THE IMPACT OF FISCAL DEFICIT ON ECONOMIC GROWTH: AN EMPIRICAL STUDY IN SELECTED MENA COUNTRIES

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Abstract

The purpose of this article is to investigate how the fiscal deficit affects economic growth in five Middle Eastern and North African (MENA) countries: Bahrain, Algeria, Egypt, Morocco, and Jordan. These economies are bewildered by their high deficit levels, and their weak investment growth keeps them from achieving economic growth. This investigation, which spans the years 1995 through 2020, uses the ARDL (autoregressive distributed lag) methodology. The author selected four variables for this study: economic growth serves as the dependent variable, while the set of independent variables includes economic growth (GDPG), gross fixed capital formation as a percentage of GDP (GFCF), deficit as a percentage of GDP (DEFICIT), and inflation (INF). The long-run results showed that there is a negative link between economic growth and deficit; however, a positive relationship existed between inflation and economic growth. Gross fixed capital formation did not show any significant relationship with economic growth in the long run. In the short run, the results showed that inflation has a negative relationship with economic growth. The remaining variables, deficit, and gross fixed capital formation did not show a significant relationship with economic growth.

Keywords: Fiscal Deficit, Inflation, Gross Fixed Capital Formation, Economic Growth

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1. INTRODUCTION

Fiscal policy is a crucial approach that policymakers pursue to stimulate economic growth and achieve the natural unemployment rate. Successful fiscal policy holds intrinsic value, leading to social justice and a balanced balance of payments. Additionally, fiscal policy helps prevent budget deficits and fights the scourge of inflation, which endangers the progress of a country. The issue of fiscal stability is closely linked to the government's general budget, which is viewed as a program to achieve specific economic and social goals as well as a major tool of fiscal policy. The government's general budget can play a positive role in rationalizing public spending, in addition to its important basic role as a tool for fiscal monitoring and then achieving fiscal stability (Kofi Ocran, 2011).

In the context of high levels of budget deficits worldwide, which triggered alarm bells and raised concerns about fiscal and monetary stability, the role of governments has garnered significant attention, emphasizing the importance of an efficient fiscal policy (Gale & Orszag, 2004). The existence of a deficit in the government's general budget and an increase in this deficit leads to a sharp rise in public debt, both internal and external, to fill the general budget deficit, which leads to the depletion of economic resources and the impact on fiscal stability status (Ai & Ping, 2018).

Most developing countries suffer from the problem of budgetary deficits, including most MENA (Middle East and North Africa) countries.

Concerning the MENA region, few studies have been done to tackle this issue in the region, so this research endeavours to handle this problem. This article is devoted to the study of the main problem — the government budget deficit, which negatively affects economic growth. The increase in budget deficit also raised the inflation rate in MENA countries, and the synchronization of chronic deficits with consecutive shocks exacerbated the fiscal balance. Because of the weakness of fiscal institutions, it was difficult to respond to those shocks. Thus, fiscal sustainability remains a substantial challenge for MENA countries with higher debt and a sensitivity to external shocks (Tahar et al., 2022).

Some countries are experiencing higher economic growth rates despite having high deficit rates. In contrast, other nations report the opposite relationship between deficit and economic growth. This study aims to examine the effect of fiscal deficits on economic growth in five selected MENA countries: Algeria, Morocco, Bahrain, Egypt, and Jordan. The study is motivated by the high prevalence of high deficit rates in most MENA countries as well as the significant theoretical and empirical importance of the relationship between fiscal deficits and economic growth. This investigation employs the autoregressive distributed lag (ARDL) approach and covers the period from 1995 to 2020.

The significance of this study is to use the ARDL approach to examine the impact of fiscal deficit, gross fixed capital formation, and inflation on economic growth in the short and long run for five selected MENA countries. Additionally, the time period of the study witnessed several crises, from the global financial crisis to the Arab Spring to the most recent crisis, the coronavirus pandemic COVID-19.

