Analyzing the Contribution of Financial Development to Economic Growth in the MENA Region

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ABSTRACT

Purpose: This research is based on endogenous growth theory and aims to analyze the determinants of financial development (FD) and its influence on economic growth in Middle Eastern and North African countries (Algeria, Djibouti, Egypt, Iran, Jordan, Lebanon, Mauritania, Morocco, Sudan, Tunisia, and Turkey) over a period of 11 years, from 1991 to 2022.

Design/Methodology/Approach: This study uses the panel ordinary least squares technique, the fixed effects model, and the random effects model. The empirical findings showed the presence of heteroskedasticity, cross-sectional dependency, and serial correlation; therefore, the Driscoll-Kraay method was used to correct the standard errors.

Findings: The findings will encourage policymakers to take action on the financial system in MENA countries by refining it.

Conclusion: The results of the estimation model show that financial development has a negative impact, leading to a 0.113 percentage point decrease in gross domestic product (GDP) per capita growth, which is used as a proxy for economic growth. In contrast, foreign direct investment positively impacts GDP, increasing it by 0.07 percentage points. Additionally, the findings indicate that trade has an insignificant impact on GDP per capita growth.

Research limitations/Implications: Missing data in some countries poses a challenge, preventing a comprehensive analysis of financial development across the entire MENA region.

Practical implications: This research provides insights into financial development strategies for policymakers in MENA.

Contribution to Literature: This article offers a new perspective on measuring financial development and evaluating the relationship between economic growth and financial development in MENA countries.

Keywords: *Economic growth, financial development, Fixed effect model, Middle east and north Africa, Random effect model.*

1. INTRODUCTION

The Middle Eastern and North African (MENA) countries are characterized by their diversified economies, which vary in structure, development stages, financial systems, and resources.

MENA countries can be categorized into three groups. The first includes oil-producing economies such as Saudi Arabia (KSA), the United Arab Emirates (UAE), Qatar, and Oman, which rely heavily on oil production. This region possesses the highest natural resource reserves, holding nearly half of the world's total oil and gas reserves (Liu, Saleem, Al-Faryan, Khan, & Zafar, 2022).

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The second group consists of non-oil-producing economies, including Syria, Jordan, Lebanon, Morocco, Egypt, Tunisia, Algeria, Iraq, and Iran. The Gulf Cooperation Council (GCC) countries primarily generate high GDP through oil sales and exports. In contrast, non-oil economies such as Tunisia, Egypt, and Morocco depend on manufacturing, agriculture, and tourism. These non-oil economies face significant challenges in improving infrastructure, maintaining political stability, and attracting foreign direct investment (FDI) and trade due to socio-political tensions and security concerns.

Given these economic disparities, it is crucial to examine the factors that foster economic growth, particularly financial development, which is a key driver of economic expansion in the MENA region. Financial development can be measured and expressed in various ways, including banking sector efficiency, gross savings, financial depth, stock market capitalization, and domestic credit to the private sector.

While some MENA countries are strengthening their financial sectors, many struggle with corruption and weak regulatory frameworks. Additionally, ongoing conflicts in some countries negatively impact political stability. Due to the lack of financial development in much of the region, it is essential to highlight the factors hindering the effective functioning of financial markets and their influence on economic growth.

This study addresses the issue of financial development inefficiency and the key obstacles to economic growth by filling the gap in research on the financial development-economic growth nexus. It aims to provide insights for policymakers seeking new approaches to implementing financial reforms that drive economic growth.

An efficient financial system plays a crucial role in promoting capital accumulation, fostering innovation, and encouraging investment in human and physical capital. Consequently, a well-functioning financial system drives economic growth. Furthermore, human capital theory (Becker, 1992) underscores the importance of investment in human capital as a driver of economic development.

Financial development also contributes to a more resilient and diversified economy by providing financial resources for human capital development and infrastructure projects. However, its impact in the MENA region may be influenced by other macroeconomic factors.

