International Journal of ICT Research in Africa and the Middle East
Volume 8 • Issue 1 • January-June 2019

An Analysis of The Relation Between Foreign Direct Investment and Sociopolitical Variables in MENA Countries by Panel Regression

Betül Gür, Istanbul Commerce University, Istanbul, Turkey

ABSTRACT

Foreign direct investment (FDI) plays the role of an accelerator for the economic growth in host countries. Countries that provide the suitable environment economically and politically get ahead in this race. Over the last five years, the weighted importance of sociopolitical variables in the decision-making process has increased. The countries of the Middle East and North Africa (MENA) region, although they have a potential to develop, are regarded as country groups that have not yet fully achieved this. This article reveals and interprets the relationship between FDI and sociopolitical variables such as political risk, human development index, terrorism risk index, multidimensional poverty index, the rule of law, regulatory quality, and control of corruption, utilizing panel regression analysis. In the analysis of the MENA countries covering the years 2010-2016, it was concluded that all independent variables except the human development index and multidimensional poverty index were statistically significant and effective on FDI.

KEYWORDS

Foreign Direct Investment, MENA Countries, Panel Regression Analysis, Sociopolitical Variables

DOI: 10.4018/IJICTRAME.2019010102

Copyright © 2019, IGI Global. Copying or distributing in print or electronic forms without written permission of IGI Global is prohibited.

INTRODUCTION

Foreign direct investment (FDI) is an essential economic activity that provides efficiency in resource utilization on the international platform. FDI, which has become one of the most important transnational activities in conjunction with globalization, increases the competitive power of the investing country in the international markets. In the host country that attracts investment, it enables the increase in production, exports, and employment, the growth of the qualified workforce, the spread of innovative management and marketing methods, besides economic growth and technological development. Therefore, those countries that import capital usually prefer types of foreign direct investment. FDI establishes a long-lasting relationship with the country invested. Hence, it is out of the question for such foreign investments to abandon host countries in short terms and suddenly. Host countries have to provide legal guarantees to foreign investors to be able to attract such investments. Governments try to attract long-term foreign direct investment to their countries, on the one hand, by the incentives they offer and on the other, by providing a favorable political and economic environment (Edwin & Lai, 2001).

Foreign direct investment, which has become one of the most significant cross-border activities with the emergence of globalization trend, especially after World War II, has gained wide popularity with regards to enabling efficient distribution of the limited resources worldwide. Foreign direct investments actualized between developed countries that had been exporting capital until the 1980s also started turning towards developing countries, through various incentive measures evolved after the debt crises encountered (Sezgin & Özkan, 2015).

Foreign investors pay utmost attention to the issue that the country they will invest in has economic, social, and political stability. Foreign capital enterprises state that political situation of a state usually influences their investment decisions. In many cases, companies avoid investing or reinvesting in countries having an unstable political environment (Sabade, 2014). Since political stability is an element which also assures economic stabilization, it affects foreign capital investments as well. Foreign capital first looks for safety and trust, and these factors affect not only the sales revenue and profits of the multinational investor company but also its current and future presence in the international markets and especially in the countries entered. In addition to these factors, bureaucratic obstacles, lack of coordination, confusion in the authorization, speculative news, double taxation problem, disruptions in legislation, the immaturity of the capital market, the alternative attractiveness of regional countries, inadequacies in foreign exchange legislation, and difficulties in profit transfer can be listed; however, these are not the main reasons. Technical details are not important for the foreign capital to come in. Stability, assurance, and rapprochements in the matters of economic, political, psychological and moral values increase the attractiveness of a country to foreign investors (Teli, 2014).

Institutional factors and sociopolitical elements that countries have are indicators of economic development. When deciding on the FDI, concepts such as the legal system, government effectiveness & bureaucracy, fight against corruption, political stability, regional international trade agreements, and privatization are always taken into consideration as general topics. From this fact, the objective of the study is to determine the effects of sociopolitical factors on FDI and to define the relations. In the analysis of the MENA countries covering the years 2010-2016, the effects of political risk, human development index, terrorism risk index, multidimensional poverty index, the rule of law, regulatory quality and control of corruption variables on FDI were examined and interpreted, using panel regression analysis.

BACKGROUND

The companies which aim to maximize profits with their overseas operations by making the right investment decisions are justifiably selective about the country to be invested. The host countries, which try to attract these investments for the development of their countries, are in a race to present the qualifications they possess in the most convenient way for investment, with the purpose of offering attractive conditions. Especially developing countries may have some geographical and social features that they cannot change or cannot quit, besides the factors they can intervene. It is possible to mention many factors that affect FDI flows economically, socially, and politically. Although experimental studies have been carried out regarding many of these factors, only some literature studies have been made over some of them (Shatz & Venables, 2000).

In the Nunnenkamp (2002) study, the factors that stand out together with globalization are named as "non-traditional factors". Elements about the host country, such as administrative bottlenecks, market barriers and risk factors, the average duration of education, the legal system, government effectiveness and bureaucracy, fight against corruption, political stability, quality of life and liberal-democratic environment, were addressed as the baseline. The OECD (2015) Progress Report made a classification, as seen in Table 1, to address these issues.