Therefore, the researcher was motivated to study the budget deficit rates in the selected countries during the period of the study because previous studies did not study the effects of the selected variables during the recent period and in the short and long run.

The remaining sections of the article are structured as follows. Section 2 presents relevant theories and empirical studies. Section 3 introduces the research methodology. Section 4 describes the results and discussion. Section 5 presents conclusions and some recommendations.

2. LITERATURE REVIEW

Numerous empirical and theoretical studies, such as those by Claus et al. (2006), and Tervala (2005), have examined the impact of fiscal policy on economic growth. These studies have used various macroeconomic variables as fiscal policy indicators, including tax revenues, government spending, and budget deficits. However, the findings from these studies have been quite diverse, leading to controversy in the responses of these macroeconomic variables to fiscal policy changes. While Tenhofen et al. (2010), and others found a positive relationship between government expenditure and economic growth, Iqbal and Zahid (1998) revealed a negative correlation between these two variables.

In the realm of theoretical work, two notable research studies were conducted by Tervala (2005). The former assumed that in the simplified IS-LM (or Hicks–Hansen) model, fiscal policy has a counterproductive effect in an unstable system. The latter argued that fiscal growth displaces private consumption of non-traded goods and increases the output of these goods.

In the study of the impact of fiscal deficits on economic growth, different research has yielded varying results. Some studies discovered a positive association between fiscal deficits and economic growth, while others found a negative relationship. Still, some foresaw that fiscal deficits had no discernible impact on economic growth. In alignment with the Keynesian perspective, Kryeziu and Hoxha (2021) employed a panel data model to investigate the influence of fiscal deficits on economic growth in Eurozone countries during the period between 1995 and 2015. The authors identified a positive impact of fiscal deficits on economic growth. Similarly, Onwioduokit and Inam (2018) applied the ordinary least squares (OLS) technique to investigate the relationship between fiscal deficits and economic growth in Liberia, revealing a long-term and positive correlation between the two. Likewise, Gllogjani and Balaj (2021) supported the Keynesian view and established a positive connection between fiscal deficits and economic growth in Southeastern Europe from 2005 to 2019.

In contrast, and in line with neoclassical theory, Zoto and Berisha (2016), Akosah (2013), and Tung (2018), which showed that fiscal deficits could impede economic growth, private investments, and foreign direct investments.

Regarding the impact of fiscal deficits on economic growth in Saudi Arabia, a positive relationship was observed during the period 1991–2016 in a study conducted by Tayeb and Shaheen (2021). Granger causality tests, vector autoregression (VAR), and error correction models (ECM) were applied. However, the impact of fiscal deficits on economic growth in Jordan was deemed insignificant in a study conducted by Moh'd Al-Tamimi (2020), which covered the period from 2010 to 2019 and employed the ARDL approach.

On the contrary, Arjomand et al. (2016) examined the relationship between government budget deficits, inflation, and economic growth in MENA countries. The authors used estimated generalized least squares (GLS) for ten MENA countries during the period 2000–2013, concluding that a negative relationship exists between government budget deficits and economic growth, along with a positive relationship between inflation and deficits.

Moreover, Gyasi (2020) investigated the impact of fiscal deficits on economic growth in Morocco, applying the ARDL approach to examine the short- and long-term relationships. The empirical results revealed a negative impact of fiscal deficits on economic growth in Morocco.

Additionally, El Ghazi and Elgazzar (2023) examined the impact of budget deficits on economic growth in Egypt during the period 1995–2020. They applied the threshold regression model, and the empirical results indicated that within a 1% budget surplus, the impact on economic growth is

positive. However, when the deficit is negative, its impact on economic growth becomes inverse. In Iraq, a strong negative impact of budget deficits on economic growth in the long run was discovered in a study conducted by Sabr et al. (2021), covering the period from 1980 to 2018. However, in the short run, the impact of budget deficits on economic growth was weakly positive.

