

Analysis of the relationship between China's direct investment in Central and Eastern Europe and trade

WENXUAN SONG* 

Doctoral School of International Relations and Political Science, Corvinus University of Budapest, Budapest, Hungary

Received: July 23, 2023 • Revised manuscript received: December 1, 2023 • Accepted: January 15, 2024

Published online: February 14, 2024

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ABSTRACT

This study aims to investigate the relationship between China's outward foreign direct investment (OFDI) in Central and Eastern European countries (CEECs) by assessing their impact on the economies of both the CEECs and China. By analyzing this connection, the paper seeks to gain insights into the economic dynamics and potential benefits derived from investment and trade activities between China and the countries in this region. The paper employs a regression model to examine the influence of foreign direct investment on trade with data from 2008 to 2022. The findings indicate that a one percentage point increase in China's OFDI corresponds to a 0.054 percent boost in bilateral trade between China and the 16 CEECs. In conclusion, the findings highlight a significant link between OFDI in CEECs and bilateral trade. OFDI opens up new trade opportunities and fosters economic growth in CEECs, thereby promoting the development of bilateral trade. Additionally, Chinese investment drives industrial upgrading and structural adjustments in CEECs, enhancing the competitiveness of bilateral trade.

KEYWORDS

Central and Eastern European countries, direct investment, bilateral trade, trade gravity model

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* Corresponding author. E-mail: wenxuan.song@stud.uni-corvinus.hu

1. INTRODUCTION

As a bridge connecting Europe and Asia, Central and Eastern European countries (CEECs) occupy a significant position in international trade and investment (Maró – Török 2022; Ramasamy – Yeung 2022). China's outward foreign direct investment (OFDI) in the region has experienced consistent growth in recent years, garnering attention in the realm of international economic cooperation. Concurrently, CEECs have emerged as crucial trade partners for China, leading to the development of a closer bilateral trade relationship. The scale of OFDI in CEECs has continued to expand, propelled by China's economic ascent and its proactive approach to global engagement (Bağ 2019; Jaklič – Svetličič 2019). Statistical data reveals a sustained upward trend in OFDI in CEECs since 2010. Chinese companies have diversified their investments across various sectors within the region, encompassing infrastructure construction, energy, manufacturing, and finance (Song – Pavlicevic 2019). Moreover, Chinese enterprises employ diverse investment approaches, spanning from sole proprietorship to joint venture projects. Concurrently, the CEECs have implemented proactive measures to attract Chinese investments, offering investment incentives and favorable conditions. For example, several CEECs have introduced measures such as tax incentives, preferential land utilization, and streamlined approval processes to incentivize Chinese companies' investments (Matura 2021; Éltető – Szunomar 2016).

The initial group comprised 17 member countries, consisting of China and 16 Central and Eastern European nations. In 2019, Greece joined, expanding the group to "17+1" (Brinza 2019). Greece's inclusion was driven by its geographical proximity to the CEECs, thus opening up new investment opportunities for China in Europe. However, in 2020, Lithuania decided to withdraw from the "17+1" mechanism due to concerns related to transparency and balance on some issues. Consequently, it reverted to "16+1" (Kizeková 2021). Subsequently, in 2022, Estonia and Latvia announced to cease their participation in the "16+1" mechanism, resulting in the current configuration of "14+1" (Chan – Meunier 2022). This study mainly focuses on the original "16+1" member states because the data analysis in this paper incorporates data from the early days of "16+1".

This study aims to comprehensively analyze the influence of OFDI and bilateral trade in the CEECs. Its objective is to elucidate the impact of Chinese investment in this region on China's trade and explore the potential effects on the economies of CEECs (Szunomar 2020). The analysis commences by examining relevant theories concerning the influence of direct investment on trade. The aim is to formulate a hypothesis regarding the impact of China's OFDI on trade, grounded in theoretical considerations, and to construct a model employing collected data. The study utilizes data from China's relationship with the CEECs, covering the period from 2008 to 2022. The effect of China's OFDI on bilateral trade is scrutinized by adjusting the classical trade gravity model and employing quantitative analysis methods. The study proposes pertinent policy recommendations to facilitate the sustainable development of bilateral economic cooperation by comprehensively assessing the investment environment, trade policies, and bilateral trade data in the CEECs. A thorough exploration of the bilateral trade relationship between China and CEECs provides valuable insights for expanding bilateral cooperation and serves as a vital reference for future research and policy formulation.



