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ARE FOREIGN DIRECT INVESTMENTS STILL IMPORTANT FOR GROWTH? A NEW APPROACH FOR TÜRKİYE

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ABSTRACT

So far, especially underdeveloped and developing countries have tried to attract foreign direct investments by adopting open economy policies. In this study, we investigated whether foreign direct investments have a significant impact on the gross domestic product of Türkiye. For this purpose, we examined the long-term relationships between GDP and foreign direct investment between 1986 and 2020 in Türkiye, which is considered a developing country, with a new approach, structural breaks. The results show that there is a two-way positive relationship between the variables. Accordingly, while GDP affects foreign direct investments in the long run, foreign direct investments also affect GDP. The findings obtained from the CCR, FMOLS and DOLS methods used to estimate the coefficients in the long term are generally consistent with each other. It is understood from this study that the policy of adopting open economy policies and attracting direct investments continues to be valid in Turkiye.

Keywords: *Foreign Direct Investment, Gross Domestic Product, Fourier Unit Root Test, Fourier Cointegration Test.*

Jel Codes: *A19, F43, O10.*

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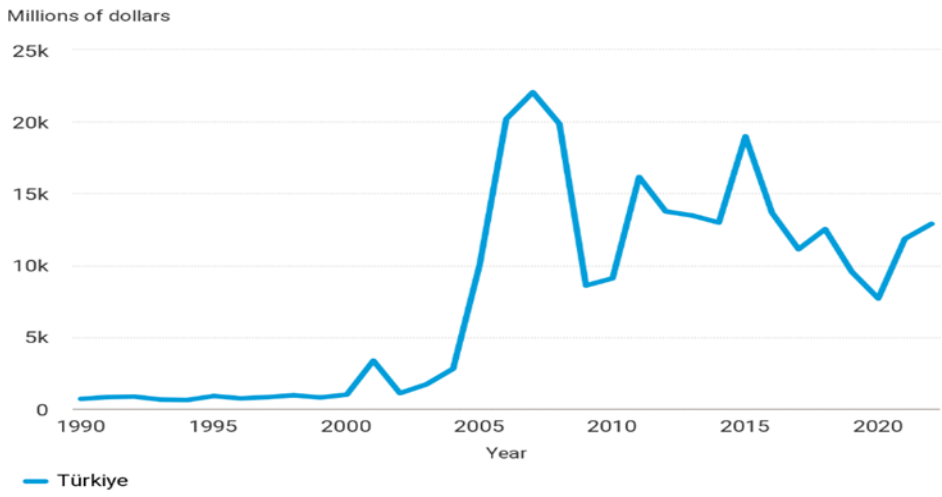
1. INTRODUCTION

Foreign direct investments (FDI) are investments other than portfolio investments, which mean the purchase of company stocks traded in a country's stock exchange by organizations in other countries. Foreign direct investments are made by multinational companies. While these companies prefer to invest in countries where they find it advantageous to produce, developing countries also make regulations that encourage these investments (Acaravcı and Akyol, 2017).

Economic growth is the increase in the production volume in the country's economy over time. The most important indicator of production increase is the change in gross domestic product. The fundamental condition for capital accumulation and technological progress, which are the determinants of economic growth, is investment. Adam Smith (1776), in his work titled "The Wealth of Nations", emphasized that the technological process and social factors are also important in the country's economic growth process, as well as capital flows. It is also noteworthy that these factors are still important. Increasing globalization and free movement of capital since the 1990s have contributed to the positive effect of FDIs on the economic growth of countries. FDIs are common among developed countries in the 1970s and 1980s. FDIs began to move towards developing countries in the 1990s. The main reason for this is that at the end of the 1980s, countries were unable to pay their debts among themselves or with financial institutions. As a result, foreign direct investments, especially in developing countries, have started to be encouraged. At this point, Turkiye- like other developing countries- tried to determine what legal and institutional regulations are necessary to attract foreign investors. Foreign direct investments increase the real production capacity of countries, provide capital stock, and indirectly affect technology, human capital and productivity. Graph 1 shows foreign direct capital flows to Türkiye.

