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The Impact of Foreign Direct Investment on Economic Growth in the MENA Region

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Abstract

Economic growth is one of the basic objectives of countries' economic programs, which is influenced by various factors such as the amount of capital available. Attracting capital and foreign direct investment is an important way to accelerate the economy towards development and job creation, which can be considered an engine of economic growth and development. Considering the special importance of foreign direct investment (FDI) in economic growth, this article examines the impact of FDI on economic growth. For this purpose, the data of some countries in the Middle East and North Africa (Egypt, Saudi Arabia, Morocco, Jordan, Tunisia, Iran, Turkey, and Yemen) were selected for the period from 1980 to 2020. A second-generation panel cointegration method was used to achieve the study's objective. According to the results, the impact of FDI on economic growth in Egypt, Saudi Arabia, Morocco, Tunisia, Turkey, and Yemen during the study period is positive and statistically significant. In Jordan and Iran, FDI was found to have no impact on economic growth. Moreover, the impact of capital stock and labor on the economic growth of member countries is positive and significant, except in Tunisia, Egypt, Jordan, and Yemen.

MENA Bölgesinde Doğrudan Yabancı Yatırımın Ekonomik Büyüme Üzerindeki Etkisi

Özet

Ekonomik büyüme, mevcut sermaye miktarı gibi çeşitli faktörlerden etkilenen ülkelerin ekonomik programlarının temel hedeflerinden biridir. Sermayeyi ve doğrudan yabancı yatırımı çekmek, ekonomiyi kalkınmaya ve istihdam yaratmaya doğru hızlandırmanın önemli bir yoludur. Bu, aynı zamanda ekonomik büyüme ve kalkınmanın motoru olarak da düşünülebilir. Doğrudan Yabancı Yatırımın (DYY) ekonomik büyüme üzerindeki özel önemi göz önüne alındığında, bu makale doğrudan yabancı yatırımın ekonomik büyüme üzerindeki etkisini incelemektedir. Bu amaçla 1980-2020 dönemi için Ortadoğu ve Kuzey Afrika bölgesindeki bazı ülkeler (Mısır, Suudi Arabistan, Fas, Ürdün, Tunus, İran, Türkiye ve Yemen) seçilmiştir. Araştırmanın amacına ulaşmak için panel eşbütünleşme yönteminin ikinci nesil metodolojisi kullanılmıştır. Elde edilen bulgulara göre, inceleme döneminde Mısır, Suudi Arabistan, Fas, Tunus, Türkiye ve Yemen'de doğrudan yabancı yatırımların ekonomik büyüme üzerindeki etkileri pozitif ve istatistiksel olarak anlamlıdır. Ürdün ve İran'da ise doğrudan yabancı yatırımların ekonomik büyüme üzerinde herhangi bir etkisinin olmadığı tespit edilmiştir. Ayrıca, sermaye stoku ve işgücü Tunus, Mısır, Ürdün ve Yemen dışında üye ülkelerin ekonomik büyümelerini pozitif ve anlamlı olarak etkilemektedir.

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1. INTRODUCTION

Investment is very important for the economic growth and development of countries. In countries where the capital formation is insufficient, the level of investment is also low. This problem reduces competition with other countries, the standard of living, and prosperity. In this context, saving domestic capital is essential for investment and development. However, countries with insufficient savings can meet their capital needs through borrowing or foreign direct investment. Especially in developing countries, domestic savings are insufficient, and borrowing abroad is difficult, so foreign direct investment is very important. The important role of FDI in economic growth is supported by endogenous growth models, which show that factors such as efficiency, productivity, and technological development contribute to economic growth.

According to Zhang (2006), the impact of FDI on economic growth can be classified into four main groups: they contribute to the export and foreign trade volume of the host country; they contribute to national income, capital accumulation, and employment in the host country; they provide management knowledge, technical knowledge and skilled labor to the host country; they cause technology transfer; they contribute to positive externalities.

The globalization of capital, especially foreign direct investment (FDI), has increased significantly in the last decade. In developing countries, FDI has become the most stable and largest component of capital flows. As a result, FDI is an important alternative in the process of financial development (Global Financial Development).