On the other hand, in countries other than the MENA region and harmonious with the classical Ricardian theory, some studies found that fiscal deficits have no impact on economic growth. Andoni and Osmani (2017) investigated the relationship between inflation, economic growth, and the fiscal deficit in Albania. The study showed that fiscal deficits have no impact on growth, while the relationship between economic growth and inflation seemed to be negative; however, it seemed positive between inflation and deficits. Likewise, Velnampy and Achchuthan (2013) showed that the relationship between fiscal deficit and economic growth is neutral in Sri Lanka, covering the period 1970–2010.

Based on the literature review, it is evident that fiscal deficits negatively affect economic growth in many cases. There could be several reasons contributing to this result, with the most prominent one being the failure to direct expenditures towards productive projects. Therefore, it is imperative to study the impact of fiscal deficits on economic growth in selected countries of the MENA region in both the long and short run, especially in light of the increase in deficit rates during the COVID-19 pandemic.

3. RESEARCH METHODOLOGY

The objective of this section is to investigate the influence of fiscal deficits on economic growth in five MENA countries: Algeria, Bahrain, Egypt, Jordan, and Morocco, spanning from 1995 to 2020. For this purpose, we employ the ARDL model, which is the appropriate technique for exploring dynamic heterogeneity among these countries. This study follows a methodology similar to that of Amgain and Dhakal (2017), who used the ARDL model to examine the impact of fiscal deficits on economic growth in 20 Asian countries, revealing a negative effect in both the short and long run. Additionally, Subramanya (2021) used the ARDL model to investigate the impact of fiscal deficits on economic growth in India.

The validity, efficiency, and consistency of this methodology are contingent upon several prerequisites, as outlined by Subramanya (2021):

- the existence of a long-term relationship among the variables;
- none of the variables are integrated of order 2;
- the ARDL model is suitable for models where all variables are integrated of order 1 or stationary at level. However, in cases where unit root tests yield mixed results, i.e., some variables are integrated of order 1 while others are stationary at level, it becomes necessary to apply the ARDL model.

The selection of variables is based on reviewing the literature and methodology of Onwioduokit and Inam (2018). Economic growth serves as the dependent variable, while the set of independent variables includes economic growth (*GDPG*), gross fixed capital formation as a percentage of GDP (*GFCF*), deficit as a percentage of GDP (*DEFICIT*), and inflation (*INF*). The descriptions of these variables are provided in Table 1.

Table 1. Description of the variables

Variable	*Description*
INF	Inflation, consumer prices (annual %)
GDPG	Gross domestic product: refers to the total gross value added by all resident producers in the economy.
DEFICIT	The overall budget deficit is current and capital revenue and official grants received, less total expenditure and lending minus repayments.
GFCF	Gross fixed capital formation (formerly gross domestic fixed investment).

3.1. Data collection

The study includes five countries that belonged to the MENA (Algeria, Bahrain, Egypt, Jordan, and Morocco) during the period (1995–2020), while other countries may be excluded due to the availability of data during these years. The reason to start with 1995 is because, before this date, there was a shortage in the availability of data in several countries. The data in this research were collected from several sources, including the World Bank (World Development Indicators), the World Economic Forum (WEF), and the International Monetary Fund (IMF).

3.2. Data description

Descriptive statistics for the variables under study are presented in Table 2. These findings reveal that the mean of economic growth is approximately 0.81%, with a maximum of 22.28% (observed in Egypt in 2008) and a minimum of -18.30% (observed in Bahrain in 2015). These five countries exhibit substantial volatility in economic growth, with a standard deviation of around 9%.

Regarding the deficit as a percentage of GDP, the mean stands at 17.47%, with a maximum of 34.52% (noted in Bahrain in 2008) and a minimum of -15.70% (seen in Algeria in 2015). The deficit exhibits notable volatility, with a standard deviation of 11.55%.