Previous research has primarily measured financial development using indicators such as money supply (M2 or M3), private sector credit, financial depth, and stock market indices (Lu, Guo, Dong, & Wang, 2017). This study, however, takes a different approach by using principal component analysis (PCA) to measure financial development. The analysis includes three components: domestic credit to the private sector, stocks traded, and the turnover ratio of domestic shares (%).

Taking foreign direct investment and trade into account, this research explores the following question: How does financial development affect economic growth in MENA countries?

First, the study explains the finance-growth nexus in economic theory, followed by a review of the empirical literature. The research then presents an empirical study using panel data analysis to estimate the effect of financial development on GDP per capita, considering foreign direct investment and trade as control variables. Finally, the study discusses the findings, conclusions, and recommendations, addressing the empirical results, their implications, and limitations, while opening new avenues for future research.

2. THEORETICAL BACKGROUND

This study focuses on two important variables: economic growth and financial development. The effect of financial development on economic growth is analyzed based on economic growth theory. As per Solow's growth model, economic growth can be manifested based on crucial components capital
and labor, where:

$$Y = F\ (K, L)$$

Where **Y** represents the production function, **K** denotes capital, and **L** represents labor. According to Keynes, savings are a portion of income influenced by prices, which, in turn, affect purchasing power. Furthermore, savings are considered an investment, defined as the production of new capital goods, plants, and equipment.

Additionally, investment is a rational decision made by individuals or organizations, involving the allocation of money into securities or assets issued by financial institutions to achieve desired returns over a specific period. Moreover, savings and investment are fundamental requirements for achieving economic growth. As crucial elements in attaining price stability and creating job opportunities, they play a vital role in supporting long-term economic progress (Nwanne, 2016).

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An increase in the capital-labor ratio will lead to a rise in output per worker, but eventually, output will start to decline due to the law of diminishing marginal returns. Furthermore, to achieve a steady state in an economy, it is essential to maintain a balance between savings, investment, and the capital-labor ratio. This equilibrium is explained by the equation below:

$$S\,f(k^*) = (\delta + n)\,k^*$$

Where; the savings rate is s, the capital per labor is k, δ is the depreciation and the population rate is n (Osiobe, 2019).

2.1. Finance-Growth Nexus

The finance-growth nexus is supported by several studies, which demonstrate that financial development has a positive effect on economic growth (Ang, 2008; Jahfer & Inoue, 2014). Some studies highlight the key components of the financial market that influence economic growth (Lu et al., 2017).

Notably, an increase in financial development leads to higher investment rates, which, in turn, drive economic growth. This relationship is explained by the neoclassical growth model, which emphasizes the long-term connection between financial development and economic growth, considering the role of private domestic credit in fostering economic expansion (Pagano, 1993).

2.2. Economic Growth

Several fundamental components constitute economic growth. Based on economic growth theory, it is essential to highlight the importance of the Cobb-Douglas production function, which represents economic growth. The main components in this function are human capital and labor (Solow, 1999).

The financial sector is influenced by economic growth, with financial development and financial deepening playing a crucial role in fostering economic growth. These elements of the financial sector contribute significantly to the overall economic progress by improving access to capital, enhancing efficiency, and promoting investment.

2.3. Financial Development

There are numerous theories highlighting the importance of financial development for economic growth, including those by Schumpeter (1954); Goldsmith (1969); McKinnon (1973); Levine (1997) and Patrick (1966).

Moreover, financial development is linked to investment efficiency, as noted by Goldsmith (1969). He suggests that the accumulation of capital can be enhanced when financial markets develop (Choong, 2012). Furthermore, McKinnon (1973) and Shaw Jr (1973) argue that domestic savings and investment foster financial development through financial liberalization. Additionally, Patrick (1966) posits that there is a bidirectional relationship between economic growth and financial development.

Several metrics measure financial development to explain its effect on economic growth. These include monetary aggregates as intermediaries, such as M1, M2, and M3. Some authors use domestic credit to the private sector as a percentage of gross domestic product (GDP), while others consider stock market capitalization or the ratio of stock traded to GDP as measures of financial development (King & Levine, 1993; Levine, 1997).

Thus, this study measures financial development using an index composed of three components: domestic credit to the private sector, stocks traded, and the turnover ratio of domestic shares (%).