Foreign direct investment and economic growth can be interrelated. Foreign direct investment affects economic growth through the channel of technology transfer. Foreign direct investment not only plays the role of capital in the production function but also improves technical knowledge. Economic growth can attract more FDI because foreign investors prefer a country with acceptable economic growth. According to classical models, capital accumulation is one of the most important factors of economic growth. Developing countries need capital accumulation for economic growth. Since capital is limited in developing countries, the use of foreign direct investment to accumulate capital in these countries has been considered. One of the resources that can compensate for the lack of capital accumulation in developing countries is the use of foreign investment. Among the various types of foreign investment, foreign direct investment is a more suitable source for capital accumulation and promoting economic growth due to advantages such as technology transfer, linkage to international markets, transfer of management skills, etc.

Foreign investment is a positive factor for the economic growth of the host country because it privatizes state-owned enterprises, promotes exports and free trade, and eliminates unnecessary government regulations and price deviations. In fact, FDI is a factor in capital transfer, advanced technology, and efficient management, which leads to an increase in social welfare.

According to De Mello (1999) and Girma (2005), foreign direct investments provide capital accumulation in host countries through foreign exchange flows. They also help to pay off the external debt of these countries. In addition, they promote economic growth by encouraging foreign technology and the production of new products. Foreign direct investment helps the country acquire new technical knowledge by training local personnel who can later work in local companies and by introducing new technologies. On the other hand, they bring "positive externalities" by bringing into the country the necessary techniques for inventory control, quality, and standardization of suppliers and domestic distribution channels. These positive externalities have an indirect impact on economic growth. Increasing the host country's ability to attract FDI increases the positive externalities of FDI.

This article examines the impact of foreign direct investment on the economic growth of some countries (Egypt, Saudi Arabia, Morocco, Jordan, Tunisia, Iran, Turkey, and Yemen) in the MENA region during 1980-2020.

Several studies have examined the impact of FDI on economic growth. However, no study was conducted for MENA countries, especially for the period 1980-2020, and with a second-generation panel cointegration method. The importance of this study is that it attempts to identify the impact of FDI on economic growth in MENA countries over a 40-year period using a second-generation panel cointegration method. This research will help the economic decision makers of MENA countries to make appropriate decisions on economic policies and attract FDI. This study attempts to answer the question of whether FDI affects the economic growth of MENA countries over the period 1980-2020.

2. LITERATURE

According to neo-classics, foreign direct investment has a positive effect on the economic growth of the recipient country through the privatization of state-owned enterprises, promotes exports and free trade, and eliminates additional government regulations and price deviations. Foreign direct investment is also a factor in the transfer of capital, technology, and efficient management, leading to an increase in social welfare. Foreign direct investment leads to the transfer of technical knowledge, the development of human resources, the development of management skills, the expansion of foreign trade, and access to new export markets, thus increasing the productivity of the economy. They also create competition between new and existing technical knowledge, diversify host country exports, and improve factor productivity.

According to De Mello (1997), FDI affects not only domestic capital stock through technology transfer and management know-how but also has positive effects on productivity growth.

Studies show that FDI has a positive impact on economic growth when conditions such as labor skills, high wealth, and developed financial markets are met. Alfaro et al. (2008); Blomstrom et al. (1994); Borensztein et al. (1998).

Foreign direct investment can provide additional capital for savings and capital growth. On the other hand, they can increase economic growth through knowledge abundance and the effects of market efficiency (Borensztein et al. 1998).