The main purpose is profitability and profit transfer; however, the economic, political, psychological, legal, and moral values that foreign capital pays attention to when investing, and which has been gaining weighted importance especially in the last decade, are considered as the factors which determine profit - the main goal- and the guarantee of current and future presence of the foreign capital:

1. **Legal System:** The legal system, which plays a crucial role in determining FDI, includes the law, legal rules, regulations, and institutions and judicial system that enforce laws. A well-functioning independent legal system shows the rule of law principle and that everyone is equal before the law. With a well-functioning legal system, uncertainties in the country disappear and protection of property rights, which is an essential issue of FDI, is ensured (Pournarakis & Varsakelis, 2004).
2. **Government Effectiveness and Bureaucracy:** The effectiveness of the government is measured by the functioning of the bureaucracy and the adopted policies being long-term and stable. It is easy and fast for investors to enter the market in a proper functioning of bureaucracy. Besides, the policies intended for long-term indicates that a reliable and stable investment environment forms. The effectiveness of the government includes the quality of the conditions in which the public service is offered, soundness of the bureaucratic structure, the civil servants being competent persons, the public services being free from political repression, the consistency of government policies, and the reliability of the government in fulfilling its promises (Kaufman et al., 2005).
3. **Fight Against Corruption:** Corruption, by its most general definition, is the misuse of the power of public office to derive personal gain. There are three conditions necessary for corruption to arise. These are as follows: the relevant public official must possess the discretionary authority to design or administer regulations and policies; secondly, the public official must extract or create rents for himself or a relative using the discretionary power; and thirdly, the public official must be weak enough to be exploited by allowing their discretionary authority to be misused (Aidt, 2003). Corruptions also negatively affect FDI inflows, by posing an obstacle in front of the economic growth. For investors, this situation increases the transaction costs. In addition to this, considering the fact that the political climate in a country is an essential factor for investors, states should implement more transparent policies and develop an anti-corruption strategy (Aydoğuş et al., 2005).
4. **Political Stability:** The FDI decision is, to a large extent, influenced by entrepreneurs' expectations of future revenues and environment of trust. Naturally, when such a decision is made, first of all,

Table 1. Determinants of foreign direct investment

Economic Conditions	• Markets	Size; income levels; urbanization; stability and growth prospects; Access to regional markets; distribution and demand patterns.
	• Resources	Natural resources; location.
	• Competitiveness	Labor availability, cost, skills, trainability; managerial and technical skills; access to inputs; physical infrastructure; supplier base; technology support.
Host Country Policies	• Macro Policies	Management of crucial macro variables; ease of remittance; access to foreign exchange.
	• Private Sector	Promotion of private ownership; clear and stable policies; easy entry/exit policies; efficient financial markets; other support.
	• Trade and Industry	Trade strategy; access and integration to regional markets; ownership controls; competition policies; support for SMEs.
	• FDI Policies	Ease of entry; ownership, incentives; access to inputs; transparent and stable policies.
Corporate Strategies	• Risk Perception	Perceptions of country risk, political factors, macro management, labor markets, policy stability.
	• Location, Sourcing and Market Entry	Company strategies on location, sourcing of inputs and products, integration of affiliates, strategic alliances, training, technology.

Source: http://www.oecd.org./dataoecd/1922648.pdf (Date of access: 17.10.2017)

an assessment must be performed regarding the political future of the host country. In general, with the term "political stability", it is understood that the country is within the constitutional order, the radical groups tending to change the constitutional order are not strong especially on action basis and that the reforms are carried out by protecting the constitutional structure (Eren & Bildirici, 2001). Political instability negatively affects foreign investors' decisions for investment place and investment amount. Potential entrepreneurs avoid investing in the countries with social unrest where armed conflicts take place, or there are conflict threats, or they give up their planned FDI investment decisions. Briefly, potential entrepreneur prefers to operate in a more predictable and stable political environment to minimize the risks to incur a capital loss and experience low rates of return (Bollen & Jones, 1982).

5. **Education Level:** The level of education of a country reflects the quality of the labor power it has. It is among the determinants of horizontal FDI flows (technology-intensive manufacturing industries and production of sophisticated services). For this reason, the educated workforce makes the country more attractive for investments (Brada et al., 2004).
6. **Technological Competitiveness:** The research and development skills of a country and the attainability of skilled labor force highly contribute to the competitive advantage of the country for foreign direct investments. A country's high R&D expenditure manifests that country's efforts in technological research which has an enormous influence on FDI. The countries with technological competence can attract more investment than the countries that do not have this qualification (Parkin 2014).
7. **Quality of Life:** As the quality of life measures; literacy rate, the ratio of telephone, radio and car owners to total population, happiness index, human development index, human development index, and gender inequality index are taken into consideration. The degree of urbanization in a country is simultaneously related to its industrial capacity and the living standards of the population. Both of these are important factors for foreign investors (Chakrabarti, 2001).
8. **Geocultural Distance:** The geographical proximity between the investing country and the country in which the investment is made (i.e., the host country) has a significant positive effect on FDI

flows by reducing transport costs. Likewise, the cultural affinity between the countries that are partners of the investment project (e.g., French investments in Algeria, German investments in the Czech Republic) facilitates the commercial transactions and reduces the degree of the uncertainty. In parallel, FDI flows gain momentum (Braunstein, 2000).

