

Research Article

How Foreign Direct Investments Drive Trade Flows in Emerging Economies

Yükselen Ekonomilerde Doğrudan Yabancı Yatırımların Dış Ticaret ile İlişkisi

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Abstract

This study examines how FDI determines foreign trade in emerging market economies, including Turkey, India, China, Mexico, Brazil, and Indonesia, for 1979-2019. The hidden panel cointegration results show that there is a long-term relationship between FDI and exports in these countries. The results also indicate the existence of a cointegration relationship in both directions (increase and decrease together) between imports and exports in the long run. The existence of an asymmetrical relationship between FDIs and exports confirms this fact. The departure of FDIs causes a decrease in the exports of these countries. However, there is no positive bidirectional causality relationship between FDIs and exports and imports. In addition, there is no bidirectional causality relationship between imports and exports. The results of the analysis reveal that FDIs are not the primary determinant of foreign trade in the long run.

Keywords: Foreign Direct Investments, Trade Flows, Emerging Economies, Hidden Panel Cointegration, Asymmetric Causality Test

JEL Codes: C33, F10, F21

Öz

Bu çalışma 1979-2019 dönemi için aralarında Türkiye, Hindistan, Çin, Meksika, Brezilya ve Endonezya'nın yer aldığı yükselen piyasa ekonomilerinde DYY'lerin dış ticareti nasıl belirlediğini araştırıyor. Sonuçlar bu ülkelerde DYY'ler ve ihracat arasında uzun dönem bir ilişkinin bulunduğunu gösteriyor. Uzun dönemde ihracat ve ithalat arasında pozitif ve negatif ilişkinin varlığı ise ihracatın ithalatı da yönlendirdiği anlamına geliyor. Bunun nedeni yükselen piyasa ekonomilerinde üretimin ithal ara malı ve girdi malına olan bağımlılığıdır. Bu durum söz konusu ülkelerin yüksek teknoloji üreten-yüksek katma değer yaratan bir üretim sürecine sahip olmadıklarını, daha çok çok uluslu şirketlerin üretim süreçlerinde tedarik zincirinde yer aldıklarını gösteriyor. DYY'ler ile ihracat arasındaki asimetrik ilişkinin varlığı da bu gerçeği doğruluyor. DYY'lerin çıkışı bu ülkelerin ihracatının da düşmesine neden oluyor. Bununla birlikte, DYY'ler ile ihracat ve ithalat arasında iki yönlü pozitif bir ilişki bulunmuyor. Ayrıca, ihracat ve ithalat arasında iki yönlü bir ilişki ortaya çıkmamıştır.

Anahtar Kelimeler: Doğrudan Yabancı Yatırımlar, Ticaret Akımları, Yükselen Ekonomiler, Saklı Panel Eşbütünlüşme, Asimetrik Nedensellik Testi

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1. Introduction

The dynamic of sustainable economic growth in developing economies is exportation. Exports makes essential contributions to economic growth both in terms of volume and the added value. The prominent point here is the technology and capital accumulation used in production. These are the main priorities for achieving comparative advantage in international markets and thus sustaining a stable export-based economic growth process. Moura and Forte (2010) underlines that foreign direct investments (hereinafter FDI) are essential for these countries to change their production structures based on technology. The expected effect at the end of this transformation process is an raise in exports and a decrease in imports. The substitution of imported consumption and intermediate-input goods with domestic production decreases imports, and the foreign trade balance is positively affected. FDIs occur in establishing production facilities in countries other than the host country or purchasing existing facilities in foreign countries.

FDIs contribute positively to technological developments and human capital in a country while at the same time increasing the country's foreign exchange earnings and its competitiveness in foreign trade. For example, Coe et al. (2009) state that human capital is essential in explaining total factor productivity. Ruiz (2007) found that foreign investments in technology transfer contribute to technological development by creating a technological spillover effect in the host country. Bevan and Estrin (2000) emphasize that foreign direct investments effectively improve the capital account in the balance of payments, developing technological innovations, accelerating entrepreneurship, and economic growth. FDIs increase the production of countries and contribute to economic growth. The point that should be considered here is whether the inputs used in production are domestic or foreign and whether the production is for export or the domestic market. These can have an impact on the country's balance of payments. Nevertheless, it is generally accepted that FDI inflows, which are among the factors of the globalization process globally, increase the foreign trade volumes of countries and have a positive effect on their welfare levels (Aizenman and Noy, 2006, p. 318).

FDIs also provide technology transfer to the host country. This contributes positively to reducing foreign dependency, creating a qualified workforce, and developing management knowledge (Kaya, 2004). Whether or not foreign direct investments contribute to the domestic economy is a matter of debate; it is evident that they contribute to the capital accumulation of countries. The relationship between FDI and foreign trade has been expanded around the theory put forward by Hecksher-Ohlin-Samuelson and Mundell. Their approach is grounded on the idea that “international commodity trade replaces international production factors” (Liu et al., 2001, p. 191). Ghazali (2010) states that if countries benefit from FDI effectively, they experience positive developments in their exports and economic growth. FDI should also contribute to the competitive nature of the local industry in the international arena using a qualified workforce and natural resources and the production opportunities it offers only through technology transfer.

With the effect of globalization, international production and FDIs have constantly been increasing. FDIs have contributed positively to host countries in terms of capital, technological innovations, and employment. Thus, while multinational companies chose to invest in countries they find advantageous, developing countries support FDI inflows that increase their economic growth. Hence FDIs promote to sustainable economic growth for many developing countries (Acaravcı and Akyol, 2017, p. 18). While FDIs contribute to foreign trade, they also enable new technologies and know-how to come to the host country. FDI and foreign trade can be regarded as both alternatives and complementary to each other in utilizing the opportunities that exist outside the borders of the country (Dücan, 2016, p. 296).