This hypothesis is based on a study by Bloch and Tang (2003) which illustrates the impact of financial development on economic growth using domestic credit to the private sector as a proxy for financial development. The results indicate a positive impact of credit to the private sector on economic growth, with a 0.021% increase in GDP. Additionally, the study reveals the presence of bidirectional causality between financial development and economic growth in East Asian countries (Bloch & Tang, 2003).

Hypothesis 1: There is a positive impact of financial development on economic growth.

3. LITERATURE REVIEW

As demonstrated by the significance of financial liberalization in increasing savings and investment in Southeast Asian nations, several authors, including Goldsmith (1969); McKinnon (1973) and Shaw Jr (1973) have focused on the economic growth-financial development nexus. These studies highlight that the presence of financial institutions, through their financial intermediation, leads to economic growth by enhancing efficient investment and

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optimizing capital allocation. Bencivenga and Smith (1993) model this relationship, explaining that it is rooted in endogenous growth theory.
Therefore, it is important to note that financial intermediation is closely linked to economic growth, as represented in the equation below.
$Y_t = f(k_t), y_t$ is the output and k_t is the stock of capital at time t (Solow, 1956).
For this reason, this study used different factors to link the financial development with economic growth, which are the following.

3.1. Foreign Direct Investment
Foreign direct investment (FDI) is a key indicator that measures the volume of exchange between countries. It is calculated as the sum of equity capital, long- and short-term capital, and reinvested earnings, which are recorded in the balance of payments. Additionally, a surge in foreign direct investment leads to increased job opportunities and the transfer of technology, which ultimately stimulates economic growth (Abdouli & Hammami, 2018).
The relationship between foreign direct investment and economic growth has been explored by several authors, including Koomson-Abekah and Nwaba (2018). Furthermore, a study by Munemo (2018) demonstrated that foreign direct investment positively influences the development of national markets and economic growth, covering 28 African countries from 2004 to 2014.
Another study investigates the relationship between economic growth and foreign direct investment using an econometric model, specifically the autoregressive distributed lag (ARDL) model, for Middle Eastern and North African countries from 1999 to 2012. The results of this empirical study indicate a positive effect of foreign direct investment on economic growth (Abdouli & Hammami, 2018).
Therefore, based on the work of Koomson-Abekah and Nwaba (2018):
Hypothesis 2: There is a positive impact of foreign direct investment on economic growth.

3.2. Trade
Trade is a critical component in enhancing economic growth, primarily due to its role in utilizing and importing high technology. Trade refers to the total import and export of goods and services, measured as a share of gross domestic product (GDP). As a result, increasing imports of technology and exports plays an essential role in fostering economic growth and attracting foreign investment.
Furthermore, an increase in trade openness contributes to economic growth through technological transfer and the accumulation of physical capital (Abdouli & Hammami, 2018).
On one hand, research examining the impact of trade on real gross domestic product (RGDP) in 14 MENA countries from 2003 to 2017, using the fully modified Ordinary Least Squares (FMOLS) model and Dynamic Ordinary Least Squares (DOLS) model, finds a long-run relationship between trade openness and economic growth, with trade openness having a negative influence (Onifade, Khatir, Ay, & Canitez, 2022).
On the other hand, research conducted between 1993 and 2016 in five emerging market economies, using the Johansen Fisher panel cointegration test, reveals a positive and long-run relationship between trade and economic growth (Raghutla, 2020).
Hence, based on the research above.
Hypothesis 3: There is a positive impact of trade on economic growth.

4. METHOD
The research method is based on endogenous growth theory, which emphasizes the importance of financial development and its role in fostering economic growth, considering macroeconomic factors such as foreign direct investment and trade. This study uses panel data from 12 Middle Eastern countries: Algeria, Djibouti, Egypt, Iran, Jordan, Lebanon, Mauritania, Morocco, Sudan, Tunisia, and Turkey, covering the period from 1990 to 2022. Other countries in the region are excluded due to the lack of data.
Several studies in the field of financial development and economic growth have been conducted, such as the study by Jose De Gregorio and Guidotti (1995) which points out that efficient investment improves financial development, ultimately leading to economic growth (José De Gregorio, 1992).