9. **Moral Values:** The social structure, traditional characteristics, ethical values of a country are supposed not to influence the FDI flow. Some companies stated that their ethical and moral thoughts should not interfere with their investment decisions and these don't govern their commercial thoughts. However, it should be expected that foreign investors would prefer to work in an environment where they would not feel alienated. In a country where they know its people, familiar with its culture, know their habits and reactions, investment, production, and sales are easier and more favorable (Harms & Ursprung, 2001).
10. **Terrorism:** Terrorism is defined as conducting acts of intentional violence by imposing pressure on the groups that have importance for the society in an attempt to be able to obtain personal, social, economic and political gains, and thus, direct action-based warning of the target group. Terrorism-based economic costs, which manifest themselves in the light of the stated goals, might arise from four sources. The first of these is the decrease in tourism activities and accordingly in tourism revenues due to the risk that may be encountered in a country where terrorist actions are intensively experienced. The second is the decrease of the capital stock that the country can obtain in future periods due to the decline in the foreign-market-based investment capacity in the case that terrorist activities target FDI and portfolio investments. The third is the destruction of the infrastructure system, which leads to economic disruption. The fourth and final one is that the resources used to stop terrorist activities and capture terrorists create an opportunity cost (Enders et al., 2006).

MENA COUNTRIES OVERVIEW

The Middle East and North Africa (MENA) Region attract investors' attention primarily with their petroleum reservoirs, geopolitical importance, and young demographic structure. MENA countries are countries that share a common historical and cultural heritage, even though they differ by their existing resources and levels of economic development.

20 countries in total constitute the Middle East and North Africa Countries which are distinguished by their Muslim identity. The countries of the Middle East and North Africa (MENA) Region, although they have a potential to develop, are regarded as country groups that have not yet fully achieved this. Rather than their privileged geographic location at the intersection points of Europe, Africa, and Asia, these countries stand out with their high potential in the renewable energy, manufacturing, tourism and service sectors, in addition to their increasing young population with high education rate (OECD, 2016). The region also has a central position in the energy field thanks to its dominance of having around 58-60% of the world's proven oil reserves (840 billion barrels) and about 43% of the natural gas reserves (80 trillion cubic meters), and holds the capacity to play a core role in the future of the world energy market (World Bank, Middle-East and North Africa Region Report, 2011).

In some countries of the MENA region, the vast majority of economic activities are controlled by the state institutions and government agencies. However, only 14% of the economic activities in the region are carried out by private companies. This rate is far behind that of other developed countries.

MENA countries, which are on course to increase their competitive power in the world economy, are faced with some threats such as increasing the production, efficient allocation of resources, the reduction of bureaucratic inefficiency, red tape, corruption, extreme violations of the government, and a state structure incapable of delivering service. It seems difficult to carry out a struggle with many of these threats, without any changes in late regulatory applications. In conjunction with their inexperience in regulatory reforms, the fact that the countries in the region don't have the adequate

observation in the regulatory procedures and practices takes place as an important problem in front of the MENA region, with regards to making reforms (Limam, 2003).

The countries of the region, which are perceived as oil-rich, have lagged behind the global economic growth and development that began with the globalization. The main reasons for this are political structure, trust problems, and instability. In the economies dominated by energy and the public sector, the importance and weight of the private sector and manufacturing industry within the country's economy is less and behind, and accordingly, productivity and competitiveness are low in these national economies. The energy dependence of the economies (i.e., MENA countries) affects the region negatively. The income that energy-rich countries earn from their energy exports constitutes 40-65% of their national income. In other words, the economies of MENA countries are dependent on their oil revenues, and thus, the changes experienced in oil demand and prices cause fluctuations in these national economies (Turkish Time Global Export Report, 2015).

In the region, generally slow progressing economic activities and high government expenditures cause additional pressure on the fiscal balances that are already negative in the resource-poor countries. Again, structural problems such as high unemployment, the low rate of female labor force participation, limited competition, widespread corruption, inflated levels of the public sector are also main structural problems seen in most of the countries in the region. However, export rates in the MENA region have increased dramatically over the last 20-25 years, mainly due to the oil sales and partly due to the economic openness and signed commercial agreements (O'Sullivan et al., 2011).

Countries in the MENA region are divided into four groups in terms of economic structure and reform needs. Israel is positioned as the sole developed country in the region. In the second group, resource-poor countries are located. These are Egypt, Jordan, Lebanon, Morocco, and Tunisia. The third group countries are resource-rich countries with labor force surplus; Algeria, Iran, Yemen,