There are direct and indirect relationships between foreign trade flows and FDI. Export promotion, import-substitution, or more intermediate goods trade are among the direct effects. This effect of FDI occurs between the host country and the main country or between the host country and other third-world markets (Goldberg and Klein, 1997). FDI does not always

positively affect the economy. If FDI replaces domestic savings in any sector, this causes a crowding out effect on domestic investment. In addition, it may lead to the transfer of outdated and insufficient technologies, rather than using the factor opportunities broadly. In such cases, FDIs do not contribute to exports or improve dynamic comparative advantage of the host country (Kıran, 2011, p. 150).

FDIs are handled in two ways, namely market and export-oriented. Market-oriented FDI considers the economic growth performance and economic scale of that country for an investment decision in a country. Export-oriented FDI considers the cost advantage opportunity offered to it while making an investment decision in a country (OECD, 2000/4, pp. 11-13). The causality relationship between FDI and exports can work in both directions. In terms of export, the production base can be formed by considering the comparative advantage of the host country. This means that FDI inflows encourage exports. When multinational companies are competitive and profitable in their export fields, they can re-invest their profits, recognize and use new technologies, and develop with superior management and marketing policies (Pacheo-Lopez, 2005).

When FDI increases imports and worsens the terms of trade, it also has adverse effects on the balance of payments. This situation causes a loss in domestic productivity. It also creates a price increase in capital goods and decreases domestic investments (Ghazali, 2010, p. 125). Studies conducted for some countries also revealed that FDI inflows initially tended to increase the host country's imports. This is because transnational companies import limited capital, intermediate goods, and services in their host country. One of the situations that create problems for developing countries is the export of the country's natural resources. In addition, since the exported product is not processed, the payment to the host country for this product is deficient. In such cases, the host country becomes stuck in processing its raw materials and dealing with other complex manufacturing stages. When FDI focuses on import substitution industries, the attempts of foreign investors to produce the goods previously imported by the host country cause to decrease in the import of the host country (Hossain, 2008, p. 5).

This study examines the long-term relationships between FDIs and exports and imports in emerging market economies, including Turkey, India, China, Mexico, Brazil, and Indonesia. The reason for choosing these countries is the development in their foreign trade thanks to foreign direct investments. These countries have increased their exports by closing their capital accumulation and technology gaps through direct investments. However, the fact that each country has a different economic structure is another reason for comparison. For example, China has opened to foreign countries with its economic and political structure transformations. On the other hand, Brazil, Indonesia, and India have developed their economies, described as fragile. According to the World Bank's 2019 report, Mexico is highly dependent on foreign trade, and three-quarters of this export is to the United States. Besides, Turkey has a substantial trade relationship with the EU within the scope of the customs union. The study is designed as follows: The second part summarizes the studies on the sample countries. The third part presents the model, data, and estimation results. The fourth and final part includes policy analysis and recommendations.

2. Literature Review

Previous empirical studies before the 2000s share the main finding for India that FDI does not contribute to export performance. These findings imply that FDI inflows to India are generally triggered by market-oriented and not export-oriented (Lall and Mohammad, 1983; Aggarwal, 2001; Sharma, 2000; Pant, 1993; Kumar and Siddharthan, 1994; Kumar, 1998). After 2000s, the service sector and ICT area have become primary sectors boosting Indian economy in the last

decade thank to liberalization policies for foreign trade. These areas have been transformed to attract FDIs. Researchers have also focused on the impact of FDI on exports. However, researchers have still not shared a common conclusion. Some studies support earlier evidence that FDI is just driven by market-oriented. For example, Sultan (2013) states a stable long-run relationship between FDI inflows and export for 1980-2010. Besides, Singh and Tandon (2015) also find no causal and long-run relationship between FDI and export for 1990-2013. Monethy and Sethi (2019) also find the relationship between FDI, and export doesn't exist for the long run. Besides, Sinha et al. (2015) use Johansen cointegration analysis for 1970-2013 to test the connection between FDI and international trade. They find that there is no relationship for the short and long run. However, some studies reach a bilateral interaction between FDI and export. For example, Babu (2018) detects a bi-directional causality between FDI and export. This evidence indicates that FDI seems to induce importing technologies, which leads to export and exports, which further lets more FDI inflows. Sharma and Kaur (2013) and Jana et al. (2020) also confirm mutual interaction between FDI and foreign trade compounds.

The relationship between FDI and trade flows has been one of the leading popular topics for the case of Turkey. For example, some studies claim no relationship between FDI and trade flows as in Karagöz and Karagöz (2006) as in Kıran (2011). In contrast, Altıntaş (2009) states that FDI supports export performance and import stimulates FDI. Altıntaş and Türker (2014) evidence that imports influence FDI for 1987-2011. Besides, Perşembe (2010) detects that an increase in FDI stimulates exports for 1998-2008, and Bozdağlıoğlu and Özpinar (2011) find similar evidence for 1992-2009. Pata and Terzi (2016) examine the symmetric and asymmetric causality between FDI and foreign trade by focusing on the liberalization era in Turkey covering 1983-2014. They detect a positive causality which is from trade flows to FDI. Their findings state a complementary relationship between FDI and trade flows; in other words, Turkey improve FDI policies by foreign trade. Kotil (2020) focuses on a relationship between FDI and foreign trade for the period 2003-2019. The results present that FDI does not play a vital role in the export and import, but there is a positive interaction between export and import. It refers that export performance is dependent on the import. Karabulut (2020) also notices the bi-directional causality between import and export by employing DOLS and FMOLS method. However, Zengin et al. (2016) find a causality operating from exports to import by using Toda-Yamamoto causality analysis.

