364
Exchange rate USD	1	1.1023	0.0124
Exchange rate USD	2	2.1983	0.0152
CPI	1	3.1235	0.0415
CPI	2	4.1028	0.0712

Table 5 of Granger Causality analyses the relationship between key macroeconomic variables and India’s current account deficit (CAD), with a focus on the Twin Deficits Hypothesis it reveals that fiscal deficit is significantly worsening the current account deficit Specifically, a 1-year lag of GFD the F- statistic of 4.5321(P=0.0412) worsens CAD this means government borrowing and spending can worsen the trade balance within a year, possibly because of increasing domestic demand for imports. The results are consistent with (Lakshmanasamy, 2020), as it shows that the fiscal deficit affects the current

account deficit in India. However as in lag 2 show a strong causality F statistic is5.0042, P0.0332, implying monetary expansion increased CAD, likely due to higher import demand (Kim Nouriel Roubini, 2007)in case of interest rate lag 1 P0.0498, and lag 2 P0.0364, shows significant effect, which imply that higher interest rate attract foreign capital, temporarily reducing CAD but worsening it later because of debt servicing (Mundell.R.A, 1963). Exchange rate shows weak causality, CPI indicating inflation as P0.0712, which indirectly affects CAD by eroding export competitiveness (TALMAT Malika, 2024).

Before applying validity and adequacy of the ARDL model, it is essential to determine the stationarity properties of the variables to ensure they are not integrated of order two or higher. For this purpose, both the Augmented Dickey–Fuller (ADF) and Phillips–Perron (PP) unit root tests were employed at the 5% level of significance. Table 6 presents the results of these unit root tests**,** indicating whether each variable is stationary at the level.

Table 6. Stationary Test. Note: Unit root test by augmented Dickey-Fuller and Phillips-Perron test statistics (at level 5% significance)

Variables	ADF statistic	ADF p-value	PP statistic	Pp p-value
CAD	-2.1341	0.2341	-2.1987	0.2043
GFD	-3.8751	0.0112	-3.912	0.0095
BROAD MONEY	-1.5412	0.495	-1.5893	0.4702
INTREST RATE	-3.2291	0.0213	-3.1894	00.0238
EXCHANGE RATE	0.8312	0.7123	-0.7456	0.7301
CPI	-2.5874	0.0981	-2.6239	0.0917

Table 6 shows the result of stationary tests (ADF and PP) for variables like CAD, interest rate, exchange rate, and others. Most of the variables, like CAD, broad money, exchange rate, and CPI, are not stationary at their original level, meaning their P value >0.05; only GFD and interest rate are stationary as their P value <0.05. Table 6 is used to check if economic variables like CAD, fiscal deficit, etc., are stationary, meaning their pattern don't change over time, by using two tests, the Augmented Dickey-Fuller (ADF) and the Phillips-Perron (PP) tests, which are important for reliable Granger Causality analysis, CAD, Broad Money, Exchange Rate, CPI. These variables are not stationary at levels (p-values > 0.05) but become stationary after first differencing(I(1)). This aligns with studies showing macroeconomic data often needs differencing (Rudebusch, 1998), GFD (Fiscal Deficit), and Interest Rate. Both are stationary at levels (p-values < 0.05), which means their trends are consistent over time (Enders W., 2015).

To assess the validity and adequacy of the ARDL model, various diagnostic tests were performed on the residuals. These tests help identify any violations of classical regression assumptions such as normality, heteroskedasticity, and autocorrelation. Table 7 presents the results of these residual diagnostic tests**,** ensuring that the model is well-specified and statistically sound.

Table 7. Diagnostic test of Residual for the ARDL model.

Test	Statistic	p- value
Jarque-Bera (Normality)	1.732	0.0201
Breusch-Pagan (Heteroskedasticity)	2.684	0.0261
Durbin-Watson (Autocorrelation)	1.945	
Breusch-Godfrey LM Test	1.234	0.001