Table 2. Main indicators for MENA countries

Indicators	1990	2010	2011	2012	2013	2014	2015	2016
Population growth (annual %)	3.5	2.1	2.1	2	2	1.9	1.8	1.8
GDP growth (annual %)	13	5.1	3.8	2.9	2.8	3.1	2.6	3.2
Inflation, GDP deflator (annual %)	15.5	10.6	12.7	4.1	1.8	1.1	1.6	0.5
Exports of goods and services (% of GDP)	29.3	45.3	49.3	49.5	48.7	46	39.7	41
Imports of goods and services (% of GDP)	33.5	37.3	36.5	37.8	37.9	38.7	41.3	44
High-technology exports (% of manufactured exports)	-	3.8	3	3.7	3	4.5	-	-
Merchandise trade (% of GDP)	41.5	67.2	70.8	71.1	70.7	69.9	60.2	60.2
Foreign direct investment, net inflows (BoP, current, billion US$)	2,632	86,092	62,774	61,339	58,611	52,654	49,883	53,379
Gross capital formation (% of GDP)	23.8	28.2	26	26.3	25.8	26.8	30.1	27.9
Time required to start a business (days)	-	19.9	20.3	21.4	20	19.2	19	20
Domestic credit provided by financial sector (% of GDP)	56.1	48.1	46.1	46.1	47.2	53.1	69.6	85.3
Agriculture, value added (% of GDP)	-	5.8	5.5	5.6	6.1	6.2	6.9	-
Industry, value added (% of GDP)	-	50.4	52.2	50.9	49.2	47.5	38.1	-
Services, etc., value added (% of GDP)	-	45.4	42.2	43.3	44.5	46.3	52.7	-

Source: World Bank (2015, 2016)

Syria, and Iraq. The fourth group of countries is referred to as resource-rich countries with workforce deficit. These countries are S. Arabia, Qatar, Oman, United Arab Emirates (UAE), Kuwait, Bahrain, and Libya (Turkish Time Global Export Report, 2015).

MENA countries have also been influenced by the wave of reforms which has been affecting the world recently and begun to make efforts on that issue. Global integrations have been influential in accelerating the reform efforts in this region. However, the existence of an economic structure which is not based on production but based on rent caused the progress of these reforms remain behind in the region. The MENA region is the first among the most unsuccessful territories to integrate with the global economy, after Sub-Saharan Africa. Most of the countries in the region have closed economies which are free from the international standards in terms of trade regimes. MENA countries seeking to escape from this situation have begun to remove the obstacles using successful reform programs implemented in recent years, even though they have not yet been able to create an entirely favorable environment for foreign trade (Vural & Sarısoy, 2011).

In recent years, intensive economic and political developments have been being experienced in the MENA countries. The MENA economies, which are in the process of transformation, have accelerated their infrastructure investments along with increased oil revenues. Furthermore, economic developments such as the food requirement of the region, the energy line projects, and so forth emerge, which provides an opportunity for Turkey, which has a significant potential in that area. Democracy movements in the MENA countries in recent years, and the economic and political reconstruction of the region, in general, are developments that are closely related to the world economy from the point of the stability in the international energy markets.

It is of vital importance for the MENA countries to realize the economic growth rates of 5.5 - 7.5% with the objective to ensure annual social and financial stability, and to perform structural transformations in the economy for creating an average employment of 25 million. These structural transformation demands caused the democratization demands which would profoundly affect the economic and political structure of the concerned countries to be put into words loudly. This situation has led to the beginning of the mass protest movements named as "Arab Spring" which deeply influenced the MENA countries economically and politically. Pro-democracy mass movements that have been influential all across the Middle East and Africa also have an important place in the world's political and economic life, due to the fact that it is the strongest reaction developed against the authoritarian regimes since the disintegration of the Soviet Union (Freedom House, 2012).

Table 3. Description of variables

	Variables	Abbreviations
1.	Foreign direct investment	FDI
2.	Political risk	PR
3.	Human Development Index	HDI
4.	Terrorism Risk Index	TRI
5.	Multidimensional Poverty Index	MPI
6.	Rule of Law	RL
7.	Regulatory Quality	RQ
8.	Control of Corruption	COC

Table 4. MENA countries covered in the study

Country			
1.	Saudi Arabia	9.	Jordan
2.	The United Arab Emirates	10.	Algeria
3.	Israel	11.	Kuwait
4.	Egypt	12.	Oman
5.	Lebanon	13.	Libya
6.	Tunisia	14.	Bahrain
7.	Sudan	15.	Morocco
8.	Qatar	16.	Yemen

ECONOMETRIC ANALYSIS

Data

In the study, the panel data which consists of annual data for the period 2010-2016 and covers MENA countries were used. The aim of the study is to determine the effects of the sociopolitical variables given in Table 2 on FDI investments and to interpret the relations. The data was retrieved from World Bank World Development Indicators (2015, 2016, www.worldbank.org) and UNCTAD (2017; www.unctad.org). E-views 10.0 and Gauss 11.0 software packages were utilized in the estimation of empirical models created within the scope of the panel data analysis. Table 3 contains the variables used in the analysis.

The MENA countries covered in the study are presented in Table 4. Iran, Iraq, Syria, and the State of Palestine were excluded from the analysis because they had no data for some variables.

Cross-Section Dependence and Homogeneity Tests

When panel data is used to test the existence of unit root, cross-section dependence must be tested. If the existence of cross-section dependency is rejected in the panel dataset, first generation unit

Table 5. Cross-section dependence CDLM test results

CDLM	FDI		PR		HDI		TRI	
	t-stat	p	t-stat	p	t-stat	p	t-stat	p
	9.561	0.001	8.404	0.000	11.274	0.000	9.223	0.002
	MPI		RL		RQ		COC	
	t-stat	p	t-stat	p	t-stat	p	t-stat	p
	8.756	0.021	9.606	0.002	10.372	0.002	7.992	0.001

Table 6. Paseran and Yamagata (2008) homogeneity test results

	Test statistic	Probability (p)
Δ	7.508	0.001*
Δ adj	8.246	0.003*

The * sign indicates the significance of the variable at a significance level of 0.05.