Graph 1. Foreing Direct İnvestment Flows in Türkiye



Source: UNCTAD World Investment Report 2022

When the graph is examined, it is seen that foreign direct investments in Turkey peaked after 2004. These are the years when Turkiye's Gross Domestic Product increased regularly every year, negotiations with the European Union Commission accelerated, CDS premiums tended to decrease and the country gained economic confidence in the international market. After the 2008 global economic crisis, foreign investments seem to fluctuate in Turkiye, and 2015, foreign direct investments tend to decrease.

The goal of developing countries is an economic development that includes sustainable economic growth, increasing investments, creating employment opportunities, and strengthening technological development. Capital accumulation and savings are defended by various theories (Harrod (1939); Domar (1947); Rostow (1959)) as necessary tools for country development. Since it will be difficult to increase savings in developing countries in the short run, countries may choose to increase savings through borrowing or FDI. Countries with a growth target have started to compete in the international arena with various incentives (Carbonell & Werner, 2018).

It is clear that countries must have sufficient capital resources to reach this targets. Countries with insufficient resources and capacities and with a lack of savings tend to external financing. Traditional external financing includes borrowing, while alternative financing is FDIs and international portfolio investments. While borrowing is an alternative to capital, it is risky as it requires repayment. Short-term and highly liquid portfolio investments also have the disadvantage of leaving the country quickly. At this point, it can be said that FDI is a more appropriate way to contribute to the economic goals of countries.

It can be said that theories about foreign direct investments were developed by modern economists within the scope of endogenous growth theories. For example, Vernon (1966) stated that using advanced technology in production first occurred in developed countries and would later spread to developing countries through FDI. Thus, it can be said that FDI is directed towards countries where labor is cheap in order to reduce production costs. Likewise, according to Kinleberg, multinational companies want to invest in a foreign country to benefit from all of these advantages, rather than sharing advantages such as advanced technology, management expertise and patent rights with their potential competitors. Thus, the chance of obtaining monopoly profits will increase and will encourage foreign investors to make direct investments (Alitoska, 2019). According to the OLI model (ownership, location, organization) developed by many economists, businesses that will invest abroad must obtain the necessary information to gain competitive advantage before access to market. It is necessary to choose the location of the country in which it will invest correctly. Accessing to market in the form of FDI requires having some advantages named internalization advantages (Seyidoğlu, 2013, 636-637).

Four results are possible in the relationship between FDI and economic growth. First, there may be a one-way causality relationship from FDI to economic growth. In the literature, this situation is

explained with reasons such as capital accumulation in the country where direct foreign investments are made, technology transfer, and issues such as sales, marketing and management that require expertise are transferred to the host country. The second possible situation is that there is a one-way causality from economic growth to FDI. This situation is supported by some reasons in the literature. Accordingly, the economic situation of the country in which the investment will be made is a center of attraction for businesses. For example, a decrease in country risk, an increase in the level of human capital and an increase in infrastructure investments can increase growth and attract FDI inflows (Chowdhury and Mavrotas 2006,10). Thus, a country's economic performance can also affect FDI inflows. The third situation is that the relationship between FDI and economic growth is bidirectional. In other words, just as FDI affects economic growth, economic growth can also affect FDI. The fourth possible situation is that no relationship can be detected between FDI and economic growth. There are many similar studies in the literature. Studies conducted in some developing countries have found either little or no effect of FDI on economic growth. Especially in non-liberal countries, FDI investments may not occur even if rapid economic growth occurs.

In this study, the relationship between FDI and economic growth in Turkiye is examined. We expect our study contribute in a few points to this field, which has a very large literature. First of all, the findings of the studies on this subject are not compatible with each other. In addition, it is seen that the studies in Turkiye mainly test the causality relationship. This article aims to make a significant contribution to the literature by using an innovative econometric model to investigate the direction and strength of the relationship between two variables. Most of the literature has used standard Granger causality type tests. In academic studies in Turkiye, no studies examining the FDI and growth relationship under structural breaks have been found. Unlike other studies in the literature, structural break cointegration models, which are new generation econometric models, were used in this study. Since the presence of breaks in the series in econometrics would reduce the reliability of the results obtained, breaks were modeled in this study. In this study, Fourier function unit root and integration test were used, which model both sudden and soft breaks well. Secondly, this study dates from 1986 to the present and handle the subject in a wide range. We believe that starting from the years when Turkiye was more open to foreign direct investments and conducting an uninterrupted analysis allows us to reach robust conclusions.

