



DOI 10.2478/ethemes-2023-0023

## IMPACT OF FOREIGN DIRECT INVESTMENT ON ECONOMIC GROWTH: EVIDENCE FROM ARAB REGION

# Hafid Boudiaf

# Ahmed Henniche

University of Algiers 3, Faculty of Economics, Algeria

 $\boxtimes$  hennichea@yahoo.fr

UDC 339.338.1 Review paper	<b>Abstract:</b> Theoretical literature indicates that foreign direct investment can bring about major changes in host economies, especially in developing countries, because of its advantages in financing, transferring modern technology, contributing to the development of human capital, contributing to inventions through research and development activities, contributing to the openness of the host economy on the global markets, and other accompanying advantages, but these advantages cannot be benefited from unless certain conditions are met in the host economy. In this context, this paper sought to investigate the impact of inflow foreign direct investment on economic growth in the Arab countries region between 1990 and 2000, using ARDL bounds testing approach. The results showed that there was a very weak effect of foreign direct investment on economic growth in the long run, but in the short run there was no effect. The reasons for this are mainly due to the lack of appropriate and necessary conditions that attract and incubate foreign direct investments in most Arab countries
Received: 01.04.2023 Accepted: 30.11.2023	<b>Keywords:</b> Arab region; ARDL; Economic growth; FDI; Long and short run; Unit root test. <b>JEL classification:</b> F21, F43, R11.

## 1. Introduction

The global importance of foreign direct investment (FDI) has greatly increased in recent decades, and countries has become competing to attract it, because of its multiple advantages on the economic and social levels for the host countries on the

one hand, and the increase in the profits of investors on the other hand, after the development of political awareness among the governments of developing countries, which were before the nineties of the twentieth century, looked at foreign companies with suspicion, and dealt with them either by completely banning them, restricting the industries in which investment is permitted, restricting the transfer of profits and returning capital to the mother country, or other obstacles that were removed later. In contrast, countries turned to competition in providing facilities and creating a business climate to attract FDI, supported by technological developments, especially in the field of information and communication technology, the development of banking industries, transportation, modern production technologies, etc. All of this has led to a huge increase in the stock of FDI globally to \$43.6 trillion in 2021, after its value was \$7.4 trillion in the world in 2000, and this was a natural result of the increase in annual flows over time to reach more than \$1.6 trillion in 2021 (UNCTAD, 2022).

The Arab countries also tried to keep pace with the developments taking place in the level of FDI, through the transformations and reforms that it initiated to create conditions for polarization, especially with regard to the followed economic system, as the Arab countries turned to the market economy after most of them followed the socialist system, which represents the biggest step allowed the local private sector to own the factors of production that were quasi totally monopolized by the public sector, to allow, in a pro-opening step, for foreign companies to own and operate the factors of production. The efforts of Arab countries resulted in doubling their share of foreign direct investments, as the value of inflow investments reached more than \$54.1 billion in 2021, after it was only \$3.8 billion in 2000, while outflow investments reached \$45.1 billion in 2021 after it was only \$2.3 billion in 2000 (WorldBank, 2023).

The FDI literature, in terms of its relationship to economic growth, showed the existence of multiple advantages and motives for moving towards more openness on foreign investment, which is positive for growth rates (OECD, 2002). Other research also showed the presence of undesirable risks and consequences of inflow FDI, which may negatively affect economic growth rates, accordingly, the economic and social fields (OECD, 2002). In this context, our research investigates the extent of the effectiveness of inflow foreign direct investments in terms of their impact on economic growth rates in Arab countries, especially since some Arab countries went through political, security and economic crises, which had a direct impact on the deterioration of the conditions suitable for attracting FDI.

The structure of the paper is as follows: Section 2 reviews the literature. Section 3 presents methodology and data. Empirical results are discussed in section 4. The last section concludes the study.

#### 2. Literature review

Exogenous growth theory (Solow, 1956; Swan, 1956; Solow, 1957) posits that economic growth is a function of external factors of production such as capital stock and labor. Applied studies often use the Cobb-Douglas production function, which includes the volume of total production explained by labor, capital (domestic or foreign) and the level of technological progress. Thus, it appears that foreign investment contributes to changes in production rates directly through: i) its share in capital inputs necessary in the productive mix; ii) the incoming foreign capital carries with it new foreign technology, which works to increase the productivity of factors of production (Desbordes & Franssen, 2019). In other words, we can say that FDI, according to the exogenous growth theory, affects an increase in the quantity and/or the efficiency of physical Capital, including increasing the effectiveness of investment in general in the host country.

