

## **The Effects of Political Stability on Foreign Direct Investment in Fragile Five Countries**

Tuğba Akin\*

Submitted: 10.04.2019, Accepted: 25.07.2019

### **Abstract**

In this study, effects of political stability, economic freedom and trade freedom of above-stated Fragile Five Countries consisting of Brazil, Indonesia, India, Turkey, and South Africa on the performance of FDI appeal was analyzed with first generation panel data analysis method for the 1996-2017 period. The cointegration analysis between series was conducted by means of Kao (1999) and Pedroni (2004) test. The analyses showed that political stability and trade freedom have a significant positive coefficient on the Fragile Five Countries' FDI. It was also determined that the impact of economic freedom on FDI was statistically insignificant. Thus, it was concluded that the most important determinant of FDI entry into countries is political stability. Error correction mechanisms of models have been working well. In addition, it was found that political stability, economic freedom, and trade freedom are the cause of foreign direct investment in the long-run.

**Keywords:** foreign direct investment, political stability, economic freedom, trade freedom

**JEL Classification:** F21, P17, P51

---

\*Aydin Adnan Menderes University; e-mail: tugba.akin@adu.edu.tr; ORCID: 0000-0002-1132-388X

Tuğba Akın

---

## 1 Introduction

Foreign direct investment (FDI) is described as real and legal persons' acquisition of factory, facility, land, and building for profit in the form of physical assets such as branch, office, subsidiary or partnership outside their home countries (Demircan, 2003). The essence of FDI is the transformation of the capital transferred from home country to the host country into production by means of investment.

FDIs bring along financial capital, machinery-equipment, new technology, management skills, manufacturing, and marketing expertise to the host countries (Göçer and Peker, 2014a: 108). Especially, whereas it constitutes a substantial financial tool for countries experiencing difficulty in meeting necessary investment, it provides technology, know-how, and experience transfer as well as strengthening macroeconomic indicators of countries. Along with the globalization, liberalization of capital markets cleared the way for developed countries with surplus capital and companies in pursuit of increasing their market share as well as an opportunity for international investment. While host countries gain an opportunity to increase GDP per capita through innovative efforts such as technological developments and knowledge transfer enhancing productivity (Göçer and Peker, 2014b: 8), direct investor countries gain an opportunity to reduce export costs by expanding their market share (Özcan and Arı 2010: 66). Multinational companies also gain convenient access into relatively abundant manufacturing resources (labor, material resources, etc.) of host countries and this situation allows global public welfare to increase (Rodriguez-Claire, 1996: 855). Factors such as low labor costs, extensive domestic market opportunities, low commodity resources costs, tax advantages, economic and political stability are considered prominent determinant factors on investment decision of foreign companies in another country.

Elevating economic fragility, political uncertainty and high geopolitical risks around the world have adversely influenced FDIs; and FDIs decreased by 23% in 2017 with respect to the previous year and realized at 1.43 Trillion USD (UNCTAD 2018: 6). More than 50% of these direct investments traveled to developing countries and to the ones in transition economy (Southeast Europe, Former Soviets Union Countries). Some developing countries especially India, Indonesia, and Brazil have become an attractive market for foreign investors since the beginning of the 1990s. Brazil, India, and Indonesia still take part in top 20 host economies according to World FDI inflows. The feeble oil prices and its lasting effects have also been effective in African Countries. FDI to South Africa reduced approximately 41% because of an underperforming commodity sector and political instability. Turkey is another developing country that has a significant decrease in FDI stock in 2016 compared with 2011. Economies of developing countries deprived of necessary capital and technology gained a positive pace with foreign investments. The substantial impact of FDI on the economic growth of Indonesia and India could not be underestimated. Yet, the combination of high FDI entered into aforesaid countries and high saving rates resulted in an investment boom in these countries (Baharumshah and Thanoon,

2006:73). Especially, investments of the U.S. and Japan, the countries completed their technologic infrastructures and in globally leader position, into developing countries made a significant contribution to the region as technology transfer. In these countries, the foundation of electronic material manufacturing industry was established by means of FDIs; and this development has been internalized by domestic companies over time.

Morgan Stanley analyzed emerging economies according to their current account deficit and their vulnerability to capital inflows and announced its economic report, published in August 2013, that India, Indonesia, Brazil, South Africa, and Turkey were named as “Fragile Five Countries”. The basic economic problems of these countries were a significant saving-investment gap, weak economic growth, inflation risk, a large dependency on foreign capital and exchange rate risk with reference to this report (Morgan Stanley, 2013). Timely countries among Fragile Five have replaced by others along the past five years, but Turkey has always been named among fragile five countries. Especially, the weakness of their local currency caused difficulty to finance their current account deficit. In addition to that, the lack of new FDI and foreign portfolio investment also made unfeasible to finance their economic growth. Since July 2016, political instability and downgraded Turkey’s sovereign credit rating led to decline foreign investment into Turkey. FDI inflows reduce to 11 billion USD in 2017, following the decline in 2016 (UNCTAD, 2018:48). The expectation of low-cost money in the international fund market and in addition to this decreasing China’s capital outflows to developing countries have significantly affected emerging market economies (Göçer and Akın, 2016:200).