Foreign direct investment reduces the negative effects of output fluctuations on economic growth, while other financial flows increase the negative effects of growth fluctuations. Foreign direct investment increases capital stock as well as economic growth through management skills, ideas, and diversity in new capital goods and the introduction of new technologies, including new production methods (Ebghaei, 2016). Foreign direct investment not only helps to increase investment and thus economic growth but also can transfer advanced technologies to the host country, which gradually leads to an increase in the technological capabilities of host country enterprises. Enterprises established with the help of FDI use more advanced technologies and new management methods in the production process and, as a result, have higher productivity and output growth. As the share of foreign enterprises in the host economy increases, the productivity of all factors at the macro level of the economy increases, and this improvement in productivity is a direct result of attracting FDI (Zhang, 2001). In addition, the attraction of FDI has spillover effects on the transfer of technical knowledge and new management methods from foreign enterprises to domestic enterprises. In addition, the presence of foreign firms in a country's economy increases competition in that country's domestic markets. Competition forces domestic firms to increase efficiency and productivity and to innovate or introduce new technologies. As a result, FDI can be identified as the main source of the release of modern technologies (Ebghaei and Akkoyunlu Wigley, 2018).

There is no consensus in experimental studies. Some studies have found a positive relationship between economic growth and FDI, others have found a negative relationship, and still, others have found no relationship at all. Borensztein, Gregorio, and Lee (1998) studied the period 1970-1989 in 69 developing countries. The result of this study is that the impact of FDI on the economic growth of countries with a certain level of human capital is positive. Aitken and Harrison (1999) examined the period 1979-1989 in Venezuela. The study found that there was no positive technology spillover from foreign firms to domestic firms in Venezuela. Zhang (2001) studied the impact of FDI on economic growth in Latin American and East Asian countries. According to the results, FDI has a positive impact on economic growth in Taiwan, Indonesia, Hong Kong, Singapore, and Mexico. Carkovic and Levine (2002) found no significant effect in either developed or developing countries for the period 1960-1995. Roy and Von den Berg (2006) examined the impact of foreign direct investment on economic growth in the United States. According to the results, there is a significant and positive relationship between FDI and U.S. economic growth. Zhang (2006) studied the period 1992-2004 in China. According to the study, foreign direct investment has a positive impact on income growth in China. This positive growth effect was also found to increase over time. Beugelsdijk et al. (2008) examined the horizontal and vertical effects of FDI on the economic growth of 44 host countries for the period 1983-2003, and the results show that horizontal and vertical spillover effects of FDI have a significant and positive impact on the economic growth of developing countries. For the period 1970-2005, Miankhel et al. (2009) examined the impact of FDI on the economic growth of six countries (Malaysia, Mexico, Pakistan, Chile, India, and Thailand). The results show that FDI has a positive effect on economic growth in India and Malaysia, while this effect is negative in other countries. Musa Ahmed (2012) examined the impact of FDI inflows on economic growth using data from 1999-2008 for Malaysia. The results showed that FDI inflows have a negative effect on the productivity of factors of production. Velnampy et al. (2013) analyzed data from Sri Lanka for the period 1990-2011, and the results showed that FDI has a positive effect on economic growth. Stamatiou and Dritsakis (2014) analyzed Greek data for the period 1970-2012, and according to the results, a strong one-way causal relationship between economic growth and FDI was found. Grahovac and Softić (2017) analyzed data from the Western Balkans for the period 2014-2014, and according to the results, FDI does not have a positive impact on employment or economic growth. Ebghaei and Akkoyunlu Wigley (2018) examined the impact of FDI on firm productivity performance using firm-level data for 2003-2011 in Turkey. According to the results, the productivity and growth-enhancing effects of FDI on firms arise from horizontal and backward spillover effects. Acet et al. (2020) analyzed the impact of FDI on economic growth using data from Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan from 2016-2011. According to the results, there is a positive relationship between economic growth and FDI.

2.1. Comparative Comparison of Foreign Direct Investment Trends

In today's economic literature and in the globalization of countries' economic communication, attracting foreign direct investment is one of the key elements for accelerating economic growth in investing countries. A brief overview of the conditions and situation of the countries in the MENA group shows that they have not made much progress in capitalization in the acceleration of the global trend in FDI. On the other hand, FDI mainly flows to developed countries, especially the United States and Canada, and the flow of FDI to developing countries is not only insignificant compared to developed countries, but among developing countries, the countries of East Asia and Southeast Asia have the highest growth in attracting foreign capital compared to the countries of the MENA group. In this section, we provide a summary of the comparative contrast of the foreign investment situation. Trends in foreign direct investment in MENA member countries compared to MENA group

countries. In this section, a summary of the comparative FDI situation is provided. The development of foreign direct investment in MENA member countries compared with developing and developed countries was studied, and the results were presented. Table 1 shows that the volume of FDI in the world increased in the 1990s, and the growth rate of FDI in this decade was much higher than the previous decade, and this positive trend peaked in the years up to 2019. This upward trend decreased in 2020 due to the continued spread of Covid-19.