2. LITERATURE REVIEW

In recent years, the restructuring of global supply chains has garnered considerable attention. China's OFDI in CEECs may encompass the reconfiguration of supply chains, particularly as companies seek alternative supply sources or diversify their market presence (Wu 2023). This has the potential to exert a significant influence on bilateral trade. The market access theory underscores the positive impact of OFDI on market access and trade (Singh 2022). According to this theory, China's OFDI in the CEECs has the potential to boost bilateral trade by facilitating market access through the establishment of subsidiaries or joint ventures, thereby expanding trade opportunities (Jaklič – Svetličič 2019).

As a crucial component of the Belt and Road Initiative (BRI) and a means to expand economic cooperation with the European market, the CEECs hold strategic significance for China (Gerstl 2020; Jing 2020; Stanojevic et al. 2020). Countries within this region have actively pursued stronger economic ties with China, actively attracting Chinese investments. Analyzing OFDI and bilateral trade relations in this region can provide valuable insights for deepening economic cooperation between the CEECs and China, fostering mutual benefits and win-win outcomes in trade, investment, and technological collaboration between the two parties.

Policy and institutional factors play a crucial role in shaping OFDI and trade relationships. Government policies, bilateral agreements, and regulations can exert influence over China's OFDI motivations in CEECs and the evolution of bilateral trade (Song et al. 2020). OFDI frequently involves technology transfer, particularly within multinational corporations. China's OFDI in CEECs can facilitate the transfer of technology and management expertise, thereby enhancing production capacity and competitiveness in CEECs (Dayeh – Janíčko 2021). Consequently, this dynamic can exert an influence on bilateral trade.

The “16+1” initiative, functioning as a complementary platform to the BRI, has further strengthened cooperation and trade between China and CEECs. This initiative has injected renewed vitality into the economic development of CEECs while simultaneously enhancing China's influence in Europe (Ostashko et al. 2021). Amid the global economic downturn, China has actively facilitated infrastructure construction and trade cooperation with CEECs, creating favorable conditions for the economic development of both regions. Such collaboration fosters economic prosperity for both sides and allows CEECs to benefit from China's extensive experience in infrastructure construction, leading to mutually beneficial outcomes and contributing positively to global economic recovery (Chen et al. 2020).

3. OVERVIEW OF OFDI IN CEECS

The inaugural meeting of leaders of China and CEECs took place in Warsaw, Poland, on April 26, 2012, marking the official launch of a collaboration between the two parties. The objective was to reinforce and expand cooperation with 11 European Union (EU) member states and 5 Balkan countries, with a focus on enhancing ties in investment, transport, finance, science, education, and culture. Figure 1 illustrates the “16+1” framework for CEECs and China (Cieślík – Biegańska 2021; Gherghina et al. 2019; Rehman – Noman 2022). Within the framework of the initiative, China has identified three potential priority areas for economic cooperation: infrastructure, high technology, and green technology. Since 2012, China's trade with





Fig. 1. The “16+1” framework
Source: EUOBOR.

CEECs has grown at an average annual rate of 8.1%, while China’s imports from CEECs have increased at an average annual rate of 9.2%.

OFDI in the CEECs encompasses various sectors, including infrastructure construction, energy, manufacturing, finance, and agriculture. Notably, infrastructure construction plays a crucial role and includes projects such as ports, railways, roads, and bridges. Energy cooperation is also a significant focus, with Chinese companies investing in various energy projects, including power stations, wind power, and solar energy (Sohail et al. 2021). Furthermore, collaboration in the manufacturing industry is steadily growing, with involvement in areas such as automobile manufacturing, machinery manufacturing, and electronic products. OFDIs in the CEECs tend to concentrate on specific countries and projects, with Hungary, Serbia, Romania, and other countries attracting considerable attention as investment targets. Hungary plays a pivotal role as a strategic partner for China in the region, with notable cooperation projects like the Hungary-Serbia Railway serving as a prominent example (Shuyan – Fabuš 2019; Saud et al. 2019). Chinese investments in Serbia primarily focus on infrastructure development, particularly the Belgrade railway project. Additionally, Romania is a major collaborator in the energy sector, involving projects related to nuclear energy, oil, and gas, among others.

The Western Balkan countries account for approximately 79% of China’s infrastructure development initiatives in CEECs. Predominantly funded by Chinese loans, these projects cover a significant portion, ranging from 75% to 85%, of the total project costs. Chinese loans represent approximately 18% of Montenegro’s GDP, 12% of Serbia’s GDP, 10% of Bosnia and Herzegovina’s GDP, and 7% of North Macedonia’s GDP. China adopts a diverse range of investment and cooperation approaches in the CEECs. In addition to sole investments, these countries also promote joint ventures and collaborative projects (Jaklič et al. 2020; Wu – Chen 2021).

The China-Europe Railway Express, as a vital transportation route in the Eurasian continent, has experienced significant growth over the past decade. It has established connections between 108 cities in China and 208 cities