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In its econometric model, this paper follows the framework used by Syed and Juang (2014) who studied the determinants of financial development by employing a balanced panel data set from 30 developing countries and 27 developed countries over the period 1990–2012. This study used credit to the private sector (as a percentage of GDP) as the dependent variable and considered population, share of the agriculture sector in GDP, real GDP, trade openness, net foreign direct investment, government current spending as a percentage of GDP, index of democracy, and rule of law as independent variables to examine their impact on financial development.
Hence, the empirical model used in this article is indicated in the equations below.

$$GDP = f\ (FDI, FD, TR) \quad (1)$$

$$LNGDP_{it} = \beta_0 + \beta_1 FDI_{it} + \beta_2 FD_{it} + \beta_3 TR_{it} + \varepsilon_{it} \quad (2)$$

Therefore, the dependent variable is the gross domestic product per capita growth (GDP) measured by percentage, which is used as a proxy for economic growth; the financial development (FD) is considered an independent variable, calculated using the principal component analysis (PCA).
The principal component analysis is a method that represents the linear combinations of the variables and explains the variance of all the variables, it also allows reducing the number of variables (Greenacre et al., 2022).
The gross domestic product per capita in this model is taken as logarithm, where the logarithmic transformation is used in order to standardize the measurement and to normalize the variables that are highly skewed (Benoit, 2011).
Therefore, this method is used to measure the financial development, which is composed of three components: stocks traded, turnover ratio of domestic shares (%), turnover ratio of domestic shares (%), and domestic credit to the private sector (% of GDP). In this model, the control variable is the trade (TR) as percentage of GDP and foreign direct investment (FDI), measured in percentage.
β0 is the intercept, β_1, β_2 and β_3 are the coefficients of each variable, and it is the cross-sectional individual, which are the countries, and t is the time period.

5. RESULTS AND DISCUSSION

5.1. Descriptive Statistics

Descriptive statistics is a metric used to summarize the data by presenting its mean, standard deviation, median, maximum value, and minimum value. It measures the position, variation/dispersion, central tendency, and frequency for a dataset (Fisher & Marshall, 2009).

Table 1. Descriptive statistics.

Variables	Mean	SD	Minimum	Maximum
GDP	185.97	107.17	1	377
FDI	193.86	113.64	1	389
TR	190.59	114.30	1	391
FD	$-1.77e^{-09}$	1.105	-1.779	2.44

Source: Author's computation using STATA 17.

As per the result of descriptive statistics indicated in Table 1, the financial development (FD) is the dependent variable that has a mean value of -1.77e-09, which is less than its standard deviation value (1.105), showing that the data is dispersed. It is noteworthy that the financial development has a minimum value of $-1.779e^{-09}$ and a maximum value of 2.440. Concerning the gross domestic product per capita growth (GDP), its mean value of 185.97 is greater than its standard deviation value (185.97>107.17), indicating that the data is clustered around the mean, with a maximum value of 377 and a minimum value of 1. In addition, the other variables have a mean value greater than their standard deviation value, indicating that the data is clustered around the mean, where the means of the foreign direct investment (FDI) and trade (TR) are respectively 193.86 and 190.59, greater than the standard deviation values 113.647and 114.30.

5.2. Correlation Matrix

The aim of a correlation matrix is to display the relationship between financial development (FD) and the independent variables, which are foreign direct investment (FDI) and trade (TR), as well as the associations among the independent variables themselves. It shows the value of the correlation coefficient (r), which indicates the strength, direction (positive or negative), and degree of the association between the variables (Helwig, 2017).

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Table 2. Correlation matrix.

Variables	GDP	TR	FDI	FD
GDP	**1**			
TR	0.037	1		
FDI	0.122*	-0.074	1	
FD	-0.064	0.119*	0.186*	1

Note: * denotes the significance level at 0.5 %.
Source: Author's computation using STATA 17.

Table 2 presents the correlation matrix between the dependent variable and the independent variables, as well as the correlations among the independent variables themselves.