Table 1: FDI Inflows, by Region and Economy, 1980–2020 (Millions of Dollars)

Year	World	Developed Economies	Developing Economies	Developing Economies of Africa	North Africa	West Africa	Developing Economies in Asia	East Asia	South East Asia	West Asia	Mena Region
1980	54,400	46,978	7,398	400	152	-434	573	980	2636	-3,328	-3,064
1990	204,869	170,213	34,608	2,845	1,155	1,553	22,908	9,077	12,821	796	2,167
2000	1,363.215	1,125.227	232.216	9,624	3,250	2,131	142,788	111,790	22,515	3,618	13,870
2010	1,328.215	673,223	579,891	44,072	15,745	12,008	40,185	201,825	105,151	59,852	25,555
2015	1,228.263	498,762	681,387	53,912	11,541	12,763	465,285	248,180	132,867	43,046	32,870
2016	20,4542.4	13,8481.4	66.0609	46,250	13,841	11,726	47,8148	25,8665	11,3322	38,499	36,617
2017	1,632.639	937,683	694,955	40,176	13,275	10,112	501,382	253,391	154,450	33,103	30,287
2018	1,448.276	753,320	694,956	45,384	15,407	8,102	496,898	254,334	148,776	34,502	32,602
2019	1,480.626	764,456	716,170	45,678	13,550	10,863	511,632	232,339	174,976	36,732	27,599
2020	963,139	319,190	643,949	38,952	9,800	9,340	518,893	284,726	122,110	34,824	23,245

Table 1 shows the following results for the period 1980-2020:
- ✓ The trend of global foreign investment flows is biassed toward developed countries
- ✓ Developed countries attract more foreign investment
- ✓ Developed countries in the Americas and Europe attract the most foreign direct investment
- ✓ Developing countries in the Asian region attract more foreign direct investment than other developing countries
- ✓ African countries are less successful in attracting foreign direct investment
- ✓ East and Southeast Asian and African countries attract more foreign direct investment

According to the information on FDI flows in MENA countries, the performance of MENA countries has been very poor compared to the global performance. Although MENA countries have successfully attracted FDI in recent decades, the volume of FDI for the countries was only $23,245 million out of $963,139 million in FDI in 2020. The reasons for the relative lack of success of MENA countries in attracting FDI despite their oil and gas resources lie in the political, economic, and social structure of these countries, with relative political instability and unexpected shocks such as the war in Syria, the Arab Spring, economic sanctions against Iran, and political changes in Egypt (Khatabi et al. 2017).

3. METHOD

The data analysis of this research is modeled in the framework of the total production function. The model used in the research is based on the study of Ebghaei and Akkoyunlu Wigley (2018). The total production function model assumes that unusual inputs such as foreign direct investment can be included in the neoclassical production function in addition to the usual inputs such as labor and capital (Ebghaei, 2016). The general model of the total production function is presented in equation (1):

$$Y_t = A_t K_t^\alpha L_t^\beta \tag{1}$$

Y: Total Production
A: Total Factor Productivity
K: Capital Stock
L: Workforce
t: time

The impact of FDI on economic growth can be measured by total factor productivity (A_t). Since this study examined the impact of FDI on economic growth through its effect on total factor productivity, total factor productivity is assumed to be a function of FDI and other exogenous factors (C_t). Therefore, total factor productivity can be written as equation (2):

$$A_t = f(FDI_t , C_t) = FDI_t^\varphi C_t \tag{2}$$

By placing A_t in equation (1):

$$Y_t = C_t K_t^\alpha L_t^\beta FDI_t^\varphi \tag{3}$$

α, β, and φ are production elasticity coefficients as a function of the variables capital, labor, and foreign direct investment.