Table 7. Results of the first generation panel unit root test

Variables		Im et al. (2003)	Maddala and Wu (1999)	Choi (2001)
FDI	level	-1.023(0.121)	9.461 (0.175)	-0.907(0.147)
	∇	-6.554(0.001)*	34.043(0.000)*	-6.321(0.000)*
PR	level	-0.835(0.157)	8.182(0.247)	-1.032(0.116)
	∇	-7.058(0.002)*	39.624(0.011)*	-12.099(0.000)*
HDI	level	-1.205(0.193)	7.503 (0.123)	-0.745(0.104)
	∇	-9.186(0.001)*	45.038(0.000)*	-7.606(0.000)*
TRI	level	0.673(0.128)	10.638(0.204)	-0.629(0.197)
	∇	-8.102(0.000)*	41.826(0.000)*	-7.355(0.000)*
MPI	level	-0.761(0.153)	11.724(0.138)	-1.098(0.164)
	∇	-8.440(0.002)*	39.071(0.000)*	-6.085(0.000)*
RL	level	-1.047 (0.125)	12.824(0.139)	-1.209(0.143)
	∇	-9.724 (0.000)*	43.318(0.000)*	-9.436(0.000)*
RQ	level	-0.951(0.163)	11.073(0.161)	-1.148(0.124)
	∇	-8.329(0.002)*	39.912(0.000)*	-6.175(0.000)*
COC	level	-1.299 (0.135)	12.529(0.118)	-1.209(0.173)
	∇	-9.502 (0.000)*	43.066(0.000)*	-9.536(0.000)*

Note: ∇ notation shows the first-order difference, and * notation shows the state of stationarity. The deterministic specification of the tests includes fixed and trend. Probability values are indicated in the parentheses. Tests were conducted for significance at the level of 5%. The null hypothesis of the tests is as "unit root exists". The optimal delay length was determined using the Schwarz information criterion.

root tests can be used. However, if there is cross-section dependency in the panel data, using second generation unit root tests provides more consistent, efficient and robust estimation. Whether or not the cross-section dependence between the series are taken into consideration significantly affects the results to be achieved. For this reason, the existence of cross-section dependence in the series must be tested before the analysis begins. Because, when selecting the unit root tests to be utilized, this situation must be taken into account. Otherwise, the analyses carried out might give incorrect results (Pesaran et al., 2008).

The existence of cross-section dependence is controlled by Berusch Pagan (1980) CD_{LM1} test when the time dimension is bigger than the cross-section dimension (T>N), is controlled by Pesaran (2004) CD_{LM2} test when the time dimension is equal to the cross-section dimension (T=N), is controlled by Pesaran (2004) CD_{LM} test when the time dimension is smaller than the cross-section dimension (T<N). Since there are 16 countries (N=16) and 7 years (T=7) in this study, there is T<N situation and Pesaran (2004) CD_{LM} test was used. The hypothesis H_0 of the test is as "there is no cross-section dependence".

According to the results in Table 5, since the probability values are smaller than 0.05, it is seen that there is cross-section dependence in the series and the equation. In this case, there is cross-section dependence between the panel countries. A shock reaching one of the countries affects the others as **well.**

H_0 was rejected because the probability values of the tests calculated in Table 6 were smaller than 0.05 for the countries. It was determined that the slope coefficients were not homogeneous. In the study, the first generation Im, Pesaran & Shin (2003), Maddala & Wu (1999) and Choi (2001)

Table 8. CIPS test results

Variables	CIPS statistics
FDI	-4.782*
PR	-4.975*
HDI	-3.941*
TRI	-5.848*
MPI	-4.962*
RL	-5.519*
RQ	-7.623*
COC	-7.036*

* Stationary Series for First-Order Difference

Note: For CIPS, in Pesaran (2007:281) Tablo IIc, the critical value at the 5% significance level is = -2.925. Delay count was determined according to the Schwarz Information Criterion. Trend+Fixed model was employed.

Table 9. Results of the panel regression estimation method selection tests

Test	p	Decision
Chow (F test)	0.001*	H0 No
BP (χ2 test)	0.000*	H0 No

The * sign indicates the significance of the variable at a significance level of 0.05.

Table 10. Hausman test results

Test summary	p	Decision
Cross-section random	0.195	H0 OK (REM)
Period random	0.162	H0 OK (REM)
Cross-section and period random	0.158	H0 OK (REM)

test, based on the assumption of heterogeneity, will be used. Since cross-section dependence was identified in the study, 2nd generation unit root tests will also be applied.

As it is seen in Table 7, all variables have unit root in their level values. But, first difference series don't contain a unit root. For this reason, it is seen that all the variables are I(1), in other words, they are stationary for the 1st Degree difference. Considering the dependence between cross-section units, CIPS, which is the second-generation unit root test that analyzes stationarity, was applied.

Since the Calculated CIPS statistic in Table 8 is bigger than the table's critical value, H0 was accepted, and it was concluded that there was no unit root when the first-order difference was obtained in the series making up the panel. In this case, the series are not stationary at the level values; they are stationary when the first-order difference is received. Regression analysis will be performed with first-order differences since the series are not stationary at the level values.