This study consists of five parts. In the introduction, the purpose and importance of the study are explained. A few scholarly studies on the topic were looked at in the study's second section. The third section introduces the study's variables and methodology. The explanation of the study's findings is provided in the fourth part. The study was generally reviewed and suggestions for future research were made in the fifth chapter.

2. LITERATURE REVIEW

Although there is theoretical support for FDI's beneficial impact on economic growth, the results of empirical investigations may differ. According to certain research' findings, the legislative framework of the host country, the health of the labor market, and regulatory practices all affect how positively FDI affects economic growth. The literature summary including authors, sample country and study results is given below.

A number of studies stated that foreign direct investments benefit economic growth in Turkiye. Balkanlı (2019), Dereli (2018), Öncü and Çelik (2018), Taşdemir Erdaş (2018), Koyuncu (2016) analyzed the effect of foreign direct investment on economic growth in their studies. These studies generally emphasize that foreign direct investments have one way and positive effects on economic growth in the long run. On the other hand, other scholars, Uygun &Faydalı (2019) and Çeştepe (2013) shows that foreign direct investments do not have any contribution to economic growth in Turkiye and there is no causality between them. Köprücü (2017) found that economic growth was the cause of FDI for the years 1981-2013, but it was concluded that FDI was not the cause of economic growth. Similarly, Acar (2016) made a causality analysis for Turkiye and did not find any relationship between the variables. In another study on Turkiye, Alagöz, Erdoğan and Topallı (2008) could not find a relationship between foreign direct investments and growth.

Borensztein & Gregerio (1995), in their study on 69 developing countries (1970-1979; 1980-1989), concluded that foreign direct investments are more effective in technology transfer and economic growth than domestic investments. Sumei et al. (2008), in China during the 1988-2003 period shows that there is a bidirectional causality between domestic investment and economic growth, but only a unidirectional causality from foreign direct investment to domestic investment and economic growth. Carbonell & Warner (2018) found that (1984-2010) FDI has no significant positive effect on Spanish GDP growth. Agrawal found mixed results for Bangladesh, India, Pakistan, Nepal, and Sri Lanka (1965-1996). Results state that insignificant over the 1970s and 1980s, positive and statistically significant over 1990–1996. Berthélemy & Démurger (2000) suggest future growth potential is important in foreign investment decisions. Human capital also contributes to growth in China (1985-1996). Abbas et al. (2011) found a positive and significant relationship between GDP and FDI in SAARC countries between 2001 and 2010. Gaikwad et al. (2013), in this study, it was determined that there is a long-term relationship between GDP and FDI in the Indian economy in the period 1990-2008 was investigated. Alvarado et al. (2017) according to their study for 19 Latin American Countries, foreign direct investments do not have a positive effect on GDP, except for Chile and Uruguay, which are high-income countries. Ağır and Rutbil (2019) found that foreign direct investments did not contribute to GDP in their study based on 20 developing (1985-2017) countries. Nosheen (2013) found a long-term positive relationship between GDP and FDI in a study conducted for the country of Pakistan (1980-2010). According to Adeleke et al. (2014) economic growth is directly related to inflow of foreign direct