On the other hand, the endogenous growth theory believes that economic growth is enhanced by investing in human capital, innovation, and technology (Romer, 1986; Lucas, 1988; Rebelo, 1991). Their main idea is that these elements contribute to increasing returns on capital in the long run. FDI can contribute to local economic growth through these entrances, in addition to bringing physical capital (De Mello, 1997; Busse & Groizard, 2008), it also brings efficient human capital that increases the efficiency of local human capital through several channels, including training, or through contact of foreign workers with locals. Multinational corporations have research and development centers that can establish branches of them in the host country, and guarantee funding for research activities, in addition to the supply of new technology and skills from the mother country to the host country. all of which contribute to raising productivity, and thus spurring economic growth with the efficiency of production factors, labor and capital, by strengthening the stock of knowledge and innovation efforts.

There are several channels through which FDI can affect the growth rates of the host country's economy, the most important of which are: The transfer of new technology is supposed to be the most important of these channels (Borensztein, De Gregorio, & Lee, 1998; Blomström, Lipsey, & Zejan, 1996), considering its great impact through its direct integration with the inputs of the production process, especially for developing countries, which lack the technological development capabilities, and are unable to pay the costs of purchasing new technologies from developed countries; The transfer of human capital is also important, as it takes place through the recruitment of skilled workers from the origin country of multinational companies, or through their training programs for the workers of the host country (Zhang, 2001a; Abbas & Mosallamy, 2016), it contributes to improving institutional performance through the introduction of new administrative techniques; Foreign investment also affects in terms of creating competitive conditions in the host country (Lee & Tcha, 2004; Sjoholm, 1999a; Driffield,

2000), where local companies resort to improving the efficient use of their resources, and developing their production methods to ensure a reduction in production costs, and this is required for local companies that compete with foreign companies productively, or those that want to be a supplier to foreign companies; Likewise, FDI helps in integrating the host country's economy into the global economy (Mencinger, 2003; Blomström & Kokko, 1998), by marketing the products of multinational companies, because their products meet the quality requirements, supported by great expertise and high-level advertising and promotional power, which qualifies them to trade in global markets, including its home country markets.

On the other hand, the entry of foreign investment may negatively affect the economy of the host country (Saltz, 1992; Dunning, 1994; OECD, 2002), through the aforementioned channels, including: It is possible to enter new technology that is not compatible with the technology prevailing locally, and foreign companies enter it to control local companies technologically, and hinder the development of capitalist industries from them; Likewise, the country's openness to the global economy due to foreign investments may facilitate the transfer of global crises to it easily, and it may also increase imports, to the point of creating a permanent deficit in the trade balance; Local workers who have acquired high skills as a result of their employment with foreign companies can migrate, thus contributing to the phenomenon of brain drain; In turn, the competition resulting from the entry of foreign companies can eliminate weak local companies, resulting in foreign investors monopolizing the markets for the commodities they produce, and it can also cause weakness in local companies by losing their skilled labor, which is transferred to foreign companies due to high wages and availability Good working conditions. Also, local companies may lose part of the internal market in favor of their foreign counterparts, losing their production efficiency accordingly, so the process of replacing local investment with foreign ones takes place.

At the level of empirical studies, researchers and academics have conducted many and varied researches regarding the relationship of FDI with economic growth, in terms of determining the impact and its direction, proving the causation and its direction, as well as in terms of the spatial and temporal fields. We review some of them as follows:

Letao and Rasekhi (2013) studied the link between economic growth and FDI in Portugal, between 1995 and 2008, using the panel data approach, and the results of the study proved that foreign direct investment enhances economic growth in Portugal.

Canchari & al. (2020) used the production function to study the impact of foreign investment in general, and Chinese foreign investment on economic growth, in the short and long term in Peru, between 2001 and 2008. They used the vector autoregressive model and related tests. The results showed that there is a positive impact of both foreign direct investments in general, as well as incoming

from China, on Peruvian economic growth, in the long and short term. The study also proved the existence of causation in both directions between economic growth and investment of both types.

Kotrajaras (2010), studied the impact of FDI on the economic growth of 15 East Asian countries, between 1990 and 2009, where he classified countries into groups according to their economic conditions, in terms of the level of human capital, the provision of infrastructure, and the degree of trade openness. Cointegration analysis was used on an endogenous growth model. The results showed that foreign direct investment positively affects economic growth only in countries with appropriate economic conditions, while it negatively affects other countries.