The results of the Chow and Breush-Pagan (BP) tests, which were conducted to determine which panel regression model to choose, are given in Table 9. For the Chow test, the H_0 hypothesis is the

Table 11. Panel regression estimation results

Variables	Coefficient	Std. Error	t-Statistic	Prob.
PR	-0.387409	0.158917	-2.437809	0.0176*
HDI	0.178214	0.883319	0.201754	0.8406
TRI	-0.069499	0.020036	-3.468671	0.0009*
MPI	0.692425	1.285556	0.538619	0.5915
RL	0.191041	0.087199	2.190854	0.0298*
RQ	0.350929	0.107125	3.275890	0.0017*
COC	0.049217	0.023595	2.085875	0.0374*
C	0.034507	0.008979	3.843051	0.0002*
R-squared	0.575423	**Log-likelihood**		61.68925
Adjusted R-squared	0.563105	**F-statistic**		25.96164
Sum squared resid	1.337845	**Prob (F-statistic)**		0.000000
Diagnostic tests: Wooldridge Autocorrelation Test (p) = 0.174, Greene Heteroscedasticity Test (p)= 0.184				

* Significant variable for0.05

The sociopolitical variables examined, explain the FDI variable as 57%. As a result of the model's diagnostic tests, it was determined that there was no autocorrelation and heteroscedasticity problem.

pooled regression, and the H_1 hypothesis is FEM model; while in the BP test, the H_0 hypothesis is regarded as the pooled regression and the H1 as REM model. Table 9 shows the results of the tests conducted for the selection of the panel regression estimation method.

In both tests, rejection of the H_0 hypothesis indicates the need to choose between REM and FEM models. The other stage is based on the decision between (REM) Random effects model and (FEM) Fixed Effects Model by employing Hausman test. The hypotheses for this test are as follows:

H_0: Random effect [(REM) Random Effects Model]
H_1: No random effects [(FEM) Fixed Effects Model]

As can be seen from the test results in Table 10, H_0 hypothesis was accepted, and the REM hypothesis was adopted. Different algorithms were tried for the analysis and the model estimation results obtained by the Cross-section SUR algorithm which gave the minimum value of total error square were presented in Table 11.

HDI and MPI variables don't have a statistically significant effect on FDI. In contrast, variables of PR, TRI, RL, RQ, and COC have a statistically significant effect on FDI. When political risk increases by 1%, FDI shows a decrease of 38%. FDI decreases by 6% when terrorist risk increases by 1%. When RL increases by 1%, FDI increases by 19%; when RQ increases by 1%, FDI increases by 35%; when COC increases by 1%, FDI increases by 4%. In sociopolitical variables, PR and RQ variables have the highest impact on FDI. The lowest effect was obtained for the COC variable. Since undesirably developing sociopolitical factors would naturally affect the economic parameters at the same time, investors have been paying particular attention to these factors in the recent period. The MENA countries, especially for the last five years, have been undergoing a change and transformation. Like many countries in the world economy, countries in the MENA region are increasingly changing from statist and closed economies to liberal economies. As a result of this change, it is observed that they attract foreign direct investments more than the previous period. These countries are deeply

integrated into the global economy. Exports, foreign direct investment, remittances, and tourism play an important role in the creation of new employment opportunities and economic growth in these countries.

CONCLUSION

Nowadays, world conjuncture and the sociopolitical developments experienced in the developing countries significantly affect the financial sector and therefore the real economy, playing a major role in the decisions and preferences of global investors. In this context, MENA is at the forefront of the regions that are more involved in the world agenda. MENA countries stand out with the fact that free-market conditions are not fully established, they have public-sector economies predominantly, and in particular, they possess energy and mining reserves. However, recent changes and developments experienced in the political and economic fields in the MENA countries serve as an initiator of change in the governing structures as well. Along with this change, the beginning of an increase also in the economic activities together with the entrepreneurs causes these countries to move to the forefront for the global investors even more.

Today, in promoting FDI flows, sociopolitical factors in host countries as well are as influential as economic indicators. These factors include many aspects such as the rule of law, the functioning of the bureaucracy, the fight against corruption, political stability, democratization, and the development of non-governmental organizations (NGOs). First of all, high quality of the institutional factors indicates that no problems will be faced in the long run in implementing the agreements; and thus, eliminates uncertainty. A high level of corporate quality guarantees property rights and minimizes transaction costs. These positive aspects mentioned ensure the increase of investments and creation of an environment that supports growth.

In the study, the panel data which consists of annual data for the period 2010-2016 and covers MENA countries were used. The study aims to reveal and interpret the relationship between FDI and sociopolitical variables such as political risk, human development index, terrorism risk index, multidimensional poverty index, the rule of law, regulatory quality, and control of corruption, utilizing panel regression analysis. In the obtained regression results, MPI and HDI variables were not statistically significant. In contrast, variables of PR, TRI, RL, RQ and COC have a statistically significant effect on FDI. When political risk increases by 1%, FDI shows a decrease of 38%. FDI decreases by 6% when terrorist risk increases by 1%. When RL increases by 1%, FDI increases by 19%; when RQ increases by 1%, FDI increases by 35%; when COC increases by 1%, FDI increases by 4%. The affecting variables examined, explain the FDI which is the dependent variable as 57%.