The correlation between gross domestic product growth (GDP) and foreign direct investment (FDI) is positive and significant (r = 0.122). In contrast, the correlation between GDP growth and trade (TR) is positive but insignificant. Similarly, the correlation between GDP growth and financial development (FD) is negative and insignificant (r = -0.064). Furthermore, the correlation between trade (TR) and foreign direct investment (FDI) is negative and insignificant (r = -0.074). However, the correlation between financial development (FD) and trade (TR) is positive and significant (r = 0.119). Additionally, the correlation between foreign direct investment (FDI) and financial development (FD) is positive and significant (r = 0.186).

These findings suggest that an increase in foreign direct investment (FDI) leads to higher GDP growth. Likewise, FDI contributes to financial development in the MENA region.

5.3. Panel Estimation

This research used the panel data analysis that includes the random effect model (RE) and the fixed effect model (FE). This advantage stems from observing the repeated choices or outcomes made by the same entities across various time periods. Moreover, it requires fewer problems and assumptions than the simpler methods.

In this study the number of years is 33, which is greater than the number of countries, imposing the use of a fixed and random effect model. In addition, the previous studies showed the use of the dynamic panel data analysis, such as the generalized method of moments (GMM), that is not consistent with this study that has the number of years greater than the number of countries (Roodman, 2009) where using the fixed and random effect model is more efficient within and between countries, which can capture heterogeneity (Wooldridge, 2010).

Following the steps of Panel data analysis, the pooled ordinary least squares model (POLS) is a preliminary model used.

After that, it is important to test the random effect model (RE) and the fixed effect model (FE), which are chosen according to the Hausman test (Ceesay & Moussa, 2022).

The results of the estimation using the pooled ordinary least squares model (POLS), fixed effect model (FE), and random effect model (RE) show a negative impact of financial development (FD) on economic growth. After these estimations, it is crucial to select the appropriate model, which was the random effect model as indicated by the Hausman test. However, this estimation reveals the presence of heteroskedasticity, serial correlation, and cross-dependence between the variables. Therefore, to correct the standard error, it is important to use the Driscoll-Kraay model.

Table 3. Pooled ordinary least squares, fixed and random effect models estimation- Dependent variable LNGDP.

Variables	Pooled ordinary least squares (POLS)		Fixed effect model (FE)		Random Effect model (RE)	
	Coefficient	Probability	Coefficient	Probability	Coefficient	Probability
TR	0.0002	0.526	0.0003	0.483	0.0003	0.502
FDI	0.0007	0.062	0.0007	0.132	0.0007	0.090
FD	-0.1153**	0.009	-0.112*	0.017	-0.113*	0.012
Constant	4.732***	0.000	4.721***	0.000	4.727***	0.000

Note: *, **, *** denotes 5%, 1% and 0.1% respectively.
Source: Author's computation using STATA 17.

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The results indicated in the Table 3, denote a negative impact of financial development (FD) on gross domestic product (GDP), indicating that an increase in financial development by 1 percentage point leads to a decrease in GDP growth per capita by approximately 11 percentage points.

Table 4. Hausman test.

Hausman	Chi2(3) =0.06
	Prob>chi2=0.9960

Source: Author's computation using STATA 17.

The result of Hausman test indicated in the Table 4, shows a probability of 0.9960, which is greater than α=0.05, denoting that the appropriate model is the random effect model.

5.4. Diagnostic Tests

In order to test the validation of the model, it is crucial to test the diagnostics, which include the multicollinearity, the serial correlation, the heteroskedasticity, and cross-dependencies.

5.4.1. Multicollinearity

The multicollinearity test is used to detect the presence of a high correlation between the independent variables that is indicated by the variance influence factors (VIF), which should be less than 10 (Daoud, 2017).

Table 5. Test of multicollinearity.

Variable	**VIF**
FDI	1.02
FD	1.03
TR	1.01
Mean VIF	1.02

Source: Author's computation using STATA 17.

The results in the Table 5 denotes that the variance influence (VIF) value is 1.02, as mean VIF, indicating the absence of multicollinearity.