Ramzan & al. (2019), studied the impact of FDI on economic growth from the perspective of the host country's conditions in terms of human capital. Their study included 70 developing economies between 1980 and 2015, and they used the GMM method for model estimation. The results showed that there is a threshold for the level of human capital in the host country, above which the impact of foreign direct investment is positive on economic growth, and below the threshold, the impact is negative.

Mamingi and Martin (2018), studied the relationship between FDI and economic growth in the Organization of Eastern Caribbean States. The study included data from a panel of 34 countries between 1988 and 2013, using the GMM method for estimation. The results of the study showed that foreign direct investment has an indirect positive impact on growth, but it is weak. They also found that there is a strong and positive interaction between infrastructure development and FDI in promoting growth. On the other hand, the results showed that foreign direct investment crowds out local investment.

Susilo (2019), investigated the impact of FDI on economic growth in the United States between 2000 and 2017, using a multiple linear regression model. The model was estimated by including ten major sectors resulting from an aggregate classification of all sectors of the American economy. The results showed that foreign direct investment in some sectors had a positive impact on economic growth, while investment in other sectors had a negative impact.

Trang and al. (2019), they tested the effect of FDI on economic growth in the long and short term, on middle-lower income country data, between the years 2000 and 2014, They used the Fully Modified OLS (FMOLS) method for estimation. The results showed that foreign direct investment enhances economic growth in the long term, but negatively affects it in the short term.

Sokhanvar (2019), wondered whether FDI could accelerate the growth of tourism and economic growth within Europe. He conducted his study on seven European Union countries. He used the analysis of shock response functions, and found that foreign direct investment had a negative impact on economic growth in 5 out of 7 countries, and it does not surprisingly stimulate tourism in any of the sample countries.

## 3. Methodology

#### 3.1. Data

The source of our data is the world development indicators (WDI). Our study sampled 18 Arab countries over a period of thirty years (1990–2020). Using annual panel data, the variables were selected for each of the 18 countries to form part of the sample and to examine the impact of FDI on economic growth. The variables were as follows: the GDP per capita as a proxy of economic growth (GDPC), the foreign direct investment per capita (FDIC), the capital labor ratio (KLR), and Trade openness index (OSS), which is the sum of exports and imports as a percentage of GDP. The annual data were extracted for the following Arab countries: Algeria, Bahrain, Comoros, Egypt, Iraq, Jordan, Kuwait, Libya, Lebanon, Mauritania, Morocco, Oman, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, and United Arab Emirates.

	Tuble II e	me i oot test ut ie vei	
Variables	Intercept and trend	Intercept	None
		Levin, Lin, and Chu	
GDPC	4.52411	-1.88384**	1.42081
FDIC	0.84503	-0.79019	3.19089
KLR	-1.53032*	-1.48480*	-0.33358
OSS	-5.41608***	-3.23618***	-2.43383***
		Im, Pesaran and Shin	
GDPC	2.98865	-0.90584	/
FDIC	-3.33254***	-0.56965	/
KLR	-1.70986**	-1.45782*	/
OSS	-1.45722*	-2.73389***	/
		ADF—Fisher Chi-square	
GDPC	41.6912	38.8062	21.2125
FDIC	77.9404***	66.6174***	62.9886***
KLR	65.5297***	54.3070**	35.2122
OSS	160.220***	63.8092***	40.4715
		PP—Fisher Chi-square	
GDPC	34.1204	39.4046	17.1773
FDIC	137.250***	65.0970***	54.7119**
KLR	44.1219	56.6277**	40.1919
OSS	31.5770	56.4862**	28.7123

 Table 1: Unit root test at level

\*\*\* Significant at 1%, \*\* significant at 5%, \*significant at 10%

Source: Authors' compilation from EViews outputs.

The summary of unit root test at level in Table 1 describes the four main unit root tests (LLC, IPS, ADF–Fisher chi-square, and PP–Fisher chi-square) with three distinctive deterministic option terms: intercept, intercept and trend, and none.

The summary shows that some variables are stationary according to some tests and non stationary according to other tests, such as FDIC, KLR and OSS, while the variable of GDPC is not stationary according to all tests, this call for a re-test of the unit root of the first differences for all variables. The results are summarized in Table 2.