As it can be seen in the model results, sociopolitical factors, besides economic factors, are predominantly significant and influential on the FDI decisions. International corporations do not want to enter the markets of the countries where sociopolitical factors are riskier, in order not to jeopardize their investments in other countries. The results of the study reveal how important the said factors are for developing countries with regards to increasing FDI.

For foreign investors, social environment, population distribution and its characteristic features, consumer and labor profile, beliefs, traditions, and habits are influential factors in investment decisions. Among these, usually, the labor factor is taken into account first. Cultural structure of a country creates important differences in work habits. It affects the human resources policy and organizational chart that international investor will apply in their local and foreign units. The economic environment is closely related to the political structure of a country. The position of the governance between democracy and autocracy and the situation of the economic system applied in the country, create a different result for each country. The political system generally sets up a substructure for the economic system; a state's power in economic activities and its role in planning would affect the economic policies and would be determinant in the foreign trade regime. Laws, quotas, and tariffs in the host country might be applied in a way to affect the entry of a product into that country and might be deterrent.

The political environment is defined as the environment in which the central and local official authorities and their affiliates establish and exercise their governmental power, in the country in which the business organization operates. In the political environment consisting of various administrative systems and political players, happening things, taken decisions, relationship forms or rights indirectly affect the business organization. State and government regimes, election results, government–opposition relationships, power balances, political stability or instability, political prestige, the effectiveness of relations with official authorities, ways of claiming rights, the tendency of various organs of the state to intervene in business life, privatization or nationalization trends are among the elements to be considered in the political environment analysis. Terrorist actions are emerging as an important global problem affecting the volume of FDI and portfolio investments, which is a major factor in the development of all the economies around the world, both developed and underdeveloped. Corporations and individual investors that direct their investments to the countries where the levels of welfare and security have improved from the countries with high terrorism risk estimate that even in the absence of direct terrorist activities, transaction costs would increase due to the firms and facilities protected for potential actions and that the expected returns would be limited accordingly. Moreover, a company operating in the conflict zones is continuously preoccupied with ensuring the safety of its employees and has to pay additional insurance costs. On the other hand, infrastructure systems that have been destroyed by the terrorist attacks cause the operating activities to fail, and the profit opportunities fall. Thus, terrorism, which increases the uncertainty level concerning the future of the economy, narrows the employment opportunities that are expected to gain momentum in conjunction with the foreign investments and reduces the investment volume.

Consequently, over the past decade, FDI has not proceeded according to the economic components which are traditional factors, but also taken into account different criteria as a result of the crises, sociopolitical and sociocultural changes in the world. Countries with capital requirements should keep pace with this new decision-making system and perform the changes which would attract investors. Since a change focused only on improving economic parameters would not suffice, the importance of political stability and equitable social change should not be neglected.

REFERENCES

Aidt, T. S. (2003). Economic analysis of corruption: A survey. *Economic Journal (London)*, *113*(491), 632–652. doi:10.1046/j.0013-0133.2003.00171.x

Aydoğuş, İ., Kutlu, E., & Yıldırım, S. (2005). Yolsuzluk ve doğrudan yabancı yatırımlar. *Afyon Kocatepe Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, *7*(2), 1–21.

Bollen, K. A., & Jones, S. T. (1982). Political instability and foreign direct investment: The motor vehicle industry, 1948-65. *Social Forces*, *60*(4), 1070–1088. doi:10.1093/sf/60.4.1070

Brada, J. C., Kutan, A. M., & Yiğit, T. M. (2004). The effects of transition and political instability on foreign direct investment inflows: Central Europe and the Balkans (Working Paper 729). William Davidson Institute.

Braunstein, E. (2000). Engendering foreign direct investment: Family structure, labor markets and international capital mobility. *World Development*, *28*(7), 1157–1172. doi:10.1016/S0305-750X(00)00027-9

Breusch, T. S., & Pagan, A. R. (1980). The LaGrange multiplier test and its applications to model specification in econometrics. *The Review of Economic Studies*, *47*(1), 239–253. doi:10.2307/2297111

Chakrabarti, A. (2001). The determinants of foreign direct investment: Sensitivity analyses of cross-country regressions. *Kyklos*, *54*(1), 89–114. doi:10.1111/1467-6435.00142

Choi, I. (2001). Unit root tests for panel data. *Journal of International Money and Finance*, *20*(2), 249–272. doi:10.1016/S0261-5606(00)00048-6

Lai, E. L.-C. (2001). Competition for foreign direct investment in the product cycle. *Japan and the World Economy*, *13*(1), 61–81. doi:10.1016/S0922-1425(00)00044-X

Enders, W., Sachsida, A., & Sandler, T. (2006). The impact of transnational terrorism on US foreign direct investment. *Political Research Quarterly*, *59*(4), 517–531. doi:10.1177/106591290605900402

Eren, E. & Bildirici, M. (2001). Türkiye'de siyasal ve iktisadi istikrarsızlık: 1980-2001. *İktisat, İşletme ve Finans, 16*(187), 27-33.