5.4.2. Serial Correlation

The serial correlation, or autocorrelation, is used to detect the autocorrelation in error terms over a period of time. The serial correlation is tested by Wooldridge (Baltagi & Li, 1995).

Table 6. Wooldridge test for autocorrelation.

Null hypothesis	**No. first order autocorrelation**
F (1, 11)	7.167
Prob> f	0.0215

Source: Author's computation using STATA 17.

The Table 6 denotes that the result of Wooldridge test, where the P-value is 0.0215, less than α=0.05. Therefore, we fail to reject the alternative hypothesis saying that there is a first order autocorrelation.

5.4.3. Heteroskedasticity

This test is used to examine if the dataset is homoscedastic or heteroskedastic through the Breusch-Pagan/ Cook Weisberg test, which examines the constant variance (Halunga, Orme, & Yamagata, 2017).

Table 7. Breusch-Pagan/ Cook-Weisberg test for heteroskedasticity.

Null hypothesis	**Constant variance**
Chi2(1)	5.09
Prob> Chi2	0.0241

Source: Author's computation using STATA 17.

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The Table 7 denotes the presence of heteroskedasticity, where the probability P-value=0.0241 <α=0.05; thus, we fail to reject the alternative hypothesis saying that the variance is not constant. Therefore, the errors are not homoscedastic.

5.4.4. Cross Section Dependency

This test is used to examine the presence of interdependencies among individuals, countries, or cross sections (De Hoyos & Sarafidis, 2006).

The null hypothesis of this variable is the presence of cross section independence.

Table 8. Cross section dependency- Pesaran.

Variable	CD-test	P-value
LNGDP	3.39	0.001
TR	0.55	0.583
FDI	5.64	0.000
FD	12.44	0.000

Source: Author's computation using STATA 17.

The result of the cross-sectional dependency indicated in the Table 8, denotes the presence of cross-sectional dependency, where P-value of all the variables is less than α = 0.05. This shows the presence of cross-sectional dependency. Only the trade (TR) shows the absence of cross section dependence (P-value=0.583> α = 0.05).

Given the presence of heteroskedasticity, serial correlation, and cross- sectional dependency, it is crucial to correct the standard error and solve the problem of heteroskedasticity, serial correlation, and cross-sectional dependence through using the Driscoll-Kraay. This approach is crucial to correct the model and implement an efficient estimator (De Hoyos & Sarafidis, 2006).

Table 9. Model I chosen- Random effect, Driscoll-Kraay model corrected.

Variables	Driscoll-Kraay model		
	Fixed effect estimator	Driscoll-Kraay standard error	Probability
TR	0.0003	0.0007	0.691
FDI	0.0007*	0.0003*	0.045
FD	-0.1137**	0.0330**	0.002
Constant	4.727***	0.1448	0.000
R-squared within	0.0216		
Wald test	0.0004		

Note: *, **, *** denotes 5%, 1% and 0.1% respectively.
Source: Author's computation using STATA 17.

The result in Table 9 shows the Driscoll-Kraay standard error model which reveals that financial development (FD) has a negative and significant impact on GDP per capita growth. Specifically, an increase in financial development by 1 percentage point is associated with a decrease of 11.37 percentage points in GDP per capita growth.

In contrast, foreign direct investment (FDI) shows a positive and significant association with GDP per capita growth at the 5% significance level. An increase in FDI by 1 percentage point leads to an increase of 0.07 percentage points in GDP per capita growth.

The standard error values for foreign direct investment and financial development demonstrate greater precision in estimating their impact on GDP per capita growth, as the coefficient values are larger than the standard error.

The constant value of 4.727 is positive and highly significant (P-value = 0.000 < α = 0.05), indicating that the intercept is statistically different from zero. Additionally, the Wald test, represented by the F-statistics test, has a value of 0.0004, which is less than α = 0.05, suggesting that the model is a better fit compared to a model with no predictors. Furthermore, the R-squared value indicates that 2.16% of the variation in the dependent variable is explained by the independent variables.

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6. FINDINGS AND DISCUSSIONS

The results from the estimation of Driscoll-Kraay standard errors show a negative and significant effect of financial development on GDP per capita growth in the Middle Eastern and North African (MENA) countries. This negative influence can be explained by the weaknesses in the financial systems of these countries, which are not aligned with the theoretical expectations and Hypothesis 1.