Variable	s Intercept and tre	nd Intercept	None
		Levin, Lin, and Chu	
GDPC	-4.30907***	-6.76650***	-12.9771***
FDIC	-11.1635***	-13.8954***	-10.6002***
KLR	-10.1504***	-12.1262***	-17.3093***
OSS	-5.95391***	-9.04248***	-16.5617***
		Im, Pesaran and Shin	
GDPC	-8.78194***	-10.9922***	/
FDIC	-15.3758***	-18.0891***	/
KLR	-12.5970***	-14.0654***	/
OSS	-9.94360***	-11.1658***	/
		ADF—Fisher Chi-squar	·e
GDPC	172.668***	205.429***	281.504***
FDIC	624.912***	239.656***	624.586***
KLR	205.435***	247.467***	350.407***
OSS	169.830***	212.128***	312.932***
		PP—Fisher Chi-square	)
GDPC	244.381***	244.046***	368.142***
FDI	469.714***	224.775***	469.826***
KLR	945.141***	333.269***	702.443***
OSS	380.012***	323.135***	441.631***
	www.gc 10/		· C · · · 100/

#### Table 2: Unit root test of the first differences

\*\*\* Significant at 1%, \*\* significant at 5%, \*significant at 10%

Source: Authors' compilation from EViews outputs.

The summary shows that all the variables are of first-order integration, thus, they are stationary at first difference according to all tests.

#### 3.2. Empirical Methods

This work will seek to test the relationship between FDI and economic growth in Arab countries, by applying the autoregressive distributed lags (ARDL) approach suggested by Pesaran & al. (2001), which used in many studies, it aims to study the relationship between variables, due to its ease of application, and what distinguishes this methodology is that it does not require that all variables be stationary of the same order, as it can be adopted if the variables are: all stationary at level, or all stationary at the first difference, or some of them are stationary in the level and others are stationary in the first difference.

This methodology can also be used in the case of short time series, as well as the possibility of obtaining estimates of the short and long term at the same time, but this methodology requires that there are no variables under study integrated of order two. The cointegration decision depends on the bounds test that measures the absence of a cointegration relationship with the null hypothesis against the existence of a cointegration relationship with the alternative hypothesis. The decision is made by comparing the calculated F statistic with the upper or lower bounds of the tabular critical values of Pesaran & al. (2001).

If the bounds test reveals the existence of a cointegration relationship, long-run coefficients are estimated and the error correction model that includes short-run coefficients and adjustment speed coefficient is estimated. The lag length is selected using a statistical criterion such as AIC or SC. The autoregressive distributed lag model is denoted as follows: ARDL (p, q1, q2 ...), where p refers to the lag length of the dependent variable, and q1, q2 ... denote the lag lengths of the independent variables. The ARDL model is written in the following form:

$$Y_{it} = \sum_{j=1}^{p} \delta_{ij} Y_{i,t-j} + \sum_{j=0}^{q} \beta_{ij} X_{i,t-j} + \mu_i + \varepsilon_{it}$$
(1)

 $Y_{it}$ : is the dependent variable,

 $X_{i,t-i}$ : is the vector of the independent variables for group i,

J: is the studied country

 $\mu_i$ : is the country-specific fixed effect

p and q: are the lag lengths.

The ARDL model to this study is represented as follows:

$$GDPC_{it} = \phi_i (GDPC_{i,t-1} - \gamma_{1i}FDIC_{i,t} - \gamma_{2i}KLR_{i,t} - \gamma_{3i}OSS_{i,t}) + \sum_{j=1}^{p-1} \delta_{ij} \Delta GDPC_{i,t-j} + \sum_{j=0}^{q-1} \beta_{1i} \Delta FDIC_{i,t-j} + \sum_{j=0}^{q-1} \beta_{2i} \Delta KLR_{i,t-j} + \sum_{j=0}^{q-1} \beta_{3i} \Delta OSS_{i,t-j} + \mu_i + \varepsilon_{it}$$
(2)

GDPC: is the GDP per capita

FDIC: is the foreign direct investment per capita

KLR: is the capital labor ratio

OSS: is the trade openness index

 $\gamma$ : are the long-run coefficients of the independent variable

 $\delta$  and  $\beta$ : are the short-run coefficients

 $\varepsilon_{it}$  : is the error term

Ø: is the speed of adjustment to the long-run equilibrium

i and t : are the country and period, respectively.

## 4. Results and discussions

We investigated the impact of FDI on economic growth using a dynamic panel data model. The Akaike information criterion (AIC) was used for optimal lag selection as it had the lowest value; the selected model is ARDL (2, 2, 2). Cointegration is determined from the statistical significance of the error correction term in this model. Table 2 presents the results of the estimation of the ARDL model; it shows the relationship between economic growth as the dependent variable and foreign direct investment (FDIC), capital-labor ratio (KLR), and trade openness (OSS) as independent variables in the short and long run for the Arab countries region.