Logarithmizing equation (3) yields equation (4):

$$LnY_{it} = C + \alpha LnK_{it} + \beta LnL_{it} + \varphi LnFDI_{it} + \varepsilon_t \tag{4}$$

LnY_{it}: logarithm of GDP

LnK_{it}: logarithm of the capital stock. To examine the impact of domestic investment on economic growth, gross fixed capital formation is used instead of capital stock. Since capital stock statistics are not available, an alternative variable is used instead.

LnL_{it}: logarithm of the average years of education of the employed population.

$LnFDI_{it}$: logarithm of foreign direct investment.

C: constant parameter
ε_t: random error
i, country
t: Time
Statistics used in this study are from international data provided by the World Bank.

3.1. Methodology of Research

The econometric method used in this study is a second-generation panel cointegration method. The countries studied include Egypt, Saudi Arabia, Morocco, Jordan, Tunisia, Iran, Turkey, and Yemen. The study period for these countries is 1980-2020.

3.2. Cross-sectional Dependence

Panel data have two dimensions. One is the time dimension, and the other is the cross-sectional dimension (Hsiao, 2003: 7). Recently, it has been found that panel data created by combining time and cross-sectional data have been used in many studies. One of the reasons for this is the increasing ability to access panel data. Another reason is that estimates made using panel data analysis reflect more information than cross-sectional and time series analyses (Paap et al., 2015: 2).

When using panel data in analyzes, there are some important points to consider. The first important point is to determine the cross-sectional dependence between series. The second important point is that there is no unit root in the series. The third important point is whether the series are homogeneous or heterogeneous.

When panel data are used, cross-sectional dependence must be tested to check for the presence of a unit root. First-generation unit root tests can be used if the presence of cross-sectional dependence in the panel data set is negated. However, if cross-sectional dependence is present in the panel data, second-generation unit root tests may provide a more consistent and efficient estimate.

Cross-sectional dependence was determined using the CD_{LM1} test of Breusch-Pagan (1980), the CD_{LM2} test of Pesaran (2004), the CD_{LM3} test of Pesaran (2004), and the CD_{LM-adj} test of Pesaran et al. (2008).

If cross-sectional dependence is not taken into account in the panel analysis, the estimates performed with traditional panel estimators may yield erroneous parameters (Chudik and Pesaran, 2015: 2). In this context, it is necessary to examine cross-sectional dependence both in the context of the variables and in the context of the model. The H_0 and H_1 hypotheses of the cross-sectional dependence analysis are as follows:

H_0: There is no cross-sectional dependence

H_1: There is cross-sectional dependence

If the H_0 hypothesis cannot be rejected, first-generation panel unit root tests should be performed. However, if the H_0 hypothesis is rejected, second-generation panel unit root tests should be performed.

CD_{LM1}, CD_{LM2}, CD_{LM3}, and CD_{LM-adj} tests are estimators that test whether cross-sectional dependence exists in the case of $T > N$. The CD_{LM} test is an estimator that tests whether cross-sectional dependence exists in the case of $N > T$. Since the study is $T > N$ (41 years (T), 8 countries (N)), the cross-sectional dependence tests of Breusch-Pagan (1980) CD_{LM1}, Pesaran (2004) CD_{LM2}, Pesaran (2004) CD_{LM3}, and Pesaran et al. (2008) CD_{LM-adj} were performed. The results of the test are shown in Table 2.

Table2: Cross-section Dependence Test Results

Variables	LnK		LnL		LnFDI	
Tests	Statistics	Probability	Statistics	Probability	Statistics	Probability
Breusch-Pagan (1980) CD_{LM1}	41.232***	0.000	58.340***	0.000	44.510***	0.000
Pesaran (2004) CD_{LM2}	1.238***	0.000	4.302***	0.000	3.117***	0.000
Pesaran (2004) CD_{LM3}	-2.346***	0.005	-2.604***	0.002	-2.235***	0.007
Pesaran et al. (2008) CD_{LM-adj}	8.245***	0.000	15.103***	0.000	7.271***	0.000

Note: *** means 1% significance level.