Furthermore, Indonesia is also an interesting case in the literature, and studies have revealed various implications and results. For example, Kawai and Urata (1998) investigate the relationship between FDI and export and import by employing aggregated level data. They find that FDI is not promoting factor for accelerating export performance. Rahmaddi and Ichihashi (2013) use regression analysis on industry-level data belonging to 1990-2008 to determine the role of FDI in manufacturing export. The regression results reveal that FDI is an essential contributor for exports goods in psychical capital-intensive, human-capital-intensive, and technology-intensive industries. However, unskilled labor-intensive and natural-resource-intensive sectors, which generate comparative advantage in Indonesia, are weakly affected by FDI in contrast to high technology industries. Nonetheless, Mahadika et al. (2017) remark a long-run connection between FDI and export in Indonesia. Besides, Budiharto et al. (2017) indicate that FDI is driven by labor equipped with human capital, and FDI is the main contributor to capital formation. Mukhlis and Qodri (2019) affirms that the relationship between FDI and trade flows for 1980-2017. Lee and Fernando (2020) examine the role of FDI in Indonesia's export performance for 1980-2018 and find a long-run relationship in the long run. Their causality tests mark that a causality operating from export to FDI for Indonesia. Saimul and Darmawan (2020) affirm that there is a causality operating running from import to export, and import induces FDI in the short run. Nevertheless, FDI does not affect exports.

China is a fast-growing country with the help of state-capitalism policies implemented since 1980 and become an attractive foreign investment because of low labor cost. Therefore, the role of FDI in economic performance in China is appreciated by researchers. For example, Liu et al. (2001)

examine the causality between FDI and foreign trade for the period 1984-1998. They reach that the growth in FDI inflow is positively influenced by the development of imports, and additionally, import performance is stimulated by the growth of export. Sharma and Kaur (2013) research the causality between import, export, and FDI for 1976-2002. They find that there is a uni-directional causality moving from FDI to imports and FDI to exports. However, bidirectional causality between imports and exports also holds for China. Sun (2012) examines the effects of FDI on domestic exporting firms and concludes that an increase in FDI inflows has a positive impact on domestic firms' exports.

There is less abundant literature on relationship among FDI, export, and import in Mexico. For example, Galan and Oladipo (2009) find that exports induce FDI, de la Cruz and Mora (2006) notice that FDI causes exports and imports, and Alguaci et al. (2002) state that FDI determines export. In the last decades, there is an increasing interest on the relationship between FDI and foreign trade's compounds regarding time-series and panel data. Fonseca and Llamasa-Rosas (2018) investigate FDI determinants occurring in manufacturing sectors across Mexican states by employing spatial panel econometric models. As a conclusion, FDI seems to generate positive spillover across Mexican states. Cabral and Alvarado (2020) and Fonseca and Llamasa-Rosas (2018) focus on the determinants of manufacturing export belonging to Mexican states and regions for 2007-2015. Static and dynamic panel data methods are preferred. They imply that FDI has a significant and persistent impact on most manufacturing export regions. Moreover, the Mexico-US border is the most sensitive to FDI inflow in terms of the connection between FDI and manufacturing exports. Nevertheless, Hassan and Nassar (2017) find no significant relationship between FDI and exports. In contrast, a negative relationship between FDI and imports from the US holds for Mexico. Furthermore, Brazil is another attractive case for the connection between FDI and foreign trade compounds, but few efforts exist regarding the unique Brazilian country-level. For example, Pereira and Calegario (2013) investigate the causality between FDI and foreign trade in Brazil, and the results show that FDI is a determinant leading to exports and imports.

Panel data analysis has been employed to investigate the relationship between FDI and foreign trade in E7 countries. For example, Adnett (2017) handles a study to detect the determinants of FDI in E7 countries by applying panel regression analyses for the period 1990-2015. The results indicate that trade openness appears as an insignificant factor determining FDI. Nevertheless, Gövdeli (2019) finds a different conclusion than Adnett's (2017) evidence. Gövdeli (2019) applies heterogeneous panel analysis to test the connection between considered variables involving life expectancy, FDI, trade openness, and economic growth in E7 countries for 1992-2016. The empirical evidence related to trade openness and FDI is associated with the one-way causality running from trade openness to FDI. Logun (2020) uses Panel ARDL approach on data belonging to E7 countries for 1992-2018 to investigate the connection between FDI, export, and economic growth. According to the findings, there is a one-way causality moving from economic growth to exports is confirmed, and the existence of causality link operating export to FDI is also affirmed. As for BRIC countries, Ranjan and Agrawal (2011) examine the determinants of FDI for 1975-2009 by using panel regression analyses. They emphasize that trade openness seems to be a potentially essential factor attracting FDI.

3. Data and Methodology

This study investigates the relationship among exports (% of GDP) and imports (% of GDP) and FDI (% of GDP) for six emerging economies involving India, Turkey, China, Mexico, Brazil, and Indonesia. We employ the panel hidden co-integration approach and panel asymmetric causality test. The data set is annual and spanning from 1979 to 2019 and obtained from World Bank Open Data. The concept of hidden co-integration developed by Granger and Yoon (2002) provides to examine the possible asymmetries in a steady-state connection between variables. The approach emphasizes that the original variable form seems to cointegrate. In contrast, a transformation in which the influence of adverse shocks is separated from positive shocks results in co-integration

between variables. There are some guidelines to implement panel asymmetric co-integration test. Initially, positive and negative cumulative shocks should be detected for each variable. Secondly, stationarity of the variables as the positive and negative component is checked. The rule is the variables should be integrated at their first difference, I (1). Finally, the co-integration between variables forming as non-stationary variables is analyzed.