It is clear from the table 3 that the error correction coefficient (ECT) is negative and statistically significant, and this confirms the existence of a long-term relationship between the variables under study. This coefficient refers to the relationship between the long term and the short term, as it aims to adjust the relationship in the short term so that it remains balanced in the long term. The adjustment speed was -0.359, this means that an adjustment of 35.9% occurs each year, in order to return to equilibrium, what makes the period required to return to equilibrium take 2.78 years, which is the time for changes in independent variables FDIC, KLR and OSS to have a full effect on the dependent variable GDPC in the long run.

It appears from the long run equation that the coefficient of FDIC is statistically significant, with a value of 8.70E-05, it also matches expectations economically, and thus implying that there exists a positive long run impact of FDI on economic growth in Arab region, but this relationship is weak according to the low value of the coefficient. Also, the trade openness variable was statistically significant, and its impact on economic growth was positive and strong with a coefficient of 14.27. While the capital-labor ratio variable was statistically not significant, therefore, it cannot be concluded that capital-labor ratio causes economic growth in the long run.

Variables	$\Delta \text{ GDPC}$	Prob.
	LONG-RUN	
$\Delta$ FDIC	8.70E-05***	0.0022
	(3.07)	
$\Delta$ KLR	0.016149	0.1986
	(1.28)	
$\Delta  \mathrm{OSS}$	14.27616***	0.0000
	(5.53)	
ECT(-1)	-0.359284***	0.0000
	(-4.53)	
	SHORT-RUN	
$\Delta$ GDPC(-1)	$-0.227420^{***}$	0.0025
	(-3.04)	
$\Delta$ FDIC	0.039820	0.2072
	(1.26)	
$\Delta$ FDIC(-1)	0.024366	0.1450
	(1.46)	
$\Delta$ KLR	30.86795***	0.0000
	(4.95)	
$\Delta$ KLR(-1)	17.50969**	0.0200
	(2.33)	
$\Delta OSS$	49.48450***	0.0042
	(2.87)	
$\Delta OSS(-1)$	23.89059**	0.0416
× /	(2.04)	
CONST	-43.88381	0.1338
	(-1.50)	

Table 3: ARDL and ECM results

\*\*p < 0.05; \*\*\*p < 0.01 denote the levels of significance.  $\Delta$  is the difference operator, tstatistics in parentheses.

Source: Authors' compilation from EViews outputs.

The results about the short-run relationship in Table 3 specify that the gross domestic product per capita with one lag is statistically significant, but it has a negative impact on the GDPC, which is contrary to expectations. Also, the FDI has no effect on economic growth in the short run, because its coefficient is not statistically significant. However, the capital labor ratio variables were statistically significant in the level and with one lag; their coefficients were 30.86 and 17.50

respectively, these high positive values indicate the big impact of capital-labor ratio on economic growth in the short run. Finally, the trade openness variable is also statistically significant, and has a positive and strong effect on economic growth, which is evident through its coefficients with the values of 49.48 and 23.89 in the level and with one lag respectively.

The results showed an imbalance in the expected impact of foreign investment on economic growth in the Arab region. In the long term, we noticed a very weak effect, but in the short term, the effect was completely denied by statistical tests. This is mainly due to:

i) The heterogeneity of Arab countries in the income list according to the classification of the World Bank, as they are distributed over all classification levels, some of them belong to the group of high-income countries, represented in the Gulf Cooperation Council countries, and some of them belong to the group of low-income countries such as Syria and Yemen, and Most of the rest belong to the group classified as lower middle income (WorldBank, 2023), note that the high-income countries are the oil ones, they are the ones that have the ability to exploit oil revenues to create the appropriate conditions to attract inflow investment, and they also have large financial surpluses that can be invested abroad, so they are the only of FDI in both incoming and outgoing directions in the region, unlike the other Arab countries, does not have these advantages.

ii) Many countries in the Arab region suffer from poor conditions for attracting FDI, which theoretical and applied literature stipulated that they must be available (OECD, 2002), such as efficient human capital, infrastructure, advanced banking systems, advanced information and communication networks, adequate legal systems, governance, and other economic conditions necessary for the localization of multinational companies.

iii) Most of the incoming investments are active in the field of hydrocarbons (IMF, 2016, p. 8), and therefore foreign investors use technology specific to this sector in particular, so the expected impact of FDI in transferring technology, enhancing human capital, creating competitive incentives for local companies, and the access of local companies to global markets, is not possible. It does not affect raising economic growth rates, and it is not possible through this type of foreign investments to diversify the production and service base in the Arab countries.

iv) Unstable political and security conditions over decades in many countries of the region have a great negative impact on attracting FDI, and even on benefiting from the possible advantages associated with it, and also leads to wasting money in channels other than those that serve to create an appropriate incubator for foreign companies.