Gross fixed capital formation as a percentage of GDP has a mean of 26.06%, with a maximum of 118.77% (observed in Bahrain in 2019) and a minimum of -12.91% (seen in Egypt in 2013). The standard deviation indicates significant volatility, at 38.88%.

Finally, inflation has a mean of 53.45%, with a maximum of 129.70% (noted in Bahrain in 2019) and a minimum of -11.20% (observed in Algeria in 2009). Inflation exhibits substantial volatility, with a standard deviation of 33.49% over the study period.

The reason for the notable fluctuations in the MENA region is in a state of uncertainty in this region, which leads to economic challenges and slowing growth rates in the region. Any economic decline worldwide or any crisis, such as the international financial crisis in 2008 or the COVID-19 pandemic, affects oil prices and the quantities required in oil-exporting countries such as the Bahrain region, especially if the crisis is accompanied by a decline in oil prices, which affects overall growth in the MENA region. The volatility of

growth in the Gulf Cooperation Council (GCC) countries has major repercussions on other countries in the region, especially those with which it has close economic ties through trade, expatriate remittances, and financial ties, for example, Jordan. In contrast, North African countries are experiencing the fewest fluctuations in growth due to the openness of their economies.

The patterns of deficits differ across countries, while mostly they are taking an upward trend. The oil-exporting countries were adversely affected by the depressed oil prices since 2014, and this was reflected in their fiscal balance. As for the oil-importing countries, they have suffered from political shocks since the beginning of the Arab uprisings in 2011. While, because of the weakness of fiscal institutions, it was difficult to respond to those shocks (Tahar et al., 2022). On the other hand, the increase in budget deficits also raises the inflation rate in MENA countries. Thus, the inflation rates are taking an upward trend during the period of the study.

Table 2. Descriptive statistics of the variables

Variable	*GDPG*	*DEFICIT*	*GFCF*	*INF*
Mean	0.808	17.474	26.068	53.456
Maximum	22.281	34.523	118.772	129.700
Minimum	-18.300	-15.700	-12.910	-11.200
Std. Dev.	9.013	11.556	38.884	33.491
Observations	126	126	126	126

Note: Concerning the exchange rate, the author uses the local currency of each country.
Source: Author's calculations.

Figure 1 presents a graphical representation of the variables in this study. Egypt exhibited the highest economic growth during the study period. Bahrain, on the other hand, experienced a sharp decrease from 1995 to 2020, accompanied by significant fluctuations. Algeria, Jordan, and Morocco displayed less volatile economic growth values than Bahrain.

Regarding the deficit as a percentage of GDP, there is an overall upward trend in all countries, with a sharp decline in the deficit observed in Algeria. Gross fixed capital formation is highest in Bahrain and lowest in Egypt. Inflation, on the other hand, exhibits an upward trend in Bahrain throughout the sample period, while inflation in Algeria remains lower compared to other countries, with considerably lower fluctuations.

It is evident from the figures that the upward trend in the deficit rates in most of the selected countries is accompanied by a decline in economic growth, as well as a negative relationship manifested between deficit rates and economic growth in the selected countries. In addition to the presence of fluctuations in economic growth rates in some countries, such as Algeria and Morocco, As we mentioned previously, these fluctuations are due to the influence of the economic downturn worldwide on the economic growth of these countries. The figures also show the positive relationship between inflation rates and fiscal deficit rates, as high deficit rates contribute to increasing inflation rates.