investment. Besides, a good economic performance is a positive signal for foreign investments in Nigeria (1999-2013). Öncü and Çelik (2018) reported that there is a two-way causality relationship between FDI and economic growth in 5 countries including Turkiye (Brazil, Russia, India, China, Turkey (1998-2016). The results of Herzer's study (2012) for 44 developing countries (1970-2005) showed that FDI negatively affected GDP on average. Iamsiraroj (2016) analyzed the data of 124 countries (1971-2010) and found that GDP and FDI mutually contribute to each other. Accordingly, FDI contributes to economic growth, while economic growth also attracts FDI inflows. Koojaroenprasit (2012) reported that FDI has a strong impact on economic growth for South Korea ((1980-2009). Sandalcılar and Altıner (2012) found a significant positive causality between FDI and GDP in ECO member countries (1995-2011), and a marginally less significant positive causality between GDP and FDI. Külünk (2019) reported that there is a one-way relationship from foreign direct investments to GDP in 5 countries including Turkiye (Azerbaijan, Turkmenistan, Uzbekistan, Kazakhstan and Kyrgyzstan (2001-2017)). Similarly, Faisal & Islam (2022) emphasized one-way causality from FDI to GDP in Bangladesh. Khaliq and Noy (2007) found that foreign direct investments generally had a positive effect on economic growth in Indonesia (1997-2006), although it did not have the same effect in every sector. Sarker & Khan (2020) studies show a long-term relationship between FDI and GDP in India (1972-2017).

3. VARIABLES AND METHODOLOGY

3.1. Variables

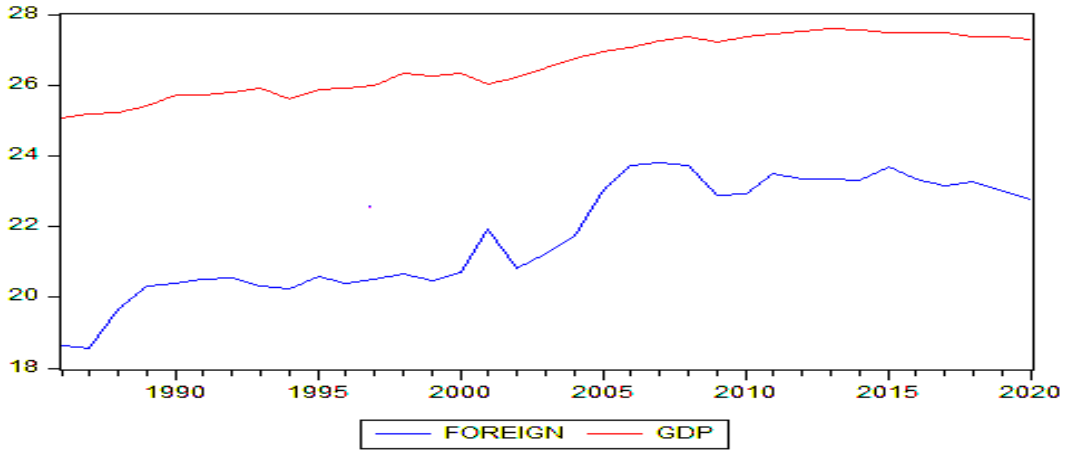
In this study, the relationship between GDP and FDI in Turkiye is examined by structural breaks. In this context, Shin (1994) (SHIN) cointegration test and Tsong et al. (2016) Fourier Shin (FHIN) break cointegration test was used. Information about the variables used in the study and the sources of access to the data are given in Table 1.

Table 1. Variables

Variable	Observation Range	Data Access
Gross Domestic product	1986-2020	https://databank.worldbank.org/
Foreign Direct Investment	1986-2020	https://databank.worldbank.org/

Figure 1 shows the relationship between FDI and GDP in Turkey between 1986 and 2020. Over the years, it is observed that foreign investments and gross national product have increased and followed a similar course. The decrease observed in the graph in 2020 is thought to be due to the effect of the Covid-19 pandemic.