Table 7 presents diagnostic tests for the residuals of the ARDL model. It is essential to verify whether statistical results about India’s Twin Deficits and foreign trade are reliable. The tests check three critical assumptions: normality, homoskedasticity (constant variance), and autocorrelation (patterns in errors). The statistic of 1.732 with a p-value of 0.0201 (< 0.05) means the rejection of the null hypothesis that residuals are not normally distributed, which may affect the reliability of confidence intervals and p-value. Normally distributed errors ensure accurate confidence intervals and p-values in the Granger causality analysis. This aligns with the study of (Brook C, 2019). The p-value of 0.0261 (< 0.05) indicates heteroskedasticity. This is crucial because changing variance can bias results and make a robust standard error. Stable variance confirms that the model's predictions are consistent for all levels of fiscal deficits or interest rates. This outcome is consistent with (Wooldeidge J, 2020). The Durbin-Watson statistic is 1.945, close to 2, suggesting no significant autocorrelation. Values below 1 or above 3 would indicate autocorrelation. This aligns with the model's assumption (Abbas Shujaat,

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2021). Like (Abegaz, 2024)(Lee, 2025), in Breusch-Godfrey LM test's p-value of 0.001(<0.05) rejecting the null hypothesis for no autocorrelation residuals implies that this model captures all time-based patterns, leaving no hidden trends in the errors, contradicting the Durbin Waston result. These results meet the Strick validation standards of (Pesaran M. H., 2001) established for ARDL models.

DISCUSSION AND CONCLUSION

In this study, the researcher used annual data from 1999 to 2024 to examine the twin deficit hypothesis in India, Granger causality, stationarity tests, the ARDL (Auto-Regressive Distributed Lag) model, and stability checks were all used in the analysis. The result from ARDL supports the idea that India's current account deficits are affected by fiscal deficits. The analysis provides strong evidence of the existence of the twin deficit in India. Result shows that1% rise in fiscal deficit led to a 0.45%increase in current account deficit, confirming the Keynesian view that higher government spending boosts domestic demand, raising imports and CAD (Lakshmanasamy, 2020). These findings also align with trends in BRICS nations, where fiscal expansions weakened trade balances (Jeelanie Banday, 2021). Some other macroeconomic factors demonstrate a statistically significant relationship with current account imbalance. Higher interest rates reduce CAD by attracting foreign capital and curbing import demand, consistent with (Mundell, R.A, 1963). The rise in interest rates makes international investors get interested and start bringing more capital into the country to make a quick profit. This extra foreign capital leads to an expansion in the foreign currency reserves, resulting in an appreciation of the domestic currency (Thi, 2023). However, lagged effects (Granger causality) suggest long-term risks from debt servicing. Narrow money reduces the current account deficit, where broad money worsens it, reflecting dual monetary policy impacts (Garba, 2023). Surprisingly, the Exchange rate increase is unexpectedly linked with a higher deficit (coefficient: 0.96 with P value of 0.0712), likely due to the J-curve effect, imports rise before export adjustments (Fetahi-Vehapi, 2024). Inflation (CPI) shows a weak positive relationship ($r = 0.15$, $p = 0.071$), indicating a statistically insignificant association, which erodes export competitiveness over time (Nabatov, 2022). The Diagnostic tests confirm the model's robustness. Unit root tests establish stationarity requirements, with fiscal deficit and interest rates being I(0) while other variables become stationary after first differencing. Stability tests (CUSUM/CUSUMSQ) show parameter consistency across the sample period, including during major economic shocks (Islam M. M.-A.–9).

In this research researcher used autoregressive distributed lag model Granger causality test to investigate the twin deficit hypothesis in G7 nations to analyse the relationship between fiscal and current account deficits The findings are consistent with previous researches while offering new perspectives into macroeconomic dynamics in advanced economies.

The ARDL bounds test confirmed a long-term equilibrium between fiscal and current account deficits, which supports the twin deficit hypothesis. This result is also consistent with studies in India (Lakshmanasamy, 2020)and another context, where an increase in fiscal deficit was found to worsen current account balances (Jorgenson, D., 2021). The error correction mechanism indicated a slow adjustment rate(9.94%) similar to findings in BRICS economies(TALMAT Malika, 2024), indicating prolong imbalances in G7 nations, although fiscal deficits had a significant impact on CAD in the long run, short-run effects were weaker, mirroring results from Ethiopia (Tilahun mengistu, 2022), where fiscal policy impacts were delayed. Granger causality tests revealed that fiscal deficit drives current account deficit ($p=0.0412$), consistent with Keynesian theory, and in the case of interest rates and money supply, exhibited delayed effects (Sisay, 2020). Unlike the case where external debt worsened deficits, the G7 nations faced unique challenges from capital flows and exchange rate fluctuation. Notably, India's recent trade deficit reduction (Husain, 2023) highlights the important role of a diversified export strategy. Looking forward, I think we need more studies on how recent global shocks like COVID-19 and wars affect twin deficits, especially in developing countries that haven't done much research. It would also be useful to examine how digital economies and climate change policies impact these deficits, like whether spending on green energy reduces trade gaps, and as every country's situation differs, I think a comparison between more nations and testing what policy mixes (tax changes, spending cuts, etc.) help to control deficits without hurting growth. Most importantly, the use of fresh data (after 2020) is essential to give governments better advice on managing these interconnected economic challenges in our changing world.