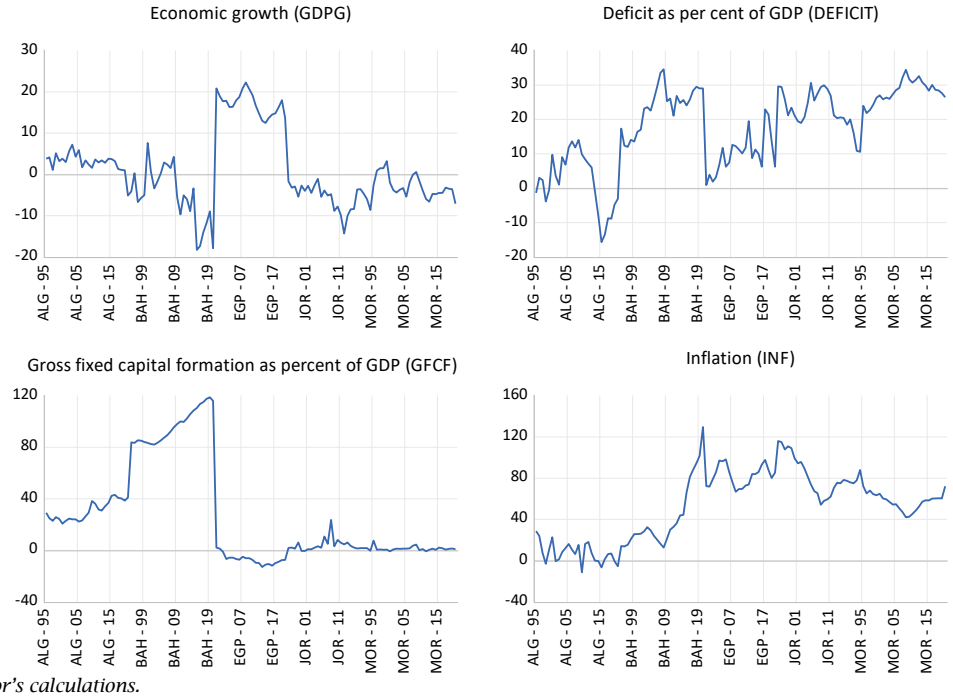
Table 3 displays the correlation between the variables under investigation. The analysis reveals weak correlations between each pair of regressors, which mitigates the problem of multicollinearity.

Table 3. Results of the correlation tests

Variable	*GDPG*	*DEFICIT*	*GFCF*	*INF*
GDPG	1.000000			
DEFICIT	-0.501935	1.000000		
GFCF	-0.415963	0.086171	1.000000	
INF	0.022263	0.402041	-0.381687	1.000000

Note: Sample: 1995–2020. Included observations: 126.

Figure 1. Graphical representation of the set of variables in question



Source: Author's calculations.

3.3. Model and estimation methodology

To investigate the relationship between economic growth and the following variables: deficit/GDP ratio, gross fixed capital formation/GDP ratio, and inflation, this study uses the ARDL panel model. This approach offers insights into both long-term and short-term relationships. Consequently, the author employs an ARDL (2, 1, 1, 1) model, which provides a long-run equation and a short-run error correction model:

$$y_{it} = \sum_{j=1}^{p} \alpha_{ij} y_{i,t-j} + \sum_{j=0}^{q} \beta_{ij} X_{i,t-j} + \gamma_i + \varepsilon_{it} \quad (1)$$

where,

- y_{it} represents the GDP growth (*GDPG*). It is the dependent variable.
- $X_{i,t-j}$ is a $(k \times 1)$ vector of regressors.
- α_{ij} is the coefficient of the lagged dependent variable.
- β_{ij} are $(k \times 1)$ coefficient vectors.
- γ_i is the country specific fixed effect, $i = 1, 2, \cdots, N;\ t = 1, 2, \cdots, T$.
- p and q are optimal lag orders.
- ε_{it} is the error term.

The parametrization of the ARDL (p, q, q, q) error correction model leads to the following model:

$$\Delta y_{it} = \lambda_i \left(y_{i,t-1} - \delta_i' X_{i,t-1} \right) + \sum_{j=1}^{p-1} \varphi_{ij} \Delta y_{i,t-j} + \sum_{j=0}^{q} \mu_{ij}' X_{i,t-j} + \gamma_i + \varepsilon_{it} \quad (2)$$

where,

- λ_i is the speed of adjustment coefficient. It is expected to be negative and significant.
- δ_i' represents the vector coefficients of the long-run relationships.
- $ECT_{t-1} = \left(y_{i,t-1} - \delta_i' X_{i,t-1} \right)$ represents the error correction term that results from the long-run equilibrium relationship.
- φ_{ij} and μ_{ij}' are the short-run dynamic coefficients.
- Δ is the first difference of the variables.