Figure 1. Representation of FDI and GDP over the years



Source: https://databank.worldbank.org/

3.2. Methodology

3.2.1.Bai-Perron Structural Break Test

Bai and Perron (1998, 2003) determined the time and number of structural changes in the linear regression model they estimated by using the Least Squares method (LCS). The multiple regression model with m break ($m+1$ different regime) in their work is given below (Bai and Perron, 2003):

$$y_t = x_t'\beta + z_t'\delta + e_t \qquad j = 1,....,m+1 \qquad t = T_{j-1}+1,...,T_j \tag{1}$$

In the model, y_t represents the dependent variable, $x_t(p \times 1)$ and $z_t(q \times 1)$ represent dimensional variables vector, β ve δ_j $(j = 1,...,m+1)$ represent coefficients vector, e_t error term, $(T_1,...,T_m)$ shows unknown breakpoints. The regression model in the study is estimated by the EKK method. In the study, the unknown regression coefficients of the variables are shown and this model is expressed as the partial structural change model (Bai and Perron, 2003).

3.2.2. Becker, Enders ve Lee Fourier KPSS Unit Root Test (2006)

Becker et al. (2006) developed a unit root test with a Fourier function, in which smooth breaks as well as sharpe breaks can be detected. The data creation process is shown as follows (Becker et al., 2006):

$$y_t = \mu + \beta t + d(t) + r_t + e_t \tag{2}$$

$r_t;$ represents the random walk process, $e_t;$ represents for stationary errors. $d(t)$ represents a function of the number and structure of unknown breaks. The equation in which the Fourier function is included is given below (Becker et al., 2006):

$$d(t) = \alpha + \sum_{k=1}^{n} \theta_{1k} \sin\left(\frac{2\pi kt}{T}\right) + \sum_{k=1}^{n} \theta_{2k} \cos\left(\frac{2\pi kt}{T}\right); \qquad n < \frac{T}{2} \tag{3}$$

In the equation, $n;$ s the number of all possible frequencies for convergence and $k;$ represents a certain number of frequencies. In the the null hypothesis ($\sigma_u^2 = 0$), the process specified in equation (2) is stationary. If $n = T/2$ then d(t) will have a good fit. The model obtained with the help of the Fourier approach using a single frequency combination is as follows (Becker et al., 2006):

$$d(t) \cong \gamma_1 \sin\left(\frac{2\pi kt}{T}\right) + \gamma_2 \cos\left(\frac{2\pi kt}{T}\right) \tag{4}$$

In the equation, $[\gamma_1, \gamma_2];$ measures the speed of the frequency. The test statistic of the model, τ_{KPSS}, is obtained as follows (Becker et al., 2006).

$$\tau_{KPSS} = \frac{1}{T^2} \frac{\sum_{t=1}^{T} S_t(k)^2}{\sigma^2} \tag{5}$$

Becker et al. (2006) stated in their study that if there is no nonlinear trend in the data creation process, it is more appropriate to use the standard KPSS stationarity test instead of FKPSS. In addition, they stated that the null hypothesis $(\gamma_1 = \gamma_2 = 0)$ showing the absence of a nonlinear trend should be tested with the F-test statistic.

3.2.3. Shin (1994) Cointegration Test

Unlike studies in the literature, Shin (1994) tested the existence of cointegration in the null hypothesis. Shin's data creation process is based on the equation of the KPSS (1992) test developed by Kwiatkowski et al. The regression model established for the cointegration test is given below (Shin, 1994):

$$y_t = \mu + \delta t + x_t'\beta + \eta_t \qquad t = 1, 2, ..., T \tag{6}$$

$$\eta_t = \gamma_t + v_{1t} \tag{7}$$

$$\gamma_t = \gamma_{t-1} + u_t \tag{8}$$

$$x_t = x_{t-1} + v_{2t} \tag{9}$$

In the equation, y_t and x_t are the scalar and $m-$ vektör $I(1)$ variables, $u_t;$ is the variance of σ_u^2, and γ_t is the random walk process with zero mean. As in the KPSS (1992) test, the null hypothesis $\left(\sigma_u^2=0\right),$ showing the existence of a cointegration relationship is tested against the alternative hypothesis $\left(\sigma_u^2>0\right)$. The critical values regarding the rejection/acceptance of the null hypothesis are shown in the table.