Considering panel asymmetric causality test, some logic alike panel hidden co-integration is valid. Panel asymmetric causality test implies that the causal impact of negative shock may dissent from the causal effect of positive shock, vice versa, which creates a difference from the conventional Granger causality test. Like panel hidden co-integration test, the variables are untwined as positive and negative components and the stationary process should be followed. After the complementation of the process, the causality connection between positive and negative shocks is investigated.

3.1. Hidden Panel Cointegration

If two variables are found as integrated of the first degree as a result of the unit root process, the outcome solution for each variable shall be presented with the help of the recursive approach Hatemi-J (2020):

$$z_{i,t} = z_{i,t-1} + \varepsilon_{i1,t} = z_{i,0} + \sum_{j=1}^t \varepsilon_{i1,j} \quad (1.a)$$

$$y_{i,t} = y_{i,t-1} + \varepsilon_{i2,t} = y_{i,0} + \sum_{j=1}^t \varepsilon_{i2,j} \quad (1.b)$$

The equations (1.a) and (1.b), for $i=1, \dots, m$ and M and ε represent the cross-sectional dimension, and the disturbance terms assumed to be white noise process, respectively. Moreover, $\varepsilon_{i1,t}^+ = \text{Max}(\varepsilon_{i1,t}, 0)$ and $\varepsilon_{i2,t}^+ = \text{Max}(\varepsilon_{i2,t}, 0)$ stand for the positive shocks for each panel variable and $\varepsilon_{i1,t}^- = \text{Min}(\varepsilon_{i1,t}, 0)$ and $\varepsilon_{i2,t}^- = \text{Min}(\varepsilon_{i2,t}, 0)$ infer the negative shocks for each panel variable. Utilizing this information, the following equations can be achieved as follow Hatemi-J (2020):

$$z_{i,t}^+ = z_{i,0}^+ + \varepsilon_{i1,t}^+ = z_{i,0} + \sum_{j=1}^t \varepsilon_{i1,j}^+ \quad (2.a)$$

$$y_{i,t}^+ = y_{i,0}^+ + \varepsilon_{i2,t}^+ = y_{i,0} + \sum_{j=1}^t \varepsilon_{i2,j}^+ \quad (2.b)$$

$$z_{i,t}^- = z_{i,0}^- + \varepsilon_{i1,t}^- = z_{i,0} + \sum_{j=1}^t \varepsilon_{i1,j}^- \quad (3.a)$$

$$y_{i,t}^- = y_{i,0}^- + \varepsilon_{i2,t}^- = y_{i,0} + \sum_{j=1}^t \varepsilon_{i2,j}^- \quad (3.b)$$

z is assumed as our dependent variables, and hence the two possible panel cointegration equations for the ingredients are as below:

$$z_{i,t}^+ = \gamma_i^+ + \mu_i^+ y_{i,t}^+ + \varepsilon_{i,t}^+ \quad (4.a)$$

$$z_{i,t}^- = \gamma_i^- + \mu_i^- y_{i,t}^- + \varepsilon_{i,t}^- \quad (4.b)$$

When $\varepsilon_{i,t}^+$ seems to be stationary, it is concluded that the positive cumulative shocks are cointegrated in the panel, and the exact implications can be obtained if $\varepsilon_{i,t}^-$ is stationary. In order to detect whether $\varepsilon_{i,t}^+$ and $\varepsilon_{i,t}^-$ are stationary or not, the augmented Dickey-Fuller (ADF) test could be employed, and the panel ADF test equation could be posed as follow Hatemi-J (2020):

$$\varepsilon_{i,t}^+ = \alpha^+ \varepsilon_{i,t-1}^+ + \sum_{i=1}^k \beta_i^+ \Delta \varepsilon_{i,t-1}^+ + v_{i,t}^+ \quad (5)$$

Regarding the optimal lag order, we choose minimum information criteria s , and the null hypothesis justifies that no co-integration relationship between the positive components is $p^+=1$ Hatemi-J (2020).

3.2. Asymmetric Causality Test

Asymmetric causality test provides to investigate asymmetric causal impacts within the panel system. This approach suggests that positive or negative shocks may possess diverse causal influences. Presume that y_1 and y_2 are two variables aimed to investigate causal relation in a panel, and the recursive solution for each integrated variables is showed as the following way Hatemi-J (2011):

$$y_{i1,t} = y_{i1,t-1} + e_{i1,t} = y_{i1,0} + \sum_{j=1}^t e_{i1,j} \quad (6.a)$$

$$y_{i2,t} = y_{i2,t-1} + e_{i2,t} = y_{i2,0} + \sum_{j=1}^t e_{i2,j} \quad (6.b)$$

For $i=1 \dots N$. In the equations, N and e refers to the cross-sectional size and an error term supposed to be a white noise process, respectively.

$e_{i1,t}^+ := \max(e_{i1,t}, 0)$, $e_{i2,t}^+ := \max(e_{i2,t}, 0)$, $e_{i1,t}^- := \min(e_{i1,t}, 0)$ and $e_{i2,t}^- := \min(e_{i2,t}, 0)$ define the underlying positive and negative shocks.