According to the results of Table 2, the statistical probability value is less than 10%. Therefore, the H_0 hypothesis is rejected, and the presence of cross-sectional dependence is assumed. According to these results, a macroeconomic shock in one economy also affects other economies.

3.3. Slope Homogeneity

Most panel data applications assume that series are homogeneous. However, this assumption is not very realistic. Therefore, this assumption must be tested. If the slope coefficients are found to be heterogeneous, cointegration tests must be performed that allow for heterogeneity (homogeneity). To test whether the slope coefficients of the cointegration equation are homogeneous or not, the slope homogeneity test developed by Pesaran and Yamagata (2008) was applied. The homogeneity test developed by Pesaran and Yamagata (2008) has two test statistics. In these two test statistics, the H_0 hypothesis that the slope coefficient is homogeneous is tested. Table 3 shows the results of the homogeneity test for slope.

Table 3: Slope Homogeneity Test Results

Tests	Statistics	Probability
Delta Tilde	6.081***	0.000
Delta Tildeadj	6.381***	0.000

Note: *** means 1% significance level.

According to the results of the delta tests in Table 3, the hypothesis that the model is homogeneous (H_0 hypothesis) is rejected, and it is concluded that the model is heterogeneous.

The results of the cross-sectional dependence test and the slope homogeneity test allow second-generation panel unit root tests and second-generation cointegration tests to be conducted.

3.4. Panel Unit Root

When using time dimensional data, the series must be stationary. This is because if the series is not stationary, a problem of spurious regression may occur. In such a case, the obtained estimation results may not show the true relationship. For this reason, it is necessary to check whether the series is stationary with the unit root test before starting an econometric estimation. Therefore, we tested

whether the series contained a unit root at the level and in the first difference. For this purpose, the second generation of the Smith et al. (2004) panel unit root test Bootstrap IPS test was performed.

This analysis is based on the H_0: unit root hypothesis. If the H_0 hypothesis is rejected, this series is stationary in at least one country. The results of the test are shown in Table 4.

Table 4: Bootstrap IPS Panel Unit Root Test

	LnK		LnL		LnFDI	
	Level	Difference	Level	Difference	Level	Difference
Model with Constant	-1.525 (0.245)	-3.578*** (0.000)	0.304 (1.000)	-4.042*** (0.000)	0.207 (1.000)	-3.467*** (0.000)
Model with Constant and Trend	-2.180 (0.479)	-3.831 (0.000)***	-2.050 (0.515)	-4.329*** (0.000)	-2.030 (0.502)	-3.621 (0.000)***

Note: *** means 1% significance level.

According to the results of Table 4, the variables in both the fixed and trend models contain a unit root with leveled values. However, they were found to be stationary at the 1% significance level for the first difference. Therefore, it will be possible to investigate the relationship between these variables with cointegration analysis.

3.5. Cointegration

The LM cointegration test developed by Westerlund and Edgerton (2007) was used to determine the long-term relationship between the variables in the study. The H_0 hypothesis of this test is that cointegration exists, and the probability values of the test are calculated using the bootstrap method. Table 5 shows the results of the LM Bootstrap cointegration test.

Table 5: LM Bootstrap Cointegration Test Results

	LM Statistics	Asymptotic P-value	Bootstrap P-value
Model with Constant	1.492	0.094	0.539
Model with Constant and Trend	1.602	0.071	0.421

Note: Bootstrap probability values were determined using 1000 repeated distributions.

According to the results of Table 5, the H_0 hypothesis (cointegration) in the Bootstrap probability values cannot be rejected at the 1% significance level. In other words, there is a long-term relationship between foreign direct investment and economic growth variables.

3.6. Estimating Cointegration Coefficients

After the cointegration analysis, the augmented mean group estimator (AMG) test developed by Eberhardt and Bond (2009) was used to estimate the long-term coefficients. This method accounts for common factors and common dynamic effects in the variables and allows a different coefficient to be calculated for each intercept. The H_0 hypothesis of the AMG cointegration estimator test is that "coefficients are not statistically significant." The results of the estimation of the cointegration coefficients of the series are presented in Table 6.