3.2.4. Tsong et al. (2016) Fourier Cointegration Test

The FSHIN cointegration test, which models the structural breaks by including the Fourier function in Shin's (1994) cointegration test, was brought to the literature by Tsong et al. (2016). The regression model established in the FSHIN cointegration test, which can be expressed as an extension of the FKPSS stationarity test, is given below (Tsong et al., 2016):

$$y_t = d(t) + x_t'\beta + \eta_t \tag{10}$$

$$\eta_t,\ \gamma_t \tag{11}$$

and x_t are described in models (4), (5), and (6) respectively. As a result of scalar v_{1t} and the p-dimensional vector v_{2t} being stationary, the first difference y_t with x_t indicates I(1) stationary processes. $f(t)$ which model representing deterministic trend is expressed as follows (Tsong et al., 2016):

$$f(t) = \sum_{i=0}^{m} \delta_i t^i + d(t) \tag{12}$$

If $m=0$ it shows steady state, if $m=1$ it shows stable and trending state. In this study, the null hypothesis $\left(\sigma_u^2=0\right),$ which showing the existence of a cointegration relationship is tested against the alternative hypothesis $\left(\sigma_u^2>0\right)$. If $\sigma_u^2=0$; it is mentioned that there is a cointegration relationship between y_t and x_t. The null hypothesis was tested with following model (Tsong et al., 2016):

$$y_t = f(t) + x_t'\beta + v_t \tag{13}$$

The regression model in (7) is estimated by using the Dynamic Least Squares (DOLS) method. FSHIN cointegration test statistic $\left(CI_f^m\right)$ is given below:

$$CI_f^m = T^{-2}\sigma_v^{-1}\sum_{t=1}^{T} S_t^2 \tag{14}$$

$$S_t = \sum_{i=1}^{T} \hat{v}_t \quad ; \tag{15}$$

If the sum of the LCC (least squares) residues obtained from the model number (7) is equal to σ_v^2 it is determined that v_t is the estimator of long-term variance. If the FSHIN test statistic obtained from the model (9) is less than the critical value, the null hypothesis is rejected, so it is concluded that variables do not act together in the long term, that is, they are not cointegrated (Tsong et al., 2016).

4. EMPIRICAL RESULTS

In the analysis, first the natural logarithm (ln) of the series was taken. Then, the number of structural breaks in the series was determined by using the Bai-Perron (BP) test developed by Bai and Perron (1998, 2003). In the next step of the analysis, the stationarity of the series was tested using the Fourier KPSS (FKPSS) unit root test. The SHIN cointegration test and the FSHIN structural break cointegration test were used to analyze the long-term relationship between the variables.

In the analysis, LGDP and LFDI contractions were used for GDP and FDI variables, respectively. For the first difference series, the contractions DGDP and DFDI are used, respectively.

Table 2. Results of Bai Perron Test

Variable: FDI			**Variable: GDP**		
B	F	C.V.**	B	F	C.V.**
0 vs. 1 *	168,6270	8,58	**0 vs. 1 ***	178,0840	8,58
1 vs. 2 *	22,42820	10,13	**1 vs. 2 ***	30,54890	10,13
2 vs. 3	10,90863	11,14	**2 vs. 3 ***	11,22282	11,14
			3 vs. 4	0,709046	11,83

Note: B: Number of break; F: F-statistic value; C.V.: Critical value. * Significant at the 0.05 level. ** Bai-Perron (2003) critical values.

The findings obtained from the multiple structural break test result show that the series have more than one break. Therefore, the unit root test (FKPSS), which takes into account the stationarity of the series and the structural breaks, was applied. Table 3 shows the FKPSS test result.

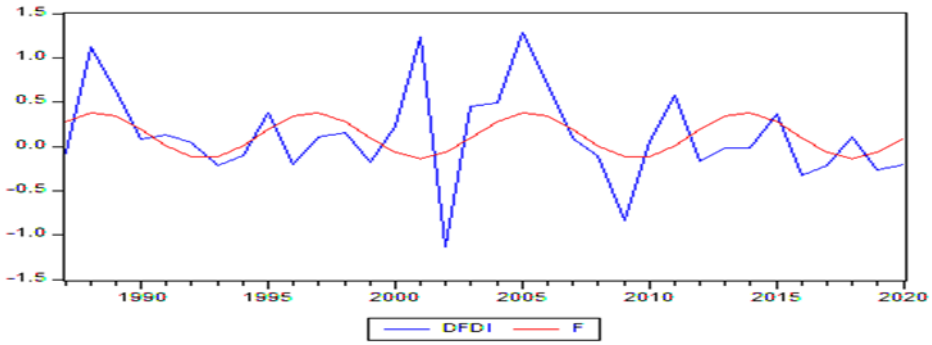
Table 3. Results of Fourier KPSS Stationarity Test