These values can be employed to achieve the cumulative sums of the shocks involving $y_{i1,t}^+$, $y_{i2,t}^+$, $y_{i1,t}^-$ and $y_{i2,t}^-$ as follows

$$y_{i1,t}^+ = y_{i1,0}^+ + e_{i1,t}^+ = y_{i1,0} + \sum_{j=1}^t e_{i1,j}^+ \quad (7.a)$$

$$y_{i2,t}^+ = y_{i2,0}^+ + e_{i2,t}^+ = y_{i2,0} + \sum_{j=1}^t e_{i2,j}^+ \quad (7.b)$$

$$y_{i1,t}^- = y_{i1,0}^- + e_{i1,t}^- = y_{i1,0} + \sum_{j=1}^t e_{i1,j}^- \quad (8.a)$$

$$y_{i2,t}^- = y_{i2,0}^- + e_{i2,t}^- = y_{i2,0} + \sum_{j=1}^t e_{i2,j}^- \quad (8.b)$$

The asymmetric panel causality test by applying a vector autoregressive apparently irrelevant regression model of order p , VAR-SUR (p), because this model seems efficient, resulting from reckoning for the error terms' potential dependency across the cross-sectional units. The causality test between negative change is presumably to investigate and the vector consisting of $y_{i1,t}^-$, $y_{i2,t}^-$ could be employed to estimate the following VAR-SUR (p) model Hatemi-J (2011):

$$\begin{bmatrix} y_{i1,t}^- \\ y_{i2,t}^- \end{bmatrix} = \begin{bmatrix} \delta_{i1,t} \\ \vartheta_{i2,t} \end{bmatrix} \begin{bmatrix} \sum_{r=1}^p \delta_{i1,r} & \sum_{r=1}^p \delta_{i2,r} \\ \sum_{r=1}^p \vartheta_{i1,r} & \sum_{r=1}^p \vartheta_{i2,r} \end{bmatrix} \times \begin{bmatrix} y_{i1,t-r}^- \\ y_{i2,t-r}^- \end{bmatrix} + \begin{bmatrix} \epsilon_{i1,t}^- \\ \epsilon_{i2,t}^- \end{bmatrix} \quad (9)$$

$\epsilon_{i1,t}^-$ and $\epsilon_{i2,t}^-$ defines the residuals and the null hypothesis implies that $y_{i2,t}^-$ does not cause $y_{i1,t}^-$. The null hypothesis is presented as follow Hatemi-J (2011):

$$H_0 : \delta_{i2,r} = 0, \forall r, \text{ and } r = 1 \dots p.$$

3.3. Empirical Results

According to O' Connell (1988), the cross-sectional dependence among variables can reject the null hypothesis implying unit-roots. Analyzing cross-sectional dependence is used to determine the version of the panel unit root test. The first-generation unit root tests assume that the individual time series in the panel appears cross-sectionally independently distributed; in other words, they neglect cross-sectional dependence, and co-movements of economic variables are based on very common. Nevertheless, the second generation of tests provides considering the cross-sectional dependence (Hatemi-J et al. 2014). Hence, we examine cross-sectional dependence and homogeneity tests¹ and the null hypothesis of both tests is rejected.

Before employing panel hidden cointegration, panel unit root tests were applied by using ADF-Fisher and LM, Pesaran & Shin panel unit test. The findings of unit root test are detailed in Table

¹ $N < T$, CDLM1's (Breush-Pagan, 1980) prob. is 0.000, and Homogeneity tests's (Swamy, 1970; Pesaran and Yamagata, 2008) prob. are also 0.000.

1. According to Table 1, the null hypothesis of a unit root is accepted at a 5 % significance level for all variables. In other words, our variables are nonstationary in level, whereas their first differences are stationary; therefore, all variables are I (1).

Table 1: Panel Unit Root Test

H_0 : Unit root	Levels				First Differences			
Components of Variables	ADF-Fisher		LM, Pesaran & Shin		ADF-Fisher		LM, Pesaran & Shin	
	Statistic	Prob.	Statistic	Prob.	Statistic	Prob.	Statistic	Prob.
$EXPORT^+$	13.7548	0.3166	-0.52848	0.2986	88.1144	0.000***	-8.84744	0.000***
$EXPORT^-$	3.57570	0.9899	3.76439	0.9999	95.1878	0.000***	-8.83013	0.000***
$IMPORT^+$	12.4784	0.4081	-0.36988	0.3557	121.568	0.000***	-12.0449	0.000***
$IMPORT^-$	12.6901	0.3920	1.16133	0.8772	113.031	0.000***	-11.3055	0.000***
FDI^+	9.01247	0.7019	0.13994	0.5556	121.836	0.000***	-12.0074	0.000***
FDI^-	1.42215	0.9992	2.70509	0.9966	92.0743	0.000***	-10.0894	0.000***

Notes: *, **, and *** mean significance at 10%, 5%, and 1%, respectively. Besides, + and – pose positive and negative shocks, respectively. Stationary test results based on trend and intercept are reported and the Schwarz information criterion was used to determine the lag lengths.

After determining the series' stationary level, it is possible to detect whether the presence of a hidden cointegration connection between the positive or negative components of the variables. Table 2 presents panel hidden cointegration test results. According to Table 2, the null hypothesis of cointegration is rejected for $Export^+$ - FDI^+ , $Export^+$ - $Import^+$, and $Export^-$ - $Import^-$. Exports and imports move together in both directions (increase and decrease) in the long run. The increase in exports causes an increase in the demand for imported intermediate goods and energy. In addition, an increment in income is expected to promote the demand for imported consumer goods. The long-term relationship between exports and FDI could explain that FDI's increase exports or FDI's go towards countries with high export performance.