Despite these obstacles in the face of FDI, the Arab countries region is considered one of the unsaturated areas of foreign investment, and we especially mention two very important sectors, at the local level and at the international level, if the minimum conditions for polarization are met, especially with regard to political and security stability, in addition to the availability of the political will that provides adequate facilities for foreign investors, these two sectors can be developed and relied upon to promote economic growth in the region:

The first is the tourism sector, as the Arab region contains very large tourism potentials, and it contains all types of tourism, whether in terms of archaeological, cultural, historical, medical, religious, mountainous nature, desert nature, flats and watercourses (oceans, seas, rivers, lakes. ..), and other tourist attractions, which are neglected and untapped ingredients, and the simple exploited part of them also suffers from major shortcomings in terms of preparation and development, which makes this sector a fertile field for foreign investments.

The second is the renewable energies sector, especially solar energy, as the Arab countries contain vast desert areas that are among the largest and best receivers of solar radiation in the world, but they cannot exploit these sources due to their lack of the necessary technology and financing, which can only be obtained through the inflow FDI.

We conclude that the Arab countries region remains a fertile and urgent field for foreign investments, especially in tourism as a commodity with a high global demand, FDI is reinforced by relatively low costs in the Arab region compared to tourism in developed countries, as well as renewable energies, which are part of the possible solutions to overcome environmental problems globally, including pollution resulting from fossil energies, and the resulting global warming, climate change and other serious negative effects. Foreign investments in these two sectors are beneficial to the region in enhancing economic growth rates and improving social conditions, it is also beneficial to the global community in terms of obtaining tourist places with various characteristics and relatively low costs, as well as obtaining clean energy that contributes to reducing the spread of diseases and various natural disasters.

## 5. Conclusion

In the theoretical and applied literature on the relationship between economic growth and FDI, we find controversy in terms of impact and causation in developing countries. There are those who believe that FDI is important and inevitable to enhance economic growth, and some believe that it involves risks and negatives that may worsen the economic situation of the host countries. With the increasing interest in the subject by researchers, experts and the various international bodies concerned, they have settled that the relationship between FDI and growth is beneficial if certain conditions are met, without it, foreign investment will be ineffective to the host countries. From this standpoint and application to the case of the Arab countries region, our study examined the impact of inflow FDI on economic growth represented by per capita GDP between 1990 and 2020; we used the ARDL bounds testing approach, in order to verify the relationship in the short and long run. We added the capital- labor ratio and trade openness as control variables.

The empirical results showed that there is a cointegration relationship between the variables of the study in the long term, in which the shock requires 2.78 years of changes in the independent variables in order to return to the equilibrium position, with an annual adjustment rate of 35.9%. FDI had a positive impact on growth in the long run, but it is very weak. The capital-labor ratio also had no effect on economic growth in the long run; while the impact of trade openness was positive and strong, with a coefficient of 14.27.

In the short term, per capita GDP with one lag was statistically acceptable, but it negatively affects growth rates, which is contrary to expectations. Also, we could not prove the existence of an effect of FDI on economic growth, although the economic significance of the FDI coefficient was achieved, but it was not statistically significant. The variable capital-labor ratio had statistically and economically acceptable coefficients, and had a strong and significant impact on growth rates, whether at the level or with one lag, with coefficients of 30.86 and 17.5, respectively. Likewise, the trade openness variable had a positive and strong impact on growth, with coefficients of 49.48 and 23.89, at the level and with one lag, respectively.

The results of the study showed that FDI cannot be adopted as a determinant of economic growth in the Arab countries region, and the reason for this is due to the lack of the necessary conditions for receiving foreign investments and benefiting from the advantages associated with FDI, because most of the foreign investments received are related to the field of hydrocarbons and are active in the oil-producing countries. The rest of the economy cannot benefit from technological transfer, no training for human capital, no competitiveness that stimulates local companies, no opening of the host economy to global markets, and no other benefits. Also, many countries in the Arab region suffer from poor conditions for attracting FDI, such as efficient human capital, infrastructure, advanced banking systems, governance, and other economic conditions necessary for the localization of multinational companies. The unstable political and security situation for a long time in many Arab countries also negatively affected attracting foreign investments.