Variable	Min SSR	Fourier KPSS	KPSS	F- statistics
LFDI	24,04755	0,319796 (3)		40,56080[t]
LGDP	6,200028	0,357304 (4)		43,93564[t]
DFR	7,245366	0,188591* (4)	0,090295 (5)	2,489230
DGDP	0,722514	0,251171* (2)	0,076714 (1)	2,453929

Note: Bandwidths were obtained using the Newey-West method and are shown in parentheses. Critical values for the Fourier KPSS unit root test were determined as 0.1720, for k=1 at 5% significance level, and 0.4592 for k=4. The critical value for the F test was determined as 4.929 at the 5% significance level. The critical value for the KPSS unit root test was determined as 0.463 at the 5% significance level. * indicates that the variables are stationary at the 5% significance level, and t indicates that the trigonometric terms are significant at the 5% level.

As seen in Table 3 as a result of the FKPSS unit root test, it was determined that there is a unit root in the series. Therefore, in order to make the series stationary, the FKPSS unit root test was applied again after taking the first difference of the series and it was found that the series were stationary. The significance of the trigonometric terms for both variables was tested with the F-test and it was found that the trigonometric terms were not significant. Thus, the standard KPSS unit root test was applied to the series. It is determined by the stationarity analysis that both series are I(1). In Figure 2, there are series with Fourier functions and it is seen that the Fourier function is compatible with the series. 'F' in Figure 2 represents Fourier waves.

Figure 2. Series and Fourier Estimates



FSHIN cointegration was applied to test the existence of a long-term relationship between GDP and FDI. Test results are given in Table 4.

Table 4. Results of Fourier Shin and Shin Cointegration Test

Model	D.V.	I.V.	CI_m	CI_f	F- statistics
1	GDP	FDI	0,074	0,033	4,982
2	FDI	GDP	0,082	0,019	3,969

Note: 'M' shows 'Model'. 'D.V.' shows the 'Dependent variable'. 'I.V.' shows the 'Indeğendet variable. **'CI_m'** shows the Shin (1994) test statistic; **'CI_f'** shows the test statistic by Fouirer Shin (2016). The critical values for Shin (1994) cointegration test are 0.231, 0.314 and 0.533 at 10%, 5% and 1% levels, respectively. Critical values for Fouirer Shin (1994) cointegration test; 0.200, 0.276 and 0.473 for k=2 at 10%, 5% and 1% levels, respectively; For k=1, it is determined as 0.095, 0.124 and 0.198.

The Fourier Shin cointegration test statistic is less than the critical value. Therefore, the null hypothesis cannot be rejected for the model in question. The finding of the Shin cointegration test also supports the finding obtained from the Fourier Shin cointegration test. This result shows that FDI affects GDP in the long run and these two variables act together in the long run.

In the second model, the optimum frequency value is 1. Similarly, the cointegration null hypothesis for the model could not be rejected because the FSHIN cointegration test statistic was less than the critical value. Thus, it shows that GDP affects FDI in the long run.

In the study, long-term coefficients were estimated with the Fully Modified Least Squares Method (FMOLS) proposed by Phillips and Hansen (1990), Canonical Co-integration Regression (CCR) proposed by Park (1992), and DOLS developed by Stock and Watson (1993). Test results are given in Table 5 and Table 6.