Table 2. Hidden Panel Co-Integration Test Results

H_0 : No Co-Integration	Kao Panel Co-Integration Test Result		
Variables in the panel models	Statistic	Prob.	Result
$Export^+, FDI^+$	-2.116148	0.0172**	Cointegration
$Export^-, FDI^-$	0.175054	0.4305	No Cointegration
$Export^+, Import^+$	-4.140185	0.0000***	Cointegration
$Export^-, Import^-$	-4.138361	0.0000**	Cointegration
$FDI^+, Import^+$	-1.044600	0.1481	No Cointegration
$FDI^-, Import^-$	0.057999	0.4769	No Cointegration

Notes: *, **, and *** mean significance at 10%, 5%, and 1%, respectively. Besides, + and – pose positive and negative shocks, respectively.

Table 3 indicates the details of the asymmetric panel causality test regarding the causality analysis between variables' positive and negative components. According to Table 3, there is a causality relationship operating from FDI's negative components to export's negative components by considering three different lags. A long-term positive relationship between exports and FDI confirms the theoretical approaches and empirical results in the literature. There is only one remarkable causal relationship in the asymmetric test results: the decrease in FDI causes a

decrease in exports. The findings underline that the export performance of these countries is susceptible to FDI.

Asymmetric test results show that FDIs are not an essential factor in the increase in exports. This result highlights a relationship that does not match the literature for our sample countries. In this sense, the results make a new contribution to the Kıran (2011) results. FDIs do not contribute to exports or improve the host country's areas of dynamic comparative advantage. However, the fact that FDIs do not cause an increase in exports for the sample could also be explained by the investors' preference for domestic production. Similarly, the absence of a causal relationship in both directions between exports and imports reveals a different result than expected. It could be said that exporting sectors have low import dependency in the use of imported intermediate goods and inputs.

Table 3. Asymmetric Panel Causality Test Results

Null Hypothesis	First Lag		Second Lag		Third Lag	
	Statistic	Prob.	Statistic	Prob.	Statistic	Prob.
$D(FDI^+) \neq D(Export^+)$	0.33268	0.7394	0.32004	0.7489	1.38866	0.1649
$D(Export^+) \neq D(FDI^+)$	-0.28901	0.7726	0.38361	0.7013	0.01774	0.9858
$D(FDI^-) \neq D(Export^-)$	2.46723	0.0136**	2.35103	0.0187**	2.38263	0.0172**
$D(Export^-) \neq D(FDI^-)$	0.75430	0.4507	0.74618	0.4556	0.84833	0.3963
$D(Import^-) \neq D(FDI^-)$	-0.16154	0.8717	-0.25665	0.7975	-0.61281	0.5400
$D(FDI^-) \neq D(Import^-)$	0.62731	0.5305	0.97441	0.3299	1.91561	0.0554*
$D(Import^-) \neq D(Export^-)$	1.25058	0.2111	0.50747	0.6118	-0.50981	0.6102
$D(Export^-) \neq D(Import^-)$	-0.47567	0.6343	0.24337	0.8077	-0.86927	0.3847
$D(Import^+) \neq D(Export^+)$	-0.72914	0.4659	-0.54912	0.5829	0.93072	0.3520
$D(Import^+) \neq D(Export^+)$	-0.48094	0.6306	-0.80196	0.4226	0.29575	0.7674
$D(Import^+) \neq D(FDI^+)$	1.99965	0.0455**	0.64494	0.5190	0.66011	0.5092
$D(FDI^+) \neq D(Import^+)$	0.73345	0.4633	-0.43005	0.6672	1.31933	0.1871

Notes: *, **, and *** mean significance at 10%, 5%, and 1%, respectively. Besides, + and – pose positive and negative shocks, respectively.

4. Conclusion

This study researches the relationship of FDI with exports and imports in emerging market economies. To this end, it focuses on how FDI determines foreign trade in emerging market economies, including Turkey, India, China, Mexico, Brazil, and Indonesia, for the period 1979-2019. The period examined in the study is when the globalization process also emerges and gains

momentum. One of the critical features of this period is the gradual increase of foreign direct investments and global production-supply chains. The shift of production in developed countries to developing countries due to the availability of cheap labor and natural resources is also a result of this process.

The results confirm that there is a long-term relationship between FDI and exports in the sample countries. Accordingly, FDI increases their export performance by changing the production structures of these economies. On the other hand, the increase in exports contributes positively to the income and employment of these countries. The fact that exports and imports move together (in the direction of increase and decrease) in the long run means that exports also direct imports. The reason for this is the dependence of production on import intermediate goods and input goods in emerging market economies. We could note that there is no high technology and high value-added production process in these countries. They are primarily involved in the supply chain of the production processes of multinational companies. It confirms that these countries are preferred because of their cheap and trained labor force. It cannot be said that these countries, which are also rich in natural resources, are successful in processing and selling these resources. The existence of an asymmetrical relationship between FDI and exports confirms this fact. The outflow of FDI from these countries causes a decrease in the exports of these countries.

Developing economies or emerging market economies need an export-based growth model. This is indispensable for increased production and employment. What is vital in this process is the high added value of export products. In order to achieve this target, a qualified workforce, capital accumulation, R&D, and development of technology are required. In this sense, FDI can have essential contributions to ensure development in these areas. However, for this, planned industrialization and development policies need to be implemented. Otherwise, these countries may continue to remain as supply chains that provide cheap labor. The results of this study reveal that this situation has not changed in the last 30 years for some emerging economies.

The results of this study can be furthered by studies that will examine the comparison of sectoral effects of FDI for emerging market economies.