Table 6: Estimation of Cointegration Coefficients (AMG Estimation Results)

Countries	LnK		LnL		LnFDI	
	Coefficient	Standard Error	Coefficient	Standard Error	Coefficient	Standard Error
Egypt	0.3261***	0.0234[0.000]	0.0126	0.0234[0.560]	0.2732***	0.0581 [0.000]
Saudi Arabia	0.2423***	0.0120[0.000]	0.0654***	0.0134[0.000]	0.2501***	0.0364 [0.000]
Morocco	0.1720***	0.0431[0.000]	0.0344**	0.0154[0.000]	0.1721*	0.0930 [0.067]
Jordan	0.2105***	0.0672[0.000]	0.0174	0.0234[0.340]	0.1931	0.2012 [0.386]
Tunisia	0.3127	0.3221[0.776]	0.0153***	0.0035[0.000]	0.2904***	0.0409 [0.000]
Iran	0.3001***	0.0380[0.000]	0.0389***	0.0102[0.000]	0.1625	0.1501 [0.189]
Turkey	0.3213***	0.0901[0.000]	0.0410*	0.0218[0.350]	0.2824**	0.0989[0.0432]
Yemen	0.2543***	0.0484[0.000]	0.0125	0.0157[0.464]	0.1493***	0.0396[0.000]
Panel	0.2243***	0.0204[0.000]	0.0358***	0.0100[0.000]	0.2367***	0.0189[0.000]

Note: ***, **, and * represent 1%, 5%, and 10% significance levels, respectively.

According to the results in Table 6, the coefficient of the capital stock variable is positive and consistent with expectations across the panel and all cross-sectional units (except Tunisia). This result is statistically significant at the 1% significance level. The results also suggest that increases/improvements in the capital stock have a positive and statistically significant impact on economic growth across the panel and in all cross-sectional units (except Tunisia). When the results are analyzed separately by cross-sectional units, the magnitude of the positive effect of the capital stock variable on economic growth is found to be in Egypt, Turkey, Iran, Yemen, Saudi Arabia, Jordan, and Morocco. These results show that the capital stock has an increasing effect on economic growth in the entire panel and in all cross-sectional units except Tunisia during the study period. The results show that the capital stock had no effect on economic growth in Tunisia during the study period. However, the capital stock is found to have a significant impact on economic growth in all selected economies except Tunisia.

The coefficient on the labor force variable is positive and consistent with expectations across the panel and all cross-sectional units. This effect is statistically significant at different significance levels (except in Egypt, Jordan, and Yemen). The results show that increases/improvements in labor force participation positively and significantly affect economic growth in the entire panel and in the cross-sectional units (Saudi Arabia, Morocco, Tunisia, Iran, and Turkey). On the other hand, the results show that the labor force has no impact on economic growth in the cross-sectional units of Egypt, Jordan, and Yemen. The countries where the labor force has the most positive impact on economic growth are Saudi Arabia, Turkey, Iran, Morocco, and Tunisia, respectively. These results show that the labor force has a positive effect on economic growth in the entire panel and in all cross-sectional units except Egypt, Jordan, and Yemen.

The coefficient of the FDI variable is positive and consistent with expectations across the panel and in all cross-section units. This effect is statistically significant at different significance levels (except in Jordan and Iran). The results show that increases/improvements in foreign direct investments across the panel and in cross-section units (Egypt, Saudi Arabia, Morocco, Tunisia, Turkey, and Yemen) positively and significantly affect economic growth. On the other hand, the results show that foreign direct investment does not have any effect on economic growth in Jordan and Iran cross-section units. The countries where FDI has the most positive impact on economic growth are Tunisia, Turkey, Egypt, Saudi Arabia, Morocco, and Yemen, respectively. These results show that FDI has an

enhancing effect on economic growth across the panel and across all cross-sectional units except Jordan and Iran.