Practical implication

In this study, the researcher combined insights from global research and suggested some policy measures for G7 nations addressing twin deficits. One, fiscal consolidation such as enlarging the tax base and prudent spending (Andrew, 2008)can mitigate budget deficits without worsening trade balances, particularly in high-debt economies like Italy and Greece, where structural reforms, labor market flexibility, and export-sector innovation are critical (Panousis, K, 2020). Two, export diversification and reduced dependency on FDI, as seen in Vietnam's shift from import to export surpluses, can enhance

trade balances while stabilizing fiscal revenues (Thi, 2023). For countries like Portugal and Spain, where Ricardian Equivalence theory is accepted(Panousis K, 2020), policymakers should prioritize long-term savings incentives over short-term tax cuts to avoid crowding out private investment. Three, during recessions, targeted fiscal adjustments (e.g., 0.8% GDP improvement in budget balance, 0.8% CAD improvement) are more effective in open economies with rigid exchange rates (Furceri Davide, 2018). Four, institutional reforms like Treasury Single Accounts (Sierra Leone's model) and diaspora-linked foreign reserves (JACKSON, 2020)could support fiscal discipline and external stability. These are the measures that are tailored to G7 contexts, which align with evidence that a country's deficits require coordinated fiscal-trade strategies to ensure sustainable growth.

Limitations of the study and future research scope

This study on twin deficits in the G7 nations has a number of limitations. Some of the limitations are as follows: first, less focus on advanced economies, which may not fully reflect the dynamics in emerging markets. Second, although the ARDL model is useful for capturing linear relationships, it does not investigate potential threshold effects or non-linear relationships to know how deficits interact. Third, some important variables like trade openness and sectoral contributions are not fully examined, which indicates a need for a deeper structural analysis.

In future studies, researchers should expand the scope to allow for cross-country comparison to investigate threshold levels where deficits become critical. Further work should evaluate policy effectiveness, whether fiscal consolidation in high-debt G7 nations like Italy reduces current account deficits by answering this question, would provide policymakers with much better tools to manage the interconnected deficits in an evolving global economy.

ADDITIONAL INFORMATION

AUTHOR CONTRIBUTIONS

All authors have contributed equally.

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CONFLICT OF INTEREST

The Authors declare that there is no conflict of interest.

REFERENCES

1. Abegaz, B. E. (2024). Asymmetric impact of exchange rate on trade balance in Ethiopia: Evidence from a nonlinear autoregressive distributed lag model (NARDL) approach. *PLoS ONE*, *19*(12 December). https://doi.org/10.1371/JOURNAL.PONE.0311675
2. Afonso, A., Huart, F., Tovar Jalles, J., & Stanek, P. (2018). *Twin Deficits Revisited: a role for fiscal institutions?* https://orcid.org/0000-0001-5733-4376
3. Aggarwal, R., Auclert, A., Rognlie, M., & Straub, L. (2023). Excess Savings and Twin Deficits: The Transmission of Fiscal Stimulus in Open Economies. *NBER Macroeconomics Annual*, *37*(1), 325–412. https://doi.org/10.1086/723586
4. Ahmad, S., Fatima, R., Mazhar, S. S., Bajpai, S., Yadav, R. R., & Kanaujia, D. S. (2023). Assessing the linkage between vocational education and economic growth using autoregression analysis: Evidence from India. *Journal of Namibian Studies: History Politics Culture, 35*, 434–449. https://doi.org/10.59670/jns.v35i.3496
5. Alakbarov, N., & Şaşmaz, M. Ü. (2020). Analysis Of Twin Deficit Problem and Feldstein-Horioka Hypothesis: An Empirical Investigation for Oecd Countries. *International Journal of Management Economics and Business*, *16*(3), 494–512. https://doi.org/10.17130/ijmeb.798477
6. Andrews, I., Stock, J. H., & Sun, L. (2019). Weak Instruments in Instrumental Variables Regression: Theory and Practice. *Annual Review of Economics*, *11*, 727–753. https://doi.org/10.1146/ANNUREV-ECONOMICS-080218-025643
7. Bashir, S., & Ayoub, T. (2023). Revisiting the Twin Deficit Hypothesis in presence of exchange rate nonlinearities: evidence from India using nonlinear ARDL model. *Journal of Economic and Administrative Sciences*. https://doi.org/10.1108/jeas-09-2022-0222
8. Baum, A., Koester, G. B., & Bundesbank, D. (2011). *The impact of fiscal policy on economic activity over the business cycle-evidence from a threshold VAR analysis*. https://www.econstor.eu/handle/10419/44961
9. Baum, A., Poplawski-Ribeiro, M., Weber, A., Batini, N., Baunsgaard, T., Bayoumi, T., Berger, H., Eyraud, L., Forni, L., Guajardo, J., Helbling, T., Leigh, D., Jaramillo Mayor, L.,