4. RESULTS AND DISCUSSIONS

4.1. Unit root tests

To explore the relationship between economic growth and fiscal policy, the author examines first the stationarity of the variables using Levin, Lin & Chu, Im, Pesaran & Shin (IPS), Augmented Dickey-Fuller (ADF), and Phillips-Perron (PP) unit root tests.

The results, or unit root tests, at each level are presented in Table 4. The researcher notices that the variables *GDPG*, *DEFICIT*, and *INF* are not stationary. However, *GFCF* is stationary at this level since the majority of the tests (three out of four) are significant at the 1% level of significance.

Table 4. The results of unit root tests at level

Variable	*Test of stationarity at level*			
	Levin, Lin & Chu	***Im, Pesaran & Shin***	***ADF***	***PP***
GDPG	0.43488	-0.54566	9.42029	9.26805
DEFICIT	-0.25524	-0.13896	9.50663	9.00486
GFCF	-1.34620*	-2.53897***	31.4434***	39.1056***
INF	2.03824	0.12891	22.9688	16.9444

*Note: *, **, *** indicate significance at 10%, 5%, 1%, respectively.*
Source: Author's calculations

The results of unit root tests at the first difference are presented in Table 5. The findings indicate that all the non-stationary variables at level 1 become stationary at the first difference. The results of all tests are significant at the 5% level of significance.

Table 5. The results of unit root tests at first difference

Variable	*Test of stationarity at first difference*			
	Levin, Lin & Chu	***IPS***	***ADF***	***PP***
GDPG	-8.50314***	-9.22141***	83.9708***	86.7665***
DEFICIT	-6.73947***	-7.5652***	66.8280***	76.5324***
GFCF	–	–	–	–
INF	-2.53215***	-4.54195***	40.5467***	48.5499***

*Note: *, **, *** indicate significance at 10%, 5%, 1%, respectively.*
Source: Author's calculations.

4.2. Test of cointegration

The next step after confirming the order of integration is to analyze tests of the long-run cointegration among economic growth and the regressors by using the Pedroni (1999) tests. These tests are based on the following hypotheses:

H_0: No cointegration among the variables.
H1: There is cointegration among the variables.

The results of the cointegration test are presented in Table 6. The findings show that seven out of eleven tests are statistically significant. Five of them are significant at 1% and 5%. The other two are significant at 10%. As a result, the researcher concludes that the variables involved in this study are cointegrated.

Table 6. Test of cointegration

Pedroni residual cointegration test

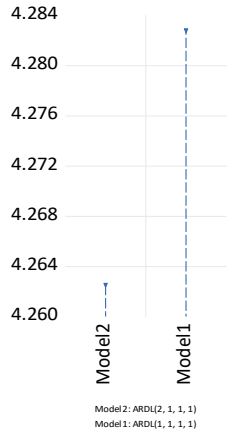
Alternative hypothesis: Common AR coefficients (within-dimension)				
	Statistic	***Prob.***	***Weighted statistic***	***Prob.***
Panel v-statistic	1.8191***	0.0344	1.3605*	0.0868
Panel rho-statistic	-0.2142	0.4152	0.0292	0.5116
Panel PP-statistic	-2.5034***	0.0061	-0.6034	0.2731
Panel ADF-statistic	-2.8589***	0.0021	-1.4885*	0.0683
Alternative hypothesis: Individual AR coefficients (between-dimension)				
	Statistic	***Prob.***		
Group rho-statistic	0.9137	0.8196		
Group PP-statistic	-2.1037**	0.0177		
Group ADF-statistic	-1.9497**	0.0256		

*Note: *, **, *** indicate significance at 10%, 5%, 1%, respectively.*
Source: Author's calculations.