This finding contradicts the hypothesis and theoretical expectations, suggesting that the financial systems in these countries lack balance or involve the misallocation of resources, ultimately leading to a decline in financial development and a decrease in economic growth. In some countries, misallocated financial resources or investments in unproductive sectors contribute to a reduction in the productivity of human capital (Arcand, Berkes, & Panizza, 2014). In other countries, financial development can increase the inflation rate due to crises that hinder long-run growth, such as Lebanon, which relied on the banking system and faced great depression due to corruption, financial engineering, and misallocation of financial resources that led to an economic meltdown (Guéchati & Chami, 2022).

It is crucial to note that the foreign direct investment has a positive and significant impact in the Driscoll-Kraay model estimation, but this effect is weak, where it affects 0.07% an increase in GDP growth per capita. This relationship refers to the nature of the MENA region, where some countries have implemented educational and financial reforms to their system that enrich the income of foreign direct investment by attracting investors. In addition, countries with political stability and a good regulatory framework will surge in foreign direct investment. This case is different in countries of war, such as Gaza and Lebanon, that have no stability and a capital flight, which decreases their foreign direct investment (Kalai & Zghidi, 2019). Consequently, the hypothesis 2 aforementioned is validated in this study, where the foreign direct investment showed a positive influence on economic growth in the Middle Eastern and North African countries (MENA).

Concerning trade, it shows a positive but insignificant impact on GDP per capita growth. This could be attributed to the similarity in institutional characteristics among some countries, which are influenced by spillover effects and the diminishing impact of trade activities in certain MENA region countries, especially those affected by conflict. In such countries, trade may be hindered by political instability, logistical challenges, and reduced market access, which in turn weakens the expected positive impact on economic growth (Baysoy & Altug, 2021). Thus, the third hypothesis is not valid.

In conclusion, the development of the financial system is closely linked to overall economic development. A well-developed financial system facilitates access to information, which in turn reduces transaction costs. This fosters economic growth and improves the allocation of resources through efficient banking systems and stock markets, which are essential in reducing poverty and promoting sustained growth. Furthermore, it is recommended that these countries undertake serious reforms by adopting new policies aimed at attracting more investment, creating new job opportunities, and restructuring the financial system. Such measures can strengthen trade and investment, reduce barriers, attract investors, and boost the economy (Abdouli & Hammami, 2018).

These findings suggest that the development of the financial system in the Middle Eastern and North African (MENA) countries is not yet advanced enough to significantly contribute to economic growth. Policymakers in the MENA region should focus on improving the efficiency and stability of the financial system, tackling corruption, and implementing policies that attract foreign direct investment and foster human capital development. Moreover, the ongoing conflicts in the region have resulted in political instability, which negatively impacts foreign direct investment, hindering financial development and ultimately limiting GDP per capita growth (Acquah & Ibrahim, 2020).

For further research, it would be beneficial to predict the effect of financial development on economic growth by using another econometric method for forecasting the financial development in the Middle Eastern and North African countries (MENA), to better understand the dynamics of this association and offer more insights for policymakers.

The Table 10 presents the explanation of the list of abbreviations used in this research.

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Table 10. Table of abbreviations.

Table of abbreviations	
Middle East and North Africa	MENA
Gross domestic product	GDP
Generalized method of moments	GMM
System generalized method of moments	GMM-SYS/SGMM
Capital per labour	K
Depreciation	Δ
Population rate	N
Variance influence factors	VIF
Secondary school enrollment	SEC
Political stability	PS
Financial development	FD
Random effect model	RE
Fixed effect model	FE

FUNDING
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INSTITUTIONAL REVIEW BOARD STATEMENT
Not Applicable

TRANSPARENCY
The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

DATA AVAILABILITY STATEMENT
The data is available at the World bank

COMPETING INTERESTS
There is no conflict of interest

AUTHORS' CONTRIBUTIONS
Both authors have sufficiently contributed to the study and agreed on the results and conclusions.

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