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Araştırma Makalesi**How Foreign Direct Investments Drive Trade Flows in Emerging Economies***Yükselen Ekonomilerde Doğrudan Yabancı Yatırımların Dış Ticaret ile İlişkisi*

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Genişletilmiş Özet

Yükselen piyasa ekonomileri ya da gelişmekte olan ekonomilerde ekonomik büyümeye en önemli katkı ihracat artışından gelmektedir. İhracatın hem hacim hem de yaratılan katma değer olarak ekonominin büyümesine önemli katkıları vardır. Burada öne çıkan nokta üretimde kullanılan teknoloji ve sermaye birikimidir. Gelişmekte olan ülkelerin üretim yapılarını teknolojiye dayalı olarak değiştirmelerinde doğrudan yabancı yatırımların önemi büyüktür. Bu dönüşüm sürecinin sonunda beklenen etki ihracatın artması ve ithalatın da azalmasıdır. İthal tüketim ve ara malı-girdi malı üretiminin ikame edilmesiyle birlikte ithalat azalmakta ve dış ticaret dengesi bundan olumlu etkilenmektedir. Doğrudan yabancı yatırımlar, bir firmanın ev sahibi olarak bulunduğu ülkenin dışındaki ülkelerde üretim amaçlı tesis kurması ya da diğer ülkelerdeki mevcut üretim tesislerini satın alması şeklinde gerçekleşir. Doğrudan yabancı yatırımlar piyasa merkezli ve ihracat merkezli olarak iki şekilde gerçekleşir. Piyasa merkezli olarak yapılan doğrudan yabancı yatırım söz konusu ülkenin ekonomik büyüme performansındaki ve ekonomik ölçeğindeki gelişmeyi dikkate alır. İhracat merkezli yapılan doğrudan yabancı yatırım ise ilgili ülkedeki üretimin sağlayacağı maliyet avantajlarını göz önünde bulundurur. İşgücü ve ulaşım maliyetlerinin düşük olması temel önceliklerdir.

Doğrudan yabancı yatırımlar sayesinde ülkelerin üretim yapıları teknolojik açıdan gelişir, beşeri sermayenin kalitesi iyileşir. Bu sayede ülkenin dış piyasalarda rekabet gücü artar ve bu da ihracatın artmasına etki eder. İhracat artışı sayesinde ülkenin döviz kazancı artacak ve ödemeler bilançosundaki sermaye hesabında iyileşme sağlanacaktır (Bevan ve Estrin, 2000). Gelişmekte olan ülkelerin en önemli sorunlarından birisi tasarruf açığına bağlı olarak ortaya çıkan cari işlemler açığıdır. Cari işlemler açığının yüksek olması bu ülkelerde ortaya çıkan döviz krizlerinin de en önemli nedenlerinden biridir. Bununla birlikte, artan ihracatın her zaman bu etkiyi yarattığı söylenemez. Bunun nedeni üretimde kullanılan ithal ara malı ve girdi malının yüksek olmasıdır. Bir başka ifadeyle ihracat artarken ihraç mallarının üretiminde kullanılan ithal girdiler de artış gösterecektir. Bu durumda dış ticaret dengesinde beklenen olumlu etki çok fazla gerçekleşmez. Ayrıca, doğrudan yabancı yatırım sonucu gerçekleşecek üretim artışı iç piyasaya yönelik de olabilir. Dolayısıyla, doğrudan yabancı yatırımların ödemeler bilançosu üzerinde beklenen etkisi, üretimde kullanılacak olan girdilerin yurtiçinden mi yoksa yurtdışından mı tedarik ediliyor olmasına ve gerçekleşen üretimin ihracata mı yoksa iç piyasaya mı yönelik olup olmadığına bağlıdır. Bununla birlikte, Aizenman ve Noy (2006) doğrudan yabancı yatırımların ülkelerin dış ticaret hacimlerini ve refah seviyelerini artırdığını belirtmektedir.

Doğrudan yabancı yatırımlar sonucu bazı ülkelerde başlangıçta ithalat artışı ortaya çıkabilir. Bunun nedeni ülkedeki sermaye mal stoğunun düşük olması, üretimde kullanılan ara malı ve girdilerin üretilmemesi ya da yetersizliği ve hizmet sektörünün yeterli donanımına sahip olmamasıdır. Bunun sonucunda bu ülkelere yatırım yapan çok uluslu şirketler gittikleri ülkedeki sermaye mallarını, girdileri ve hizmeti ithal etmek durumunda kalırlar. İthalatın artması dış ticaret haddinin bozulmasına ve ödemeler bilançosu üzerinde olumsuz etkilere neden olur. Bu durumda yurt içi verimlilik düşer. Sermaye malların fiyatları artacağı için yurt içindeki yatırımlar da azalır (Ghazali, 2010: 125). Gelişmekte olan ülkeler için temel sorunlardan biri de doğrudan yabancı yatırımların ev sahibi ülkenin doğal kaynaklarını kullanmaya yönelik yapılmasıdır. Bu durumda ülkenin doğal kaynakları kullanılarak ihraç edilir. Bu ürünler işlenmeden ihraç edildiği için düşük katma değerlidir. Böylece ev sahibi ülkenin kendi hammaddesini işlemesi engellenmiş olur. Hossain (2005) doğrudan yabancı yatırımların ithal ikameci politikalar ile yönlendirilmesi sonucunda, önceleri ev sahibi ülkenin ithal ettiği malların ülkede üretmeye başlanması ile ithalatın da zamanla düşeceğini belirtir.