4.3. Model estimation

The optimal lag length of the error correction model (ECM) is determined using the Akaike information criterion (AIC). The maximum lag length is identified by considering the lowest AIC value. Figure 2 shows the results obtained by using this criterion and indicates that the optimal lag is (2, 1, 1, 1).

Figure 2. Akaike information criteria results



Source: Author's calculations.

The estimation of this model results in two sub-models. One model is for the long run, and the second is for the short run. The results of the estimation are reported in Table 7.

Table 7. The results of the estimated ARDL model

Variable	*Coefficient*	*Standard error*	*Probability*
Long-run equation			
DEFICIT	-0.1953**	0.0880	0.0290
GFCF	0.0702	0.1121	0.5327
INF	0.0637**	0.0256	0.0146
Short-run equation			
ECT	-0.3743***	0.1398	0.0088
D(GDPG(-1))	-0.0857	0.1805	0.6362
D(DEFICIT)	0.0194	0.0545	0.7225
D(GFCF)	-0.1840	0.1652	0.2683
D(INF)	-0.3116**	0.1409	0.0295
C	-0.6195	1.5253	0.6856

*Note: *, **, *** indicate significance at 10%, 5%, 1%, respectively.*
Source: Author's calculations.

The estimated long-run model is written as follows:

$$\widehat{GDPG}_{it} = -0.1953\ DEFICIT_{it} + 0.0702\ GFCF_{it} + 0.0637\ INF_{it} \quad (3)$$

The estimated short-run model (error correction model) is written as follows:

$$D(\widehat{GDPG})_{it} = -0.3743\ ECT_{t-1} - 0.0857 D(GDPG)_{i,t-1} + 0.0194\ D(DEFICIT)_{it} - 0.1840\ D(GFCF)_{it} - 0.3116\ D(INF)_{it} - 0.6195 \quad (4)$$

where, *D* is the difference of the variable in question.

The speed of adjustment is equal to -0.3743. It is negative and significant at 1%, which conforms to the theory. This indicates the presence of cointegration among the variables. According to this result, economic growth adjusted toward equilibrium at a rate of 37.43% annually.

The long-run results showed that there is a negative link between economic growth and deficits that is statistically significant at 5%. As to inflation, it has a positive relationship with economic growth which is statistically significant at 5%. However, gross fixed capital formation does not show any significant relationship with economic growth.

In the short run, the researcher notices that inflation has a negative relationship with economic growth which is statistically significant at 5%. The remaining variables, deficit, and gross fixed capital formation, do not show a significant relationship with economic growth.

4.4. Granger causality

Testing for causality among the variables involved in this study constitutes the final step in this analysis. It is a method that explores the causal relationship between a set of variables, and it was developed by Granger (1969). Moreover, Dumitrescu and Hurlin (2012) extended this method to allow for detecting causality in panel data.

The results of Granger causality tests are presented in Table 8. The results indicate that there is a significant bidirectional causality between deficits and inflation. Inflation Granger causes deficits with a 5% level of significance, while deficit Granger causes inflation with a 1% level of significance.

This does not mean that these variables do not affect economic growth, but in some cases, there are some economic variables that do not show any effect in the short term and require more time for their impact and interaction with the rest of the variables.

The results support a unidirectional causality between gross fixed capital formation and inflation. This causality goes from *GFCF* to inflation, with a 1% level of significance. However, no Granger causal relation is considered between economic growth and deficit, *GFCF*, and inflation. Similarly, this relationship is not noticed between deficit and *GFCF*.

In conclusion, the analysis provides valuable insights into the relationship between fiscal deficits and economic growth in MENA countries from 1995 to 2020. The long-run results indicate a negative impact of fiscal deficits on economic growth, while inflation appears to have a positive effect. However, these relationships do not hold in the short run. The Granger causality tests reveal complex interactions between deficits, inflation, and other variables. These findings contribute to our understanding of the economic dynamics in the MENA region.