Table 5. Result of FMOLS, DOLS and CCR

Dependent variable	Model	Independent variable
		FDI
GDP	FMOLS	0,5216* [16,6905] (0,0000)
	DOLS	0,5270* [18,3670] (0,0000)
	CCR	0,5195* [17,9354] (0,0000)

Note: *, **, *** indicate significance at the 1%, 5%, and 10% levels, respectively. Square brackets indicate t-statistics values, and those in parenthesis indicate probability values.

The results show that FDI has a positive and statistically significant effect on GDP according to all forecasting models. As seen in Table 6, 1 unit increase in FDI leads to an increase of approximately 0.52 units in GDP. When Table 5 is examined, it can be said that the results obtained from the three estimators are generally compatible with each other.

Table 6. Result of FMOLS, DOLS and CCR

Dependent variable	Model	Independent variable
		GDP
FDI	FMOLS	1,8476* ɜ,0066] (0,0000)
	DOLS	1,8145* [2,9792] (0,0000)

	CCR	1,8394* [16,940] (0,0000)

Note: *, **, *** indicate significance at the 1%, 5%, and 10% levels, respectively. Square brackets indicate t-statistics values, and those in parenthesis indicate probability values.

As seen in Table 6, GDP has a positive and significant effect on FDI according to all models. Accordingly, 1 unit increase in GDP causes to an rise of approximately 1.84 units in FDI according to FMOLS, DOLS and CCR results.

5. CONCLUSION

Especially underdeveloped and developing countries are trying to attract FDI by adopting open economy policies. The impact of foreign direct investments on economic growth is complex and multifaceted. In general, foreign direct investments have the potential to contribute positively to economic growth, but this impact depends on some factors. Foreign investments provide external resources to a country, which can help local businesses finance their expansion and modernization. In addition, foreign investments can increase the efficiency of local businesses as they will bring advanced technology. Foreign investments also increase employment opportunities and support the development of foreign trade and infrastructure investments.

The relationship between foreign direct investment (FDI) and economic growth has an extensive literature focusing on both industrialized and developing countries. In this study, the long-run interrelation between GDP and FDI in Turkiye between the years 1986-2020 was examined with structural breaks. For this purpose, the stationarity of the series was first examined with the Fourier KPSS test, and it was found that the series were stationary at the first difference. The interrelation between the variables was investigated with the Fourier Shin cointegration test and it was observed that there was a long-term bidirectional relationship between the variables. Accordingly, while GDP affects FDI in the long run, FDI also affects GDP. Although there is a two-way relationship between FDI and growth, contrary to the general opinion in the literature, the contribution of economic growth to FDI is greater. This situation can be examined under the head of factors determining FDI in future studies. The results show that Turkiye's economic growth performance is an important center of attraction for foreign investors. There are policies and measures that can be implemented to increase foreign direct investments. For example, the simplicity of the tax system for foreign investments, tax incentives, effective legal infrastructure and regulatory transparency facilitate foreign direct investments. In addition, financial supports, interest rate cuts and financial incentives may also attract investors. Investments especially in industries with strategic importance should be encouraged. Additionally, the development of transportation, energy and telecommunication infrastructure reduces the cost of doing business and facilitates the activities of investors. Political stability is as decisive for investments as the suitability of a country's physical conditions. A reliable, strong and stable political environment provides

investors with the opportunity to make long-term investment planning. Successfully implementing these policies not only attracts foreign investments but also promotes economic growth. Turkey's long-term structural reforms will make a significant contribution to economic growth.

In the study, the positive effect of foreign direct investments on GDP is in parallel with the Balkanlı (2019) Dereli (2018), Taşdemir and Erdaş (2018) in Turkiye. In addition, these results are compatible with the work of international studies Nosheen (2013), Adeleke et al (2019), Khaliq and Noy (2007) and Faisal and Islam (2022). In addition, the two -way positive effect reached in the study is in parallel with Öncü and Çelik (2018); Berthélemy and Démurger (2000), Iamsiraroj (2016) and Sandalcılar Altıner (2012).

The effort to withdraw foreign investments to the country seems to remain on the agenda of developing countries in the following years. In addition to the effect of foreign direct investments on economic growth, it is recommended to be on important issues such as contribution to human capital, impact on reducing costs or effect on technological expansion.

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