4. CONCLUSION AND RESULTS

Foreign direct investment is one of the factors that create and improve economic growth, so in addition to the creation of investment, other factors such as the introduction of technology and current knowledge will follow. In this study, the impact of foreign direct investment on economic growth in the countries of the MENA region during the period 1980-2020 was investigated.

To examine the long-run impact of FDI on economic growth in the economies of the MENA region, the study estimated capital stock and labor force control variables separately for the panel and the cross-sectional units that make up the panel under a second-generation panel data methodology. The result of the study is that the results of the estimated model are in relatively good agreement with the theoretical and empirical literature. The coefficient on the capital stock variable is positive and consistent with expectations across the panel and all cross-sectional units (except Tunisia). This result is statistically significant at the 1% significance level. The coefficient on the labor force variable is positive and consistent with expectations across the panel and all cross-sectional units. This effect is statistically significant at various significance levels (except in Egypt, Jordan, and Yemen). The coefficient on the FDI variable is positive and consistent with expectations across the panel and all cross-sectional units. This effect is statistically significant at various significance levels (except in Jordan and Iran).

Results of Borensztein, Gregorio, and Lee (1998), Zhang (2001), Beugelsdijk et al. (2008), Miankhel et al. (2009), Ebghaei and Akkoyunlu Wigley (2018) show similarities with the studies.

Compared with indirect foreign investment, foreign direct investment is one of the most stable sources of foreign financing, which not only does not have the problems of borrowing from abroad but also is one of the most important factors to compensate for the shortage of capital in countries. Foreign direct investment closes the gap between savings and investment and between the government's targeted tax revenue and actual tax revenue. They also increase the level of production and further circulation of financial resources in the financial systems of MENA countries.

As a result, their trade relations with other countries increase, which in turn improves their bargaining position and political power. In addition, the quality of goods and services increases due to increased competition.

With foreign direct investment, new products or technologies are introduced into the domestic market of the Mena region countries, and domestic companies benefit from the rapid diffusion of new technologies. As technology moves into the country, labor migration also occurs. In this way, labor is transferred from abroad to domestic companies, increasing productivity and thus economic growth. As foreign direct investment increases, so do foreign exchange reserves. This increases production throughout the economy.

On the other hand, despite the creation of physical capital, these countries cannot yet accelerate their economic growth. This is because human resources have not yet been developed. These countries invest a lot of capital every year, but due to the lack of the necessary "skills," they cannot fully utilize these resources.

To increase economic growth in the countries of the MENA region, it is recommended to increase the productivity of all factors at the macroeconomic level by increasing the share of foreign companies in the economies of these countries; this increase in productivity will attract foreign direct investment. In addition, as the presence of foreign firms in the economies of these countries increases, competition in domestic markets increases. The competition also induces domestic firms to increase efficiency and productivity and adopt new technologies. To better attract foreign direct investment in the countries of the MENA region, it is proposed that a financial institution be

established in each member country of the MENA region to track the inflow and outflow of foreign direct investment and its benefits. This financial institution can reduce research costs by having the right information. It should also show an upward trend in attracting FDI each year and provide a basis for attracting potential foreign investors.
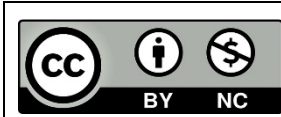
In order to examine the long-run impact of FDI on economic growth in the economies of the Middle East and North Africa, this study tested the impact of FDI in the form of a Cobb-Douglas model. It is suggested that future research examine this model with the addition of the degree of openness of the MENA region's economy and compare the results with the findings of this study. The relationship between the degree of trade openness and economic growth is one of the issues that is still being debated. There is no consensus among economists. The existing disagreements are not limited to the theoretical field, and contradictory results are sometimes found in experimental studies.

It is suggested that the impact of the degree of trade openness on economic growth should be studied in the form of regression analysis or cointegration techniques for the countries in the MENA region and whether the increase of trade in the mentioned countries increases their economic growth or not. In addition, Granger causality should also be used to determine the relationship between the degree of trade openness and economic growth.

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