Table 8. Results of Granger causality tests

Pairwise Granger causality tests
Sample period: 1995–2020
Lag: 1

Null hypothesis	*Observation*	*F-statistic*	*Probability*
D(DEFICIT) does not Granger Cause *D(GDPG)*	116	0.00217	0.9630
D(GDPG) does not Granger Cause *D(DEFICIT)*	116	0.07442	0.7855
GFCF does not Granger Cause *D(GDPG)*	116	0.86089	0.3555
D(GDPG) does not Granger Cause *GFCF*	116	1.27389	0.2614
D(INF) does not Granger Cause *D(GDPG)*	116	0.00849	0.9268
D(GDPG) does not Granger Cause *D(INF)*	116	0.11280	0.7376
GFCF does not Granger Cause *D(DEFICIT)*	116	0.57943	0.4481
D(DEFICIT) does not Granger Cause *GFCF*	116	0.08112	0.7763
D(INF) does not Granger Cause *D(DEFICIT)*	116	5.01754	0.0270**
D(DEFICIT) does not Granger Cause *D(INF)*	116	10.3871	0.0017***
D(INF) does not Granger Cause *GFCF*	116	0.31276	0.5771
GFCF does not Granger Cause *D(INF)*	116	8.82121	0.0036***

*Note: *, **, *** indicate significance at 10%, 5%, 1%, respectively.*
Source: Author's calculations.

5. CONCLUSION

This study examines the impact of fiscal deficits on economic growth in five MENA countries (Algeria, Bahrain, Egypt, Jordan, and Morocco) over the period 1995–2020, using the ARDL model.

The findings suggest that the relationship between deficits and gross fixed capital formation varies in the short run, showing both positive and negative impacts on *GDPG*. This discrepancy is attributed to the allocation of expenditure in these variables towards either productive or non-productive projects. In the long run, a negative relationship between economic growth and deficits is observed, while the connection between inflation and economic growth appears to be positive over time. Gross fixed capital formation, however, does not exhibit any significant relationship with economic growth. In the short run, the results reveal a negative correlation between inflation and economic growth, while deficits and gross fixed capital formation do not display significant associations with economic growth.

Consequently, policymakers and governments in MENA countries should strategically utilize external debt, directing it towards productive sectors that promote growth. Government intervention should be reserved for critical and essential periods, focusing on borrowing for investment purposes to stimulate job creation, combat corruption, implement progressive taxation, and reform the healthcare system. Borrowing should be undertaken with stringent controls and governance mechanisms to ensure the responsible and equitable utilization of borrowed funds, safeguarding the rights of future generations burdened by these substantial debts. This approach can contribute to deficit reduction and alleviate fiscal challenges.

Furthermore, government investment spending serves as a catalyst for domestic and foreign private investment, bolstering long-term growth prospects. Government spending remains a pivotal fiscal policy tool and the subject of ongoing debate and research in the economic literature. Rationalizing government spending by enhancing its quality and directing it towards productive projects can significantly bolster economic growth and, in the long term, help reduce deficits. Additionally, governments should prioritize investments in physical and human capital, if not expand existing ones. Special attention should be paid to reducing the public wage bill, particularly in countries such as Algeria.

Practically, the findings of this study have important policy implications for the selected countries. They can also be used by the Ministry of Finance and various government sectors. Additionally, policymakers should be cautious about increasing fiscal deficits, as they can have adverse effects on long-term economic growth. However, it is important to note that this study has limitations due to data constraints, which resulted in the selection of only five MENA countries.

Over and above, measures to control inflation may be beneficial for promoting economic growth in the long run. Further research is needed to explore the specific mechanisms through which fiscal deficits affect economic growth positively and to identify potential policy interventions to mitigate these effects.

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