Freedom House. (2012). *Freedom in the world 2012: The Arab uprisigs and their global repercussions*, Retrieved from https://freedomhouse.org/sites/default/files/Full%20Report%20Essay%20-%20PDF%20Version.pdf

Harms, P., & Ursprung, H. W. (2001). Do civil and political repression really boost foreign direct investments? (Working Paper No 36). *Independent Institute*. Retrieved from http://www.oecd.org./dataoecd/1922648.pdf

Im, K. S., Pesaran, M. H., & Shin, Y. (2003). Testing for unit roots in heterogeneous panels. *Journal of Econometrics*, *115*(1), 53–74. doi:10.1016/S0304-4076(03)00092-7

Kaufmann, D., Kraay, A., & Mastruzzi, M. (2005). Governance matters IV: Governance indicators for 1996-2004. *World Bank*.

Limam, I. (2003). Introduction: Challenges and reforms of economic regulation in MENA countries. In I. Limam (Ed.), *Challenges and Reforms of Economic Regulation in MENA Countries*. Egypt: The American University in Cairo Press.

Maddala, G. S., & Wu, S. (1999). A comparative study of unit root tests with panel data and a new simple test. *Oxford Bulletin of Economics and Statistics*, *61*(Special Issue), 631–652. doi:10.1111/1468-0084.61.s1.13

Nunnenkamp, P. (2002). Determinants of FDI in developing countries: Has globalization changed the rules of the game.

OECD. (2015). *Progress Report 2015*, Retrieved from www.oecd.org

OECD. (2016). MENA. Retrieved from www.oecd.org/mena/49036903.pdf

O'Sullivan, A., Rey, M. E., & Mendez, J. G. (2011). *Opportunities and challenges in MENA region*. Retrieved from http://www.oecd.org/mena/49036903.pdf (Date of Access: 14.10.2017).

Parkin, M. (2014). *Macroeconomics* (9th ed.). USA: Content Technology Press.

Pesaran, M. H. (2007). A simple panel unit root test in the presence of cross-section dependence. *Journal of Applied Econometrics*, *22*(2), 265–312. doi:10.1002/jae.951

Pesaran, M. H. (2004). General diagnostic tests for cross section dependence in panels. *Cambridge Working Papers in Economics.* Retrieved from http://www.dspace.cam.ac.uk/handle/1810/446

Pesaran, M. H., Ullah, A., & Yamagata, T. (2008). A bias-adjusted LM test of error cross-section independence. *The Econometrics Journal*, *11*(1), 105–127. doi:10.1111/j.1368-423X.2007.00227.x

Pournarakis, M., & Varsakelis, N. C. (2004). Institutions, internationalization and FDI: The case of economies in transition. *Transnational Corporations*, *13*(2), 77–94.

Sabade, S. (2014). India's Foreign trade and socio-economic development, currency depreciation and global crisis. *Procedia Economics and Finance*, *11*(1), 341–347. doi:10.1016/S2212-5671(14)00202-0

Sezgin, F. H., & Özkan, N. N. (2015). Effect of foreign direct investment on balance of payment for Turkey: Econometrıc analysis. *Eurasian Eononometrics*, *Statistics and Empirical Economics*, *2*(1), 55–75.

Shatz, H. J. ve Venables, A. J. (2000). The geography of International Investment. In G. L. Clark, M. P. Feldman & M. S. Gertler (Ed.). The Oxford Handbook Of Economic Geography. Oxford, MA: Oxford University Press.

Teli, R. B. (2014). A critical analysis of foreign direct investment inflows in India. *Procedia: Social and Behavioral Sciences*, *133*(1), 447–455. doi:10.1016/j.sbspro.2014.04.211

Turkish Time Global Export. (2015). *MENA*. Retrieved from http://www.timakademi2023.org/wpcontent/themes/a23/docs/globalexport/mena.pdf

UNCTAD. (2017). Retrieved from www.unctad.org

Vural, Y., & Sarısoy, S. (2011). Mena ülkelerinde düzenleyici reformlar. In H. Genç & F. Sayım (Eds.), *Ortadoğu ve Kuzey Afrika Ülkelerinin Ekonomik Yapısı Mena Ülkeleri Ekonomileri*. MKM Yayınları.

World Bank. (2011). *Middle-East and North Africa region - A regional economic update.* Retrieved from http://siteresources.worldbank.org/MENAEXT/Resources/EDP_MNA_2011.pdf).

World Bank. (2015). *World Development Indicators.*

World Bank. (2016). Retrieved from www.worldbank.org/data/worlddevelopmentindicators

Betül Gür is a member of the Istanbul Commerce University since 2004. She was born and raised in Turkey, where she also studied economic policy (Istanbul & Marmara Universities). She holds a PhD in Economic Policy from Marmara University/Istanbul-Turkey. She became Assistant Professor in 2007 and accepted positions in Istanbul Commerce University as the Vice Director and Director of Vocational School between 2007 and 2012. In 2013, Assoc. Prof. Gür was appointed as the Vice Director responsible for the Graduate School of Foreign Trade at Istanbul Commerce University. She became an Associate Professor in macroeconomics in April 2017. Her research interests lie in macroeconomic performance, economic crises, business cycles, economic development, poverty, Keynesian economics. She has also published various books, articles and a project report for The Scientific and Technological Research Council of Turkey (TÜBİTAK) on macroeconomic issues, economic development and micro credit.