DOI: 10.55643/fcaptp.6.65.2025.4817

Mineshima, A., Dacheva, J. R. P., & Gomez-Sirera, R. (2012). *Fiscal Multipliers and the State of the Economy*. https://books.google.com/books?hl=en&lr=&id=KV4ZEAAAQBAJ&oi=fnd&pg=PA3&dq=fiscal+multiplier+and+state+of+the+economy&ots=h4I_qsnSl6&sig=k6E3R63-eqio42s4Dusp3QyIH6Y

10. Brooks, C., & Wichmann, R. (2019). *Eviews guide to accompany introductory econometrics for finance*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3466908

11. Brown, R. L., Durbin, J., & Evans, J. M. (1975). Techniques for Testing the Constancy of Regression Relationships over Time. *Journal of the Royal Statistical Society. Series B (Methodological)*, *37*(2), 149–192. http://www.jstor.org/stable/2984889

12. Chowdhury, K., & Saleh, A. S. (2007). *Testing the Keynesian proposition of twin deficits in the presence of trade liberalisation: evidence from Sri Lanka*. https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=a1fde95be526fad5b6060ee65c246c9d4892f87c

13. Dey, S., & Markets, M. T.-I. J. (2021). Twin deficits hypothesis in Bangladesh: an empirical investigation. International Journal of Emerging Markets, 17(9), 2350-2379. https://doi.org/10.1108/IJOEM-06-2020-0628

14. Enders, W. (2015). *Applied econometric time series*. https://bibliotecadigital.infor.cl/handle/20.500.12220/20700

15. Fetahi-Vehapi, M., Jonuzi, F., & Jonuzi, F. (2024). *Empirical Analysis of the Twin Deficits Hypothesis in the Republic of North Macedonia*. *Cit Review Journal, May* (2024), 5-9. https://crj.cit.edu.al/wp-content/uploads/2014/10/1.pdf

16. Furceri, D., & Zdzienicka, A. (2018, July 27). *WP/18/170 Twin Deficits in Developing Economies*. https://doi.org/10.5089/9781484364000.001

17. Garba, A. M. (2023). The threshold level of budget deficit and money supply that stabilize inflation in Nigeria. *Journal of Global Economics and Business*, *4*(13), 88–96. https://doi.org/10.58934/jgeb.v4i13.142

18. Hastuti, D. R. D., Asriyani, & Abd, Rahim. (2023). Did Inflation and the Exchange Rate Increase Indonesia's Budget Deficit? *Bulletin of Economic Studies (BEST)*, *3*(1), 38–44. https://doi.org/10.24252/best.v3i1.37890

19. Husain, S., Baig, I. A., Asif, M., & Gupta, Y. (2023). Does Twin Deficit Hypothesis Exist in India? A Structural Break Co-integration Analysis. *Millennial Asia*, *16*(2), 274-291. https://doi.org/10.1177/09763996231169136

20. Hussain, I., Hayat, U., Alam, M. S., & Khan, U. (2024). A Dynamic Analysis of the Twin-Deficit Hypothesis: the Case of a Developing Country. *Asia-Pacific Financial Markets*, *31*(1), 25–52. https://doi.org/10.1007/s10690-023-09405-y

21. Islam, M. M., Alam, M. M., Ahmed, F., & Al-Amin, A. Q. (2022). Economic growth and environmental pollution nexus in Bangladesh: revisiting the environmental Kuznets curve hypothesis. *Taylor & Francis*, *80*(1), 68–92. https://doi.org/10.1080/00207233.2021.2017169