İktisat literatüründe Hecksher- Ohlin- Samuelson ve Mundell tarafından geliştirilen teorilerde doğrudan yabancı yatırımlar ve dış ticaret ilişkisi incelenmektedir. Buradaki temel yaklaşım şudur: Uluslararası mal ticareti, uluslararası üretim faktörlerini ikame eder. Gelişmekte olan ülkelerin üretim yapılarında teknolojinin düşük olması rekabet açısından önemli bir sorundur. Bu anlamda doğrudan yabancı yatırımlar giriş yaptıkları ülkelere yeni teknoloji ve know-how transferi sağlar. Dücan (2016)'a göre doğrudan yabancı yatırımlar ve dış ticaret ülkedeki üretim teknolojisinin geliştirilmesi anlamında birbirlerinin alternatifi ve tamamlayıcısı olarak değerlendirilebilir.

İşgücü kalitesinin artmasında ve yönetim bilgisinin gelişmesinde de doğrudan yabancı yatırımların olumlu etkileri söz konusudur. Aslan (1997) ülkenin sermaye birikiminin artmasında doğrudan yabancı yatırımların katkısına dikkat çeker. Ghazali (2010)'ye göre, ülkeler ihracat ve ekonomik büyümelerini iyileştirmek istiyorsa doğrudan yabancı yatırımları etkin bir şekilde kullanmalı ve doğru kalkınma politikaları yürütmelidirler. Eğitim politikaları ile işgücü kalitesi artırılmalı, mevcut doğal kaynakların katma değeri yükseltilmelidir. Transfer edilen teknoloji zaman içerisinde kullanılabilir olmaktan üretilebilir hale getirilmelidir.

Bu çalışma yükselen piyasa ekonomilerinde doğrudan yabancı yatırımların ihracat ve ithalat ile olan ilişkisine odaklanıyor. Bu amaçla 1979-2019 dönemi için aralarında Türkiye, Hindistan, Çin, Meksika, Brezilya ve Endonezya'nın yer aldığı yükselen piyasa ekonomilerinde doğrudan yabancı yatırımların dış ticareti nasıl belirlediğine inceliyor. Çalışmada incelenen dönem, aynı zamanda küreselleşme sürecinin de ortaya çıktığı ve hız kazandığı bir dönem. Bu dönemin önemli özelliğinden birisi de doğrudan yabancı yatırımların giderek artması ve küresel üretim-tedarik zincirlerinin gelişmesidir. Gelişmiş ülkelerdeki üretimin ucuz iş gücü ve doğal kaynak zenginliği nedeniyle gelişmekte olan ülkelere kayması yine bu sürecin bir sonucudur.

Çalışmada kullanılan veri seti yıllık olarak Dünya Bankası veri sisteminden elde edilmiştir. Testler öncesi serilerin durağanlığını belirlemek için panel birim kök testleri yapılmıştır. Bu testler sonucunda serilerin durağan olduğu belirlenmiş ve analize geçilmiştir. Çalışmada doğrudan yabancı yatırımlar, ihracat ve ithalat arasındaki uzun dönem ilişkileri incelemek için saklı panel eş-bütünleşme testi kullanılmıştır. Daha sonra bu ilişkilerinin yönünü araştırmak için asimetrik panel nedensellik testi uygulanmıştır.

Sonuçlar incelediğimiz E7 ülkelerinde uzun dönemde doğrudan yabancı yatırımlar ve ihracat arasında bir ilişkinin bulunduğunu doğruluyor. Buna göre doğrudan yabancı yatırımlar bu ekonomilerin üretim yapılarını değiştirerek onların ihracat performansını artırıyor. İhracatın artması ise bu ülkelerin gelir ve istihdam yaratma kapasitelerine olumlu katkı sağlıyor. Uzun dönemde ihracat ve ithalat arasında pozitif ve negatif ilişkinin varlığı ise daha çok ihracatın ithalatı da yönlendirdiği anlamına geliyor. Bunun nedeni yükselen piyasa ekonomilerinde üretimin ithat ara malı ve girdi malına olan bağımlılığıdır. Bu da demek oluyor ki söz konusu

lkeler yksek teknoloji reten-yksek katma deęer yaratan bir retim srecine sahip deęiller. Daha ok ok uluslu řirketlerin retim srelerinde tedarik zincirinde yer almaktalar. Bu da bu lkelerin ucuz ve eęitilmiř iř gc nedeniyle tercih edildiklerini gsteriyor. Doęal kaynak zengini de olan bu lkelerin bu kaynakları iřleyerek satma konusunda da bařarılı oldukları sylenemez. Nitekim doęrudan yabancı yatırımlar ile ihracat arasındaki asimetrik iliřkinin varlıęı da bunu doęruluyor. Bu lkelerden doęrudan yabancı yatırımların ıkıřı bu lkelerin ihracatının da dřmesine neden oluyor

Geliřmekte olan ekonomilerin ya da ykselen piyasa ekonomilerinin ihracata dayalı bir byme modeline ihtiyaları var. retim ve istihdam artıřı iin bu olmazsa olmaz. Burada nemli olan ihracatın yaratacaęı katma deęerin ise yksek olmasıdır. Bunu saęlayabilmek iin nitelikli iřgc, sermaye birikimi, ar-ge ve teknolojinin geliřtirilmesi gerekir. Bu anlamda doęrudan yabancı yatırımların bu alanlarda geliřimin saęlanması nemli katkıları olabilir. Fakat bunun iin doęru sanayileřme ve kalkınma politikaların belirlenmesi gerekir. Aksi takdirde bu lkeler ucuz iřgc saęlayan birer tedarik zinciri olarak kalmaya devam ederler. Bu alıřmanın sonuları da son 30 yılda bu durumun deęiřmedięini gsteriyor.

Bu alıřmanın sonuları doęrudan yabancı yatırımların trlerine gre ykselen piyasa ekonomilerine olan katkılarının coęrafik lke grupları kapsamında karřılařtırılmasını inceleyecek alıřmalarla geliřtirilebilir.