Our study recommends that decision makers in the Arab countries provide the minimum conditions for attracting FDI, especially with regard to political and security stability, and direct these investments towards at least two important sectors, which are the tourism sector and the renewable energy sector, because of the sources and comparative advantages it contains in these two sectors. Through them, they will enhance economic growth rates and improve social conditions in the region.

#### References

- Abbas, S., & Mosallamy, D. E. (2016). Determinants of FDI flows to developing countries: An empirical study on the MENA region. *Journal of Finance and Economics*, 4(1, 30-38.
- Blomström, M., & Kokko, A. (1998). Multinational corporations and spillovers. Journal of Economic Surveys, 12 (3), 247-277.
- Blomström, M., Lipsey, R. E., & Zejan, M. (1996). Is Fixed Investment the Key to Economic Growth? *Quarterly Journal of Economics*, 111, 269-276.
- Borensztein, E., De Gregorio, J., & Lee, J. W. (1998). How Does Foreign Direct Investment Affect Economic Growth? *Journal of International Economics* 45, 115-135.
- Busse, M., & Groizard, J. (2008). FDI, regulations and growth. *The World Economy 31(7)*, 861-886.
- Canchari, N. U., Mejía, M. O., & Deng, X. (2020). The Impact of Chinese Foreign Direct Investment on Economic Growth of Peru: a Short and Long Run Analysis. *Latin American Journal of Trade Policy*, 6, 32-47.
- De Mello, L. R. (1997). Foreign Direct Investment in Developing Countries and Growth: A Selective Survey. *Journal of Development Studies*, 34, 1-34.
- Desbordes, R., & Franssen, L. (2019). Foreign Direct Investment and Productivity: A Cross-Country, Multisector Analysis. *Asian Development Review*, *36* (1), 54-79.
- Driffield, N. (2000). The impact on domestic productivity of inward investment into the UK. *Manchester School*, 69 (1), 103-119.
- Dunning, J. (1994). Re-evaluating the benefits of foreign direct investment. *Transnational Corporations*, *3*(*1*), 23-51.
- IMF. (2016). Investment and Growth in the Arab World a Scoping Note, Prepared to the Annual Meeting of Arab Finance Ministers. Manama, Bahrain: https://www.imf.org/external/np/pp/eng/2016/050216.pdf.
- Kotrajaras, P. (2010). Foreign Direct Investment and Economic Growth: A Comparative Study among East Asian Countries. *Applied Economics Journal 17* (2), 12-26.
- Lee, M., & Tcha, M. (2004). The color of money: the effects of foreign direct investment on economic growth in transition economies. *Review of World Economies*, 140 (2), 211-229.
- Lettao, N. C., & Rasekhi, S. (2013). The Impact of Foreign Direct Investment on Economic Growth: the Portuguese Experience. *Theoritical and Applied Economics*, 20 (1), 51-62.
- Lucas, R. E. (1988). On the Mechanics of Economic Development. *Journal of Monetary Economics*, 22, 3-42. https://doi.org/10.1016/0304-3932(88)90168-7.
- Mamingi, N., & Martin, K. (2018). FDI and Growth in Developing Countries: Evidence from the Countries of the Organisation of Eastern Caribbean States. *CEPAL Review*, 124, 79-98.
- Mencinger, J. (2003). Does foreign direct investment always enhance economic growth? *Kyklos*, 56 (4), 491-508.
- OECD. (2002). Foreign direct investment for development: Maximising benefits, minimizing costs. Paris: OECD publishing.
- Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of applied econometrics*, *16*(*3*), 289-326.