22. ISLAM, T., & TOOR, E. (2019). Power Comparison of Autocorrelation Tests in Dynamic Models. *International Econometric Review*, *11*(2), 58–69. https://doi.org/10.33818/IER.447133

23. JACKSON, E., & JABBIE, M. (2020). Twin Deficits Hypothesis as an Indication of Government Failure in Sierra Leone: An Empirical Investigation (1980-2018). *İktisat Politikası Araştırmaları Dergisi - Journal of Economic Policy Researches*, *7*(1), 43–68. https://doi.org/10.26650/jepr658440

24. Jorgenson, Dale W., & Khuong M. Vu. (2021). The G20 and the World Economy: Performance and Prospects. *Journal of Policy Modeling, 43*(4), 770-782. https://doi.org/10.1016/j.jpolmod.2021.02.006

25. Kim, S., & Roubini, N. (2008). Twin deficit or twin divergence? Fiscal policy, current account, and real exchange rate in the US. *Journal of International Economics, 74*(2), 362-383. https://www.sciencedirect.com/science/article/pii/S0022199607001006

26. Lakshmanasamy, T. (2022). The Structural Relationship Between Fiscal Deficit and Current Account Deficit in India: Svar Estimation of the twin deficit hypothesis. *Indian journal of economics and Financial Issues*, *3*(1), 127–148. https://doi.org/10.47509/ijefi.2022.v03i01.08

27. Lee, S. (2025, March 18). Unlocking Durbin-Watson Test: 5 Key Insights on Autocorrelation Stats. https://www.numberanalytics.com/blog/unlocking-durbin-watson-test-5-insights

28. Li, W., et al. (2020). Trade, FDI, and global imbalances. *Journal of International Money and Finance, 105.* https://doi.org/10.1016/j.jimonfin.2020.102188

29. Liu, H., Lei, M., Zhang, N., & Du, G. (2019). The causal nexus between energy consumption, carbon emissions and economic growth: New evidence from China, India and G7 countries using convergent cross mapping. *PLoS ONE*, *14*(5). https://doi.org/10.1371/JOURNAL.PONE.0217319

30. Mukherjee, J., et al. (2010). *Fiscal Deficit, Crowding Out and the Sustainability of Economic Growth Sunitha Raju Center for Asian Studies*. https://www.ifri.org/sites/default/files/migrated_files/documents/atoms/files/asievisions31rajumukherjee.pdf

31. Mundell, R. A. (1963). Capital Mobility and Stabilization Policy under Fixed and Flexible Exchange Rates. *The Canadian Journal of Economics and Political Science / Revue Canadienne d'Economique et de Science Politique*, *29*(4), 475–485. https://doi.org/10.2307/139336

32. Nabatov, E. (2022). The Analysis of the Relationship Between Money Supply, Budget Deficit and Inflation Rate in Azerbaijan. *International Journal of Business and Economics Research*, *11*(1), 14. https://doi.org/10.11648/j.ijber.20221101.13

33. Panousis, K. P., & Koukouritakis, M. (2020). Twin Deficits: Evidence From Portugal, Italy, Spain and Greece. *Intereconomics*, *55*(5), 332–338. https://doi.org/10.1007/S10272-020-0924-Y

34. Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships.

Journal of Applied Econometrics, *16*(3), 289–326. https://doi.org/10.1002/JAE.616

35. Plekhanov, A. (2018). *Modern growth in perspective: relative performance since the global financial crisis*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3178069

36. Razali, N.M., & Wah, Y.B. (2011). Power comparisons of Shapiro-Wilk, Kolmogorov-Smirnov, Lilliefors and Anderson-Darling tests. *Nbi.Dk*, *2*(1), 13–14. https://www.nbi.dk/~petersen/Teaching/Stat2017/Power_Comparisons_of_Shapiro-Wilk_Kolmogorov-Smirn.pdf

37. Rudebusch, G. (2021). 8. Trends and Random Walks in Macroeconomic Time Series: A Reexamination. *Business Cycles*, 169–193. https://doi.org/10.1515/9780691219585-010/PDF

38. Sarkodie, S. A., & Owusu, P. A. (2020). How to apply the novel dynamic ARDL simulations (dynardl) and Kernel-based regularized least squares (krls). *MethodsX*, *7*, 101160. https://doi.org/10.1016/j.mex.2020.101160

39. Sharma, V., Adil, M. H., Fatima, S., & Mittal, A. (2021). Asymmetric Effect of Fiscal Deficit on Current Account Deficit: Evidence from India. *Vision, 28*(4), 480-493. https://doi.org/10.1177/09722629211057221

40. Sisay, E. (2020). Budget Deficit and Economic Growth in Ethiopia: Evidence from ARDL-VAR Model Approach. *International Affairs and Global Strategy, 82.* https://doi.org/10.7176/IAGS/82-01

41. Swamy, V., & Dharani, M. (2021). Thresholds in finance–growth nexus: Evidence from G-7 economies. *Australian Economic Papers*, *60*(1), 1–40. https://doi.org/10.1111/1467-8454.12192

42. Tilahun Mengistu, S. (2022). Does fiscal policy stimulate economic growth in Ethiopia? ARDL approach. *Cogent Economics and Finance*, *10*(1). https://doi.org/10.1080/23322039.2022.2104779

43. Tilahun Mengistu, S. (2022). Does fiscal policy stimulate economic growth in Ethiopia? ARDL approach. *Cogent Economics and Finance*, *10*(1). https://doi.org/10.1080/23322039.2022.2104779

44. Wooldridge, J., Wadud, M., Lye, J., & Joyeux, *R. (2020). Introductory Econometrics: Asia-Pacific Edition.* https://books.google.com/books?hl=en&lr=&id=leYGEAAAQBAJ&oi=fnd&pg=PR16&dq=introductory+econometric+asia+pacific+edition&ots=uv98zt2PCy&sig=hrzCq6ursz5k2jkzhWQVDsoR9P4

45. Zhukov, P. E. (2024). Money Supply, Inflation and Budget Deficit in Russia Compared to the United States. *Review of Business and Economics Studies*, *11*(4), 72–83. https://doi.org/10.26794/2308-944x-2023-11-4-72-83

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ЧИ ЗАВЖДИ ФІСКАЛЬНА ЕКСПАНСІЯ ПОГІРШУЄ ЗОВНІШНІ САЛЬДО? ЕКОНОМЕТРИЧНА ОЦІНКА ЕКОНОМІК G7

Це дослідження вивчає гіпотезу подвійного дефіциту, яка досліджує взаємозв'язок між бюджетним дефіцитом і дефіцитом поточного рахунку в контексті країн G7 із 1999 по 2024 рік. Це дослідження має на меті визначити, чи призводить зростання бюджетного дефіциту до збільшення дефіциту поточного рахунку, як це пропонує кейнсіанська теорія, чи інші фактори, такі як обмінні курси, процентні ставки та інфляція, відіграють більш значну роль. Використовуючи щорічні дані та передові економетричні методи, такі як модель авторегресійного розподіленого лагу (ARDL) й тести причиново-наслідкового зв'язку Ґрейнджера, аналіз оцінює короткострокову та довгострокову динаміку між дефіцитом, монетарними змінними (широкі / вузькі гроші), відсотковими ставками, обмінними курсами та інфляцією (CPI). Результати дослідження підтверджують гіпотезу подвійного дефіциту, показуючи, що збільшення бюджетного дефіциту на 1% збільшує дефіцит поточного рахунку на 0,45%. Однак результати також указують на нюанси, які свідчать про те, що вищі відсоткові ставки зменшують дефіцит поточного рахунку за рахунок залучення іноземного капіталу. З іншого боку, курсові коливання та інфляція демонструють слабші, іноді суперечливі наслідки. У дослідженні виявлено структурні проблеми, такі як затримка коригування торговельних балансів (ефект J-кривої) та подвійна роль грошової маси, коли вузькі гроші зменшують дефіцит, а широкі гроші його збільшують. Діагностичні тести, включаючи перевірку стабільності (CUSUM/CUSUMSQ) й тести одиничних коренів, підтверджують надійність моделі, хоча деякі залишки демонструють ненормальність і гетероскедастичність, що пропонує області для уточнення. Отримані результати свідчать про важливість узгодження фіскальної й торговельної політики, такої як фіскальна консолідація, диверсифікація експорту й інституційні реформи, для більш сталого підходу до управління подвійним дефіцитом. Дослідження також додає цінну перспективу до поточних дебатів, враховуючи нещодавні глобальні потрясіння, такі як фінансова криза 2008 року та COVID-19, пропонуючи політикам практичне розуміння щодо управління дефіцитом без ігнорування економічного зростання.

Ключові слова: гіпотеза подвійного дефіциту, економіки G7, фіскальний дефіцит, CAD, модель ARDL, причиново-наслідковий зв'язок Ґрейнджера, економічне зростання та глобалізація

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