As FDIs are vitally important for developing countries, economic and political factors determining the size of these investments are required to be examined in detail. The objective of the present study is to analyze the impact of political factors such as political stability, economic freedom, and trade freedom on FDI appeal performance of Fragile Five Countries for the period of 1996-2017 by means of first generation panel data analysis methods. Within this framework, the structural ground of the study was presented in the second section; countries’ individual FDI and political stability, economic freedom, and trade freedom data were exhibited in the third section. Whereas the fourth section includes a review of the relevant literature, the fifth section provides econometric analysis. Finally, the conclusion and results were given in the sixth section. In this study, the finding that the most important determinant factor of FDI is political stability and there is causality relationship from political stability, economic freedom and trade freedom to FDI addresses substantial points which need to be paid attention by policymakers. That is, our findings suggest that foreign companies consider not only low labor cost or commodity resources but also host country’s existing political stability, economic freedom and trade freedom when they are making country investment decisions. Obtained results are considered significant in terms of having potential to make a contribution into the relevant literature as well that attracting the attention of the Fragile Five Countries with

Tuğba Akın

---

high development pace to the vital role of FDI and necessary action plans to appeal more investment. Hence, aforesaid countries' performance for appealing FDI and consequent positive impact on economic growth were considered.

## 2 Theoretical framework

Based on the theoretical literature review, it could be seen that FDIs are remedy for three primary deficiencies of developing countries: first, they provide necessary capital for funding investments in countries; second, establish cash balance; and third, allow countries to gain additional tax income by creating value added (Quazi, 2007: 329). In addition to these benefits, it reflects on factors such as the development of technological infrastructure and administrative skills that would contribute to the economic growth of countries, creating modern employment opportunities and increasing share from the international market. Therefore, FDIs are significantly important for under-developed and developing countries.

International entrepreneurial companies play a significant role in globalization across the world. Investments of multi-national companies into host countries contribute to economic and social developments of countries. There are a numbers of factors evidencing that companies are in pursuit of carrying their investments to the international level. Whereas market size is important for companies in the desire of expanding their market share, commodity resources, factor costs, and physical infrastructure are important for the ones in the desire of increasing productivity and efficiency (Özcan and Arı, 2010: 71). Besides the economic factors determining FDI, democratic and political risk conditions of host countries, assurance of security and persistence of investments, are considered other factors determining the volume of inflowing investments. Dunning (2000: 164) addressed FDIs and factors determinant on activities of international entrepreneurial companies under titles as follows; property (O, ownership), place (L, location) and internalization (I) advantages. The theory called as OLI paradigm suggests that investment decisions of international companies are made based on the interaction of these three fundamental variables. According to this paradigm, companies have a competitive advantage in the national market and ownership must be transferred abroad; they are positively affected by some abilities of the national market and they need to control their value chain management in order to maintain their competitive advantage. For these reasons, companies prefer direct investment instead of licensing or outsourcing. Location-bound advantages reflect the economic and political characteristics of the countries or territories that will be potentially invested. Political risk factor components, political stability, economic freedom, and property rights, steer companies' perception of uncertainty and risk; and has an influence on foreign investors. Political events are viewed as causes of commercial risks (Kobrin, 1979: 73). Such that, although economic conditions of host countries seem to be appropriate to attract investors, negative political conditions could be an obstacle before the realization of investments (Schneider *et al.*, 1985:

161). Multinational enterprises choose their capital structure in response to political risk, theoretically (Kesternich and Schnitzer, 2010: 208). In the meantime, political instability is considered as an element which could evoke the risk of partial or whole government seizure of properties of international corporations in the host country.

Economic freedom concept is the one which determines the degree of freedom of societies in their economic activities. The free market economy could also be described as natural and legal persons are capable of manufacturing, exchanging and consuming goods and services freely. Accordingly, economic freedom and development process of countries could not be thought independent of each other. Increasing economic freedom in countries appeals to foreign investors and ultimately this situation reflects positively on country growths (Bengoa *et al.* 2003: 543). Yet, the level of economic freedom has a significant impact on FDI, its development must be a priority of policymakers (Quazi, 2007: 341).

Trade freedom subject is reported as another political risk factor by relevant studies in the literature. Trade freedom reflects an economy's openness to the import of goods and services from around the world and it is based on the trade-weighted average tariff rate and non-tariff barriers (including quantity, price, regulatory, customs and investment restrictions, and direct government intervention) (Miller and Kim, 2013: 21). Its scores also help to measure economic freedom with other indexes. Considering the multidisciplinary nature of foreign investors, these restrictions can obstruct FDI to host countries. On the other hand, it is known that FDI efficiency on growth is stronger in host countries implement export promotion policies instead of import substitution policies (Balasubramanyam *et al.*, 1996:100). Economic and political factors determining FDI have been analyzed theoretically by numbers of studies. In the name of making a contribution into theoretical works oriented on the political risk factor, applied studies on the determinant impact of political stability, economic freedom and trade freedom on FDI would bring in integrity to the subject because established economic freedoms and trade freedom are expected in countries with political stability. Enhancing political stability allows countries to undertake structural reforms so as to take precautions to protect economic freedoms and trade freedom. Therefore, employing aforesaid variables together is considered useful to expose the direction and strength of each of them on FDI.

### 3 Country data

The Fragile Five Countries, Brazil, India, Indonesia, South Africa, and Turkey still have not been in the center of focus of foreign investors, despite they experienced foreign expansion and financial liberalization initiated at the beginning of the 1980s. These countries have more attractive aspects like low labor costs, convenient access to commodity resources and economic reforms as well as government incentives for foreign investors. But in 2017, it could be seen that these countries attracted only 9.7% of overall FDI in the world (UNCTAD, 2018).

Tuğba Akın

Table 1: FDI Inflow into Fragile Five Countries (2010-2017)

(Billion USD)	2010	2011	2012	2013	2014	2015	2016	2017
Fragile Five Countries	143.93	178.54	150.18	142.91	176.09	158.03	142.35	144.38
<i>Brazil</i>	88.45	101.16	86.61	69.69	97.18	74.72	77.79	70.69
<i>India</i>	27.40	36.50	24.00	28.15	34.58	44.01	44.46	39.97
<i>Indonesia</i>	15.29	20.56	21.20	23.28	25.12	19.78	4.54	21.46
<i>South Africa</i>	3.69	4.14	4.63	8.23	5.79	1.52	2.22	1.37
<i>Turkey</i>	9.10	16.18	13.74	13.56	13.12	18.00	13.34	10.89

Resource: The Global Economy, 2019.

From Table 1, the prominent FDI-attracting countries among the Fragile Five Countries in 2017 were Brazil, India, and Indonesia, respectively. Especially, the boom in commodity prices and growing demand from emerging market economies like China and India helped Brazil to inflow FDI from 2010 to 2014. After the corruption scandal in the 2010s, the Brazilian government has tried to improve the relationship between big corporations and political power. It made also some macroeconomic reforms to rationalize the Brazilian tax system (Santander Trade Portal, 2019). India second FDI-attracting countries in the Fragile Five Countries provides several incentives to a foreign investor like non-tax regulations, subsidized land prices, low-interest rates on loans, decreased tariffs on the electric power supply, etc. in specific sector and regions. Indonesia also has introduced similar incentives like India to attract FDI. It enrolled as the third largest FDI increase in Fragile Five countries except in 2016. The huge negative equity inflows acquired in 2016 because of Indonesian companies' achievement foreign-owned assets in Indonesia and the influence of a tax measure (UNCTAD, 2018:47). South Africa has weak FDI in the Fragile Five Countries. It embarked on a tax allowance incentive and had technological and skills development in 2010. The positive effects of these regulations were perceived on FDI until the 2014's. But reduced domestic demand which is lower than foreign investors' expectations caused to decrease FDI in 2017. Turkey has a strategic geographical position by its location and approximately 80 million consumers. These are strong points to inflow FDI in Turkey. But strong import dependency, exchange rate uncertainty, increase political conflict, etc. caused to decrease FDI inflow in 2017.

The Political Stability Index value, from zero to negative, implies increasing political instability. Its' underlying indexes reflects the likelihood of disorderly fall of the government, armed conflict, violent attacks, social unrest, international tensions, terrorism, as well as ethnic, religious or regional conflicts ([www.theglobaleconomy.com](http://www.theglobaleconomy.com), 2019). According to Table 2, it could be seen that this index value was negative for the Fragile Five Countries in 2017; and gained negative progress along 2016 with respect to the previous year. Brazil, India, and Indonesia are attracting FDI more than any others, according to Table 1, index values suggest that they have negative

Table 2: Political Stability, Economic Freedom and Trade Freedom Values in Fragile Five Countries (2016-2017)

Index Values	Political Stability		Economic Freedom		Trade Freedom	
	2016	2017	2016	2017	2016	2017
Fragile Five Countries (average)	-0.77	-0.76	59.2	59	56	57
<i>Brazil</i>	-0.38	-0.41	57	53	69	69
<i>India</i>	-0.95	-0.83	56	53	71	73
<i>Indonesia</i>	-0.37	-0.51	59	62	80	81
<i>South Africa</i>	-0.14	-0.27	62	62	77	77
<i>Turkey</i>	-2.01	-1.80	62	65	84	79

The Global Economy, 2019.

values in terms of political stability, economic risk and trade freedom. This situation leaves the impression that another factor determining FDI entry into a country has greater impact with respect to the political risk factor. It could be seen that Turkey has the highest index value among the Fragile Five Countries. On the other hand, South Africa exhibit better score in terms of political risk status.

## 4 Literature review

Political stability, economic freedom, and trade freedom are found to be determinant factors on investment decisions of foreign investors in a host country. According to the findings of empirical studies, in general, a negative correlation is observed between a political risk factor and FDI (Schneider and Frey, 1985; Edwards, 1990; Lankes *et al.*, 1996). Edwards (1990) discusses political violence (political uprisings, riots, and assassinations) and instability (potential government changes) indexes while describing political risk concept in his study. The author reports a negative correlation between FDI and political instability, but no statistically significant correlation between political violence and FDI. Seyoum (1996) analyzed the correlation between protection of intellectual property rights, as a risk factor, and FDIs for 27 countries by means of the simple regression model; and reported a positive correlation between two variables. There are many studies in the literature examine whether political risk factors affect FDI. Table 3 summarizes a sample of most referred studies.

Finally, based on the studies in the relevant literature, where it could be observed that enhancements in civil and political rights constituting democratic infrastructure and economic freedom have a positive impact on FDIs, Asiedu *et al.* (2011) reported negative impact of democratic factors on FDIs for the countries whose natural resource export share in overall export figure is greater than other items. A similar finding was reported by Burger *et al.* (2015) as well. The reason for this situation is considered as that FDI entry into such countries as a result of high profitability

Tuğba Akın

Table 3: Summary of Empirical Literature

Author(s)	Period	Country	Methodology	Result
Asiedu (2002)	1970-1999	South African Countries	OLS	The author concluded no statistically significant correlation between a political risk factor and FDI.
Harms and Ursprung (2002)	1989-1997	62 developing countries	Panel Data Analysis	The author concluded that developments in civil and political rights which constitute democratic infrastructure have a remarkable impact on FDI.
Bengoa <i>et al.</i> (2003)	1970-1999	18 Latin American countries	Panel Data Analysis	The economic freedom index has a positive impact on FDI.
Busse and Hefeker (2007)	1984-2003	83 Developing Countries	Panel Data Analysis	The basic democratic rights such as civil freedoms and political rights come to prominence as significant factors effective on direct overseas investment decisions of international organizations.
Gani (2007)	1996, 1998, 2000, 2002	The Seventeen Countries from Asia and Latin America and the Caribbean regions	Panel OLS	The empirical results provide evidence that the rule of law, control of corruption, regulatory quality, government effectiveness and political stability are strongly correlated with FDI.
Kesternich and Schnitzer (2010)	1996-2006	German Parent Companies	Panel OLS	The political risk greatly affects FDI.
Asiedu <i>et al.</i> (2011)	1982-2007	112 Developing Countries	Dynamic Panel Data Analysis	The researchers determined that democratic factors impact on FDI increase in case share of natural resource (oil and precious mines) in overall export is less than the threshold value. On the other hand, in case the share of natural resource in the overall export figure is at a higher level, the impact of democratic factors on FDI is reported to be negative.
Elkomy <i>et al.</i> (2016)	1989-2013	61 Transition and Developing Countries	Panel Data Analysis	Political development in conjunction with FDI appears to keep down the effects of FDI on growth in authoritarian countries while enhancing them in hybrid democracies.
Hoa <i>et al.</i> (2016)	1996-2012	The Indochina (Cambodia, Laos, and Vietnam)	Panel Data Analysis	The researcher reported a positive and statistically significant relationship between FDI and political factors such as political stability and government efficiency.
Kurul and Yalta (2017)	2002-2012	113 Developing Countries	Panel GMM	Political stability positively and significantly influences FDI inflows.
Rashid <i>et al.</i> (2017)	2000-2013	The top 15 competitive countries from the Asian-Pacific region	Panel ARDL and Dynamic GMM models	There is a positive relationship between political stability and FDI in these selected countries.
Jiang <i>et al.</i> (2019)	2006-2015	90 Developing Countries	Panel Data Analysis	FDI in infrastructure is generally more sensitive to political risk factors than is FDI.

The Global Economy, 2019.



of business operations. While studies in the literature examined political and social factors effective on FDI for a group of countries in general, the present study analyzed the relationship for the fragile five countries with panel cointegration analysis which enhances the originality of the present study.

## 5 Analysis

### 5.1 Data set

In the present study, the effect of economic freedoms (*EF*), political stability (*PS*) and trade freedom (*TF*) on performance of countries in terms of attraction of Direct Foreign Investment (*FDI*) was investigated for the Fragile Five Countries, Brazil, India, Indonesia, South Africa and Turkey for the period of 1996-2017. The relevant study data was collected from the web site of the Global Economy Organization ([http://www.theglobaleconomy.com/indicators\\_data\\_export.php](http://www.theglobaleconomy.com/indicators_data_export.php)). Of these variables, *EO* denominates the degree of freedom with regard to operating an economic activity in a country, which ranged between 0 and 100. The higher the score, the more economic freedom is. *PS* ranges between  $-2.5$  and  $2.5$ ; while political stability decreases in a country with a score from zero to negative, it increases from negative to positive. *TF* ranges from 0 to 100; the higher the score, it is based on the trade-weighted average tariff rate and non-tariff barriers.

### 5.2 Model

In this study, the method suggested by Bengoa *et al.* (2003: 537) was adopted in investigation of the effects of political stability, economic freedoms and trade freedom on individual countries' performance in terms of attracting FDI; and the model was structured:

$$FDI_{it} = \beta_{0i} + \beta_{1i}PS_{it} + \beta_{2i}EF_{it} + \beta_{3i}TF_{it} + u_{it} \quad (1)$$

where,  $i$  denotes countries ( $i = 1, 2, 3, 4, 5$ ) and  $t$  is time ( $t = 1, 2, 3, \dots, T$ ).

### 5.3 Cross-Sectional Dependence

The existence of an interaction between the sections is investigated by the cross-sectional dependence test. The sustainable results for cross-correlation of errors in the panel depending on the form of the cross-dependence (Chudik *et al.*, 2011:46). Breusch and Pagan (1980) developed the following Lagrange multiplier statistic:

$$LM = T \sum_{i=1}^{N-1} \sum_{j=i+1}^N \hat{p}_{ij}^2 \quad (2)$$

Tuğba Akın

for  $i = 1, 2, \dots, N$  and  $t = 1, 2, \dots, T$  where  $\hat{p}_{ij}^2$  is the square of a correlation coefficient. The general null hypothesis of no cross section dependence may be stated in terms of the correlations between the disturbances in different cross-section units:  $H_0 = p_{ij} = \text{corr}(\mu_{it}, \mu_{ij}) = 0$  for  $i \neq j$ . where the notation  $t \in (i, j)$ . The LM test is valid for the small  $N$  and large  $T$ .

Pesaran CD (CD) is applicable even for the large  $N$  and large  $T$  or one of large. Pesaran (2004) put forward the following cross-sectional dependence test (Pesaran, 2004:5):

$$CD = \sqrt{\frac{2T}{N(N-1)}} \sum_{i=1}^{N-1} \sum_{j=i+1}^N \hat{p}_{ij}^2 \sim N(0, 1) \quad (3)$$

However, the CD test has an important drawback in that it will lack power in certain situations where the population average pair-wise correlations are zero, although the underlying individual population pair-wise correlations are non-zero (Pesaran *et al.*, 2008:106). Pesaran *et al.* (2008) suggest a bias-adjusted test that is a substituted version of the LM test. The bias-adjusted LM test controls sustainable power in a panel with exogenous regressors and normal errors and it gives more powerful results according to the other tests. The bias-adjusted LM test is structured as follows:

$$LM_{adj} = \sqrt{\frac{2T}{N(N-1)}} \sum_{i=1}^{N-1} \sum_{j=i+1}^N \hat{p}_{ij}^2 \frac{(T-k)\hat{p}_{ij}^2 - \mu_{Tij}}{\sqrt{\nu_{Tij}^2}} \sim N(0, 1) \quad (4)$$

where  $\mu_{Tij}$  and  $\nu_{Tij}^2$  are the mean and variance of population, respectively. The null hypothesis of this test is “ $H_0 =$  no cross-sectional dependence”. The results of cross-sectional dependence test are represented in Table 4.

Table 4: Cross-Sectional Dependence Test

	<i>LM</i>	<i>LM<sub>adj</sub></i>	<i>CD</i>
<i>Model</i>	16.95 (0.08)	1.55 (0.12)	0.29 (0.77)

Note: Values in brackets are p-values.

The results of Table 4 showed that the null hypothesis was accepted according to 5% significance level. This was an expected conclusion that there was high heterogeneity between these countries. In the following sections, the first generation panel unit root tests and cointegration tests were used due to the lack of cross-sectional dependence.

#### 5.4 Panel unit root test

Stationarity of series was analyzed by means of the tests of Levin, Lin, Chu (2002) (LLC), Im, Pesaran, Shin (2003) (IPS) and Hadri (2000). The first of these tests

assume that whereas the horizontal cross-sections of the panel are homogenous, the others assume that they are heterogeneous. While the null hypotheses of the LLC and IPS tests were “the series is not stationary”, in the Hadri test, it was “the series is stationary”, which confirmed the accuracy of other tests. In the analysis, three tests were conducted at the same time and all possible situations were taken into consideration. In the present study, a panel unit root test was conducted for each country group and obtained results were exhibited in Table 5.

Table 5: Panel Unit Root Tests

<i>The Fragile Five Countries</i>	<i>FDI</i>	<i>PS</i>	<i>EF</i>	<i>TF</i>	$\Delta FDI$	$\Delta PS$	$\Delta EF$	$\Delta TF$
<i>LLC</i>	1.19 (0.88)	1.08 (0.86)	-0.77 (0.22)	2.41 (0.99)	-2.79*** (0.00)	-4.00*** (0.00)	-4.83*** (0.00)	-4.59*** (0.00)
<i>IPS</i>	1.57 (0.06)	0.07 (0.53)	-0.35 (0.64)	0.14 (0.56)	-3.01*** (0.00)	-6.99*** (0.00)	-4.47*** (0.00)	-8.93*** (0.00)
<i>Z</i>	1.73 (0.04)	4.25 (0.00)	3.78 (0.00)	4.39 (0.00)	0.68*** (0.25)	0.22*** (0.41)	1.30*** (0.10)	1.51* (0.07)
<i>Hadri Statistics</i>	<i>Z</i> <sup>a</sup> (0.01)	4.27 (0.00)	4.23 (0.00)	3.89 (0.00)	0.46*** (0.32)	0.11*** (0.45)	1.07*** (0.14)	0.78*** (0.22)

Note: Values in the table are relevant test statistics; Probability Values given in brackets. \*\*\* and \*\* denote stationarity at 1% and 5% significance levels, respectively;  $Z^a$  denotes heteroskedasticity consistent  $Z$  statistics.  $\Delta$  denotes that the relevant variable's first order difference.

According to test results displayed by Table 5, it could be seen that level values of series are not stationary; and they become stationary after their first order is taken. That is, the series are  $I(1)$ . This situation suggests that important changes have been observed with these countries in terms of FDI entries, political stability, economic freedoms, and trade freedom. This also indicates a possible cointegrating relationship between the variables.

## 5.5 Panel Cointegration Test

In the present study, cointegration analysis between series was conducted by means of Kao (1999) and Pedroni (2004) test. Pedroni (2004) developed seven different test statistics for testing the existence of a cointegrating relationship between the series comprising the panel data. The null hypothesis suggested by Pedroni (2004) and Kao (1999) is that “*there is no cointegration between series*”. Results of Kao (1999) and Pedroni (2004) panel cointegration test were exhibited in Table 6.

Results presented in Table 6 inferred the existence of a cointegrating relationship between series. That is, these series exhibited similar pattern on the long term; and model estimations made with level values of these series would not include spurious

Tuğba Akın

Table 6: Panel Cointegration Test Results

<i>Fragile Five Countries</i>	Model	
	Test Stat.	Probability Value
Panel $\nu$ -Statistics	-0.78	0.78
Panel $\rho$ -Statistics	0.38	0.65
Panel $PP$ -Statistics	-3.19	0.00***
Pedroni Panel $ADF$	-3.75	0.01***
Group $\rho$ -Statistics	1.52	0.94
Group $PP$ -Statistics	-2.31	0.01***
Group $ADF$	-2.05	0.02**
Kao ADF Test	-3.99	0.00***

Note: \*\*\* and \*\* denote significance levels of 1% and 5% , respectively. Deterministic trend specification was choiced as individual intercept and trend for Pedroni test.

Table 7: Cointegration Coefficients Estimation Results

Fragile Five Countries (Panel)	Independent Variable	Coefficient	t-statistics
PS	PS	1.04***	2.60
	EF	-0.01	-0.18
	TF	0.04**	2.57
Brazil	PS	0.47	0.41
	EF	-0.001	-0.01
	TF	0.02	0.49
India	PS	0.85	0.89
	EF	0.19*	1.86
	TF	0.002	0.21
Indonesia	PS	1.70***	9.63
	EF	-0.08**	-2.20
	TF	0.09***	4.52
South Africa	PS	0.68	0.44
	EF	-0.07	-0.30
	TF	-0.02	-0.52
Turkey	PS	1.85***	2.65
	EF	-0.05	-0.84
	TF	0.13**	2.14

Note: \* and \*\*\* denote significance levels of 10% and 1% for the relevant parameter.

regression problem. These results also indicated that the FDI amount attracted by mentioned countries exhibited similar behavior with variables of political stability, economic freedom and trade freedom in the long term. At the same time, cointegration test results were important in terms of showing that the studied countries have a heterogeneous structure when considered their FDI, economic and trade freedom levels.

### 5.6 Long term analysis: estimation of cointegration coefficients

In the present study, cointegration coefficients were estimated by employing panel full modified least squares method (PFMOLS) with the panel grouped model and individual countries; and obtained results were exhibited in Table 7.

According to results exhibited in Table 7, the panel FMOLS estimator shows that the political stability and trade freedom have a significant positive coefficient on the Fragile Five Countries' FDI. On the other hand, the impact of economic freedom on FDI was found to be statistically insignificant. Obtained results are in conformity with our expectations and similar studies of Schneider *et al.* (1985), Harms *et al.* (2002), Bengoa *et al.* (2003), Busse *et al.* (2007) and Hoa *et al.* (2016) from the relevant literature. Although the economies of those countries are defined under common fragility, they differ structurally. Because of their heterogeneity, it would be appropriate to interpret long-run coefficients on a country basis. According to a country basis results, political stability and trade freedom have a positive impact on FDI in Turkey and Indonesia. On the other hand, it was found a statistically insignificant relationship between the variables in the remaining countries of the panel.

### 5.7 Panel causality analysis

If the variables are cointegrated, a vector error correction model (VECM) must be estimated by increasing the VAR model with one-lagged error correction term (Ağır *et al.*, 2011:453). The panel VECM utilized at this point was given as follows:

$$\begin{aligned} \Delta FDI_{it} = & \beta_0 + \beta_1 ECT1_{it-1} + \sum_{p=1}^k \beta_2 \Delta FDI_{it-p} + \sum_{p=1}^k \beta_3 \Delta PS_{it-p} + \\ & \sum_{p=1}^k \beta_4 \Delta EF_{it-p} + \sum_{p=1}^k \beta_5 \Delta TF_{it-p} + u_{it} \end{aligned} \quad (5)$$

$$\begin{aligned} \Delta PS_{it} = & \alpha_0 + \alpha_1 ECT2_{it-1} + \sum_{p=1}^k \alpha_2 \Delta PS_{it-p} + \sum_{p=1}^k \alpha_3 \Delta FDI_{it-p} + \\ & \sum_{p=1}^k \alpha_4 \Delta EF_{it-p} + \sum_{p=1}^k \alpha_5 \Delta TF_{it-p} + u_{it} \end{aligned} \quad (6)$$

Tuğba Akın

$$\begin{aligned} \Delta EF_{it} = & \delta_0 + \delta_1 ECT3_{it-1} + \sum_{p=1}^k \delta_2 \Delta EF_{it-p} + \sum_{p=1}^k \delta_3 \Delta FDI_{it-p} + \\ & \sum_{p=1}^k \delta_4 \Delta PS_{it-p} + \sum_{p=1}^k \delta_5 \Delta TF_{it-p} + u_{it} \end{aligned} \quad (7)$$

$$\begin{aligned} \Delta TF_{it} = & \theta_0 + \theta_1 ECT4_{it-1} + \sum_{p=1}^k \theta_2 \Delta TF_{it-p} + \sum_{p=1}^k \theta_3 \Delta FDI_{it-p} + \\ & \sum_{p=1}^k \theta_4 \Delta PS_{it-p} + \sum_{p=1}^k \theta_5 \Delta EF_{it-p} + u_{it} \end{aligned} \quad (8)$$

Where  $k$  denotes the optimal lag length(s) and  $ECT_{it-1}$  refers the one-period lagged value of the error correction term series obtained as a result of the Long Term Analysis from equation 1. This indication allows causalities for both the short- and long-run identification. The short-run causality between the variables is tested with a Wald test. The long-run causality is investigated by statistical significance of the t-statistic of the error correction coefficients (Ağır *et al.*, 2011:453). The results were exhibited in Table 8.

Table 8: Panel Granger Causality Results

	Short-Run Causality				Long-Run Causality
	$\Delta FDI$	$\Delta PS$	$\Delta EF$	$\Delta TF$	$ECT$
$\Delta FDI$	0.23 (0.63)	2.81 (0.09)	0.15 (0.69)		-0.83***
$\Delta PS$	1.84 (0.17)		0.29 (0.59)	0.29 (0.59)	-0.05*
$\Delta EF$	0.91 (0.34)	1.79 (0.18)		0.00 (0.98)	0.58***
$\Delta TF$	1.73 (0.18)	2.48 (0.11)	0.08 (0.78)		0.16

Note: The p-values are in parentheses. \*\*\* and \* denotes statistical significance of the relevant parameter at 1% and 10% levels, respectively.

According to the results in Table 8, there is the short-run uni-directional causality from the economic freedom to the foreign direct investment. The results show that foreign direct investment is not responsive to political stability and trade freedom in the short-run. But this situation is changed in the long-run. The political stability, economic freedom, and trade freedom are the cause of foreign direct investment in the long-run. Thus, deviations observed in the short term between series disappear in the long term since they displayed cointegrated behavior; and variables come to equilibrium in the long term. This result evidenced the reliability of the long term analyses. Furthermore, based on the Granger (1988) approach, it was determined that cointegrating relationship has existed between series and that a causality relationship

from independent variable to dependent one on the long term for each model because the coefficient of error correction term was statistically significant.

## 6 Results and discussion

FDIs provide for tremendous benefits to host countries. Especially in fast-track growths of the Fragile Five Countries, namely Brazil, India, and Indonesia, the fundamental role of FDI could not be underestimated. The low labor costs, the rich natural resources, and incentive policies have been important factors that attract FDI in the Fragile Five countries. Especially, the foundation of electronic goods and appliances industry in the manufacturing sector has been established by foreign companies. These technologies brought in by foreign investors internalized and further developed by domestic companies over time, which ultimately have transformed into growth drivers of these countries.

In this study, the effect of economic freedoms, political stability and trade freedom on countries' FDI appeal performance was investigated by means of panel data analysis method for the Fragile Five countries including Brazil, Indonesia, India, South Africa, and Turkey for the period of 1996-2017.

Stationarity of series was investigated by means of LLC, IPS, and Hadri panel unit root tests. It was seen that they are not stationary at level values and become stationary after their first difference is taken, that is, they are  $I(1)$ . This situation could be assessed as that FDI has been entered into the countries experienced significant changes in terms of political stability, economic freedom, trade freedom. Based on this finding, it was concluded that countries need to establish political stability, economic freedom, and trade freedom and to ensure institutionalization across the country so that they attract a regular and high amount of FDI.

Existence of co-integration relationships between series was investigated by employing Kao (1999) and Pedroni (2004) panel co-integration tests, and the co-integrative relationship was determined between series. That is, it was determined that the level of FDI entry into countries exhibit co-integrative behavior with these countries' political stability, economic freedom, and trade freedom. Hence, countries are required to maintain political stability, enhance economic freedom and trade freedom so as to attract more FDI by implementing structural reform as soon as possible and by relieving the anxiety of potential foreign investors.

As a result of long term analysis, it was seen that a unit of increase in political stability and trade freedom score would increase FDI entry into these countries respectively by 1.04% and 0.04% on average; but, economic freedom has a statistically insignificant effect on FDI. It was concluded that the most important determinant of FDI entry into countries is political stability. Moreover, a long term causality relationship was determined from political stability, economic freedom and trade freedom towards FDI. Based on the findings of the present study, the Fragile Five Countries are required to take action for establishing political stability and strengthening economic freedoms

Tuğba Akın

---

and trade freedoms to attract more FDI so that they could accelerate and stabilize economic growth and improve their fragility conditions. In this line, the necessary structural reforms need to be put into action timely. Along with the globalization in our contemporary time, maneuvering space of foreign companies has extended tremendously. These companies survey greater opportunities offered by host countries in terms of their individual secure and lucrative environments. At this point, the Fragile Five Countries need to consider a number of competitor host country alternatives striving for FDI; and to enhance their domestic investment environment to outperform their competitors.

In further studies, according to the capacity of accessing monthly or quarterly data series or covering longer periods from the relevant countries, individual time series analyses could be conducted for them individually and more definite country-specific results could be achieved so as to develop politics suiting different country needs.

## References

- [1] Aizhan K., Madiyarova, D (2013). Doğrudan yabancı yatırımlar ve ekonomik gelişme: Kazakistan örneği. *Ege Stratejik Araştırmalar Dergisi* 4(2): 20–31.
- [2] Ağır H., Kar M., Nazlıoğlu Ş (2011). Do remittances matter for financial development in the MENA region? Panel cointegration and causality analysis. *Empirical Economics Letters* 10.5: 449–456.
- [3] Asiedu, E (2002). On the determinants of foreign direct investment to developing countries: is africa different? *World Development* 30(1): 107–119.
- [4] Asiedu E., Lien D. (2011). Democracy, foreign direct investment and natural resources. *Journal of International Economics* 84(1): 99–111.
- [5] Baharumshah A.Z., Thanoon, M.A (2006). Foreign capital flows and economic growth in east Asian countries. *China Economic Review* 17(1): 70–83.
- [6] Balasubramanyam V.N., Salisu M., Sapsford D. (1996). Foreign direct investment and growth in EP and IS countries. *The Economic Journal* 106(434), 92–105.
- [7] Bengoa M., Sanchez-Robles, B (2003). Foreign direct investment, economic freedom and growth: new evidence from Latin America. *European Journal of Political Economy* 19(3): 529–545.
- [8] 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.
- [9] Burger M., Ianchovichina E., Rijkers B. (2015). Risky business: political instability and sectoral greenfield foreign direct investment in the Arab World. *The World Bank Economic Review* 1–26. doi:10.1093/wber/lhv030.



- [10] Busse M., Hefeker C. (2007). Political risk, institutions and foreign direct investment. *European Journal of Political Economy*, 23(2): 397–415.
- [11] Chudik A., Pesaran M.H., Tosetti. E (2011). Weak and strong cross-section dependence and estimation of large panels. *The Econometrics Journal* 14(1), C45–C90. doi:10.1111/j.1368-423x.2010.00330.x.
- [12] Demircan, H (2003). Dünyada ve Türkiye’de yabancı sermaye yatırımları ve stratejileri. *Ekonomik Araştırmalar Genel Müdürlüğü*, Ankara
- [13] Dunning J.H. (2000). The eclectic paradigm as an envelope for economic and business theories of MNE activity. *International Business Review* 9(2): 163–190.
- [14] Edwards S. (1990). Capital flows, foreign direct investment, and debt-equity swaps in developing countries. No. w3497 *National Bureau of Economic Research*
- [15] Elkomy S., Ingham H., Read R. (2016). Economic and political determinants of the effects of FDI on growth in transition and developing countries. *Thunderbird International Business Review*, 58(4): 347–362.
- [16] Glass A.J., Saggi K. (2002). Intellectual property rights and foreign direct investment. *Journal of International Economics* 56(2): 387–410.
- [17] Göçer, İ.; Akın, T (2016). Kırılgan Beşlide Tasarruf-Yatırım Açığının Ekonomik Büyümeye Etkileri: Yeni Nesil Bir Ekonometrik Analiz. *Ege Akademik Bakış Dergisi* 16(2), 197–210.
- [18] Göçer, İ.; Peker, O (2014a). Yabancı doğrudan yatırımların istihdam üzerindeki etkisi: Türkiye, Çin ve Hindistan örneğinde çoklu yapısal kırılmalı eşbütünlük analizi. *Yönetim ve Ekonomi* 21(1): 107–123.
- [19] Göçer İ., Peker O. (2014b). Yabancı doğrudan yatırımların verimlilik etkisi: Türkiye, Çin ve Hindistan örnekleminde karşılaştırmalı çoklu yapısal kırılmalı eşbütünlük analizi. *Verimlilik Dergisi* 1: 7–40.
- [20] Granger C.W.J. (1988). Some recent developments in a concept of causality. *Journal of Econometrics* 39 (1): 199–211.
- [21] Hadri, K (2000). Testing for stationarity in heterogeneous panel data. *The Econometrics Journal* 3(2): 148–161.
- [22] Harms P., Ursprung, H.W. (2002). Do civil and political repression really boost foreign direct investments? *Economic Inquiry* 40(4): 651–663.
- [23] Hoa D.T.T., Lin, J.Y. (2016). Determinants of foreign direct investment in Indochina: a holistic approach. *International Journal of Business and Applied Social Science* 2(1): 1–10.

Tuğba Akın

---

- [24] Im K.S., Pesaran M.H., Shin Y. (2003). Testing for unit roots in heterogeneous panels. *Journal of Econometrics* 115(1): 53–74.
- [25] Javorcik B.S. (2004). The composition of foreign direct investment and protection of intellectual property rights: evidence from transition economies. *European Economic Review* 48(1): 39–62.
- [26] Jiang W., Martek I., Hosseini M.R., Tamošaitienė J., Chen C. (2019). Foreign infrastructure investment in developing countries: a dynamic panel data model of political risk impacts. *Technological and Economic Development of Economy*, 25(2): 134–167.
- [27] Kao C. (1999). Spurious regression and residual-based tests for cointegration in panel data. *Journal of Econometrics* 90(1): 1–44.
- [28] Kesternich I., Schnitzer M. (2010). Who is afraid of political risk? Multinational firms and their choice of capital structure. *Journal of International Economics*, 82(2): 208–218.
- [29] Kobrin S.J. (1979). Political risk: a review and reconsideration. *Journal of International Business Studies* 10(1): 67–80.
- [30] Kurul Z., Yalta A. (2017). Relationship between institutional factors and FDI flows in developing countries: New evidence from dynamic panel estimation. *Economies*, 5(2), 17.
- [31] Lankes H.P., Venables A.J. (1996). Foreign direct investment in economic transition: the changing pattern of investments. *Economics of Transition* 4(2): 331–347.
- [32] Levin A., Lin C.F., Chu C.S.J. (2002). Unit root tests in panel data: asymptotic and finite-sample properties. *Journal of Econometrics* 108(1): 1–24.
- [33] Miller T., Kim, A.B. (2013). *Defining economic freedom*. Miller AT, Holmes KR, Feulner EJ (eds), 87–94.
- [34] Morgan Stanley (2013). FX Pulse Preparing for Volatility. *Global Outlook*, 01.08.2013 <http://www.morganstanleyfa.com/public/projectfiles/dce4d168-15f9-4245-9605-e37e2caf114c.pdf> (05.02.2015)
- [35] Özcan B., Arı, A (2010). Doğrudan yabancı yatırımların belirleyicileri üzerine bir analiz: OECD örneği. *Ekonometri ve İstatistik e-Dergisi* 12: 65–88.
- [36] Pedroni, P. (2004). Panel cointegration. Asymptotic and finite sample properties of pooled time series tests with an application to the PPP hypothesis. *Econometric Theory* 20(03): 597–625.

- [37] Pesaran M.H. (2004). General diagnostic tests for cross section dependence in panels. *CESifo Working Papers* No.1233: 255–60.
- [38] 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.
- [39] Quazi R. (2007). Economic freedom and foreign direct investment in East Asia. *Journal of The Asia Pacific Economy* 12(3): 329–344.
- [40] Rashid M., Looi X.H., Wong S.J. (2017). Political stability and FDI in the most competitive Asia Pacific countries. *Journal of Financial Economic Policy* 9.02 :140–155.
- [41] Rodriguez-Clare A. (1996). Multinationals, linkages, and economic development. *The American Economic Review* 86(4): 852–873.
- [42] Santander Trade Portal (2019). Foreign Investment. <https://en.portal.santandertrade.com/establish-overseas/brazil/foreign-investment>. Accessed 10.02.2019.
- [43] Schneider F., Frey B.S. (1985). Economic and political determinants of foreign direct investment. *World Development* 13(2): 161–175.
- [44] Seyoum B. (1996). The impact of intellectual property rights on foreign direct investment. *The Columbia Journal of World Business* 31(1): 50–59.
- [45] The Global Economy (2019). [http://www.theglobaleconomy.com/indicators\\_data\\_export.php](http://www.theglobaleconomy.com/indicators_data_export.php). Accessed 01.03.2019.
- [46] UNCTAD. World investment report overview (2018). Reforming International Investment F-Governance. [https://unctad.org/en/PublicationsLibrary/wir2018\\_en.pdf](https://unctad.org/en/PublicationsLibrary/wir2018_en.pdf). Accessed 25.02.2019