- Ramzan, M., Sheng, B., Sumbul, F., & Jiao, Z. (2019). Impact of FDI on Economic Growth in Developing Countries: Role of Human Capital. *Seoul Journal of Economics*, 32 (3), 337-360.
- Rebelo, S. (1991). Long Run Policy Analysis and Long Run Growth. *Journal of Political Economy*, 99, 500-521.
- Romer, P. M. (1986). Increasing Returns and Long-Run Growth. Journal of Political Economy The University of Chicago Press 94 (5), 1002-1037. https://doi.org/10.1086/261420.
- Saltz, I. (1992). The Negative Correlation between Foreign Direct Investment and Economic Growth in the Third World: Theory and Evidence. *Rivista Internazionale* di Scienze Economiche e Commerciali, 39, 617-633.
- Sjoholm, F. (1999a). Productivity Growth in Indonesia: The Role of Regional Characteristics and Direct Foreign Investment. *Economic Development and Cultural Change*, 47 (3), 559-584.
- Sokhanvar, A. (2019). Does foreign direct investment accelerate tourism and economic growth within Europe? *Tourism Management Perspectives*, 29, 86-96. https://doi.org/10.1016/j.tmp.2018.10.005.
- Solow, R. M. (1956). A Contribution to the Theory of Economic Growth. *Quarterly Journal of Economies*, 70, 65-94.
- Solow, R. M. (1957). Technical Change and the Aggregate Production Function. *Review of Economies and Statistics*, 30, 312-320.
- Susilo, D. (2019). The Impact of Foreign Direct Investment on Economic Growth (a Causal Study in the United States). *Jurnal Pendidikan Bisnis dan Ekonomi*, 4 (1), 50-63.
- Swan, T. W. (1956). Economic Growth and Capital Accumulation. *Economic Record*, 32, 334-361.
- Trang, T. D., Duc, H., Anh, T., & Thang, C. N. (2019). Foreign Direct Investment and Economic Growth in the Short Run and Long Run: Empirical Evidence from Developing Countries. *Journal of Risk and Financial Management*, 12 (176), https://doi.org/10.3390/jrfm12040176.
- UNCTAD. (2022). World Investment Report: International Tax Reforms and Sustainable Investment. New York: United Nations.
- WorldBank. (2023). world bank data. Retrieved Murch 4, 2023, from world bank: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bankcountry-and-lending-groups
- WorldBank. (2023). *world bank wdi databank*. Retrieved murch 2, 2023, from World Bank: https://databank.worldbank.org/source/world-development-indicators
- Zhang, K. (2001a). Does foreign direct investment promote economic growth? Evidence from East Asia and Latin America. *Contemporary Economic Policy*, 19 (2), 175-185.

## UTICAJ DIREKTNIH STRANIH INVESTICIJA NA EKONOMSKI RAST: DOKAZI IZ ARAPSKOG REGIONA

**Apstrakt:** Teorijska literatura ukazuje na to da direktna strana ulaganja mogu doneti velike promene u privredi domaćina, posebno u zemljama u razvoju, zbog svojih prednosti u finansiranju, transferu savremene tehnologije, doprinosu razvoju ljudskog kapitala, doprinosu pronalascima kroz istraživačko-razvojne aktivnosti. doprinosu otvorenosti privrede zemlje domaćina na globalnim tržištima i druge prateće prednosti, ali se od ovih prednosti ne može okoristiti osim ako se ne ispune određeni uslovi u privredi zemlje domaćina. U tom kontekstu, ovaj rad je nastojao da istraži uticaj priliva stranih direktnih investicija na ekonomski rast u regionu arapskih zemalja između 1990. i 2000. godine, koristeći pristup testiranja granica ARDL. Rezultati su pokazali da postoji veoma slab efekat stranih direktnih investicija na privredni rast na dugi rok, ali na kratak rok nije bilo efekta. Razlozi za to su uglavnom u nedostatku odgovarajućih i neophodnih uslova koji privlače i inkubiraju strane direktne investicije u većini arapskih zemalja.

**Ključne reči:** arapski region; ARDL; ekonomski rast; SDI; dugi i kratki rok; jedinični test korena.

#### Authors' biographies

**Hafid Boudiaf,** professor of economics and applied statistics at the University of Algiers3, department of economic sciences, holder of Ph.D. in 2015, from the Higher National School of Statistics and Applied Economics in Algeria; Then he obtained the university qualification certificate in 2017 from the University of Algiers 3, Algeria, where he works as an associate professor, and active in teaching several modules, including microeconomics, macroeconomics, development economics, statistics, and probability. He has several publications in various journals, and participated in several forums in his field of research. His research interests are: economic growth and development and their determinants, such as human capital, trade openness, FDI, energy... He did much short-term internships in many international universities, such as UCL and LSE in London, and Paris Dauphine in France. He is currently preparing the file for promotion to the degree of Professor of Higher Education.

Henniche Ahmed, professor of money and finance at the University of Algiers 3, department of economic sciences, holder of Ph.D. in 2016, then he obtained the university qualification certificate in 2017 from the University of Algiers 3, Algeria, where he works as an associate professor, and active in teaching several modules. including: public finance, financing economic development. international development, international financial accounting standards. He has several publications in various journals, in addition to participating in several forums in his field of research. His research interests are related to development financing, analysis of international development policies, local collection, monetary policies, international economic relations... He did several short-term internships in many international Universities, such as Cairo University in Egypt, Istanbul University in Turkey, and Mohammed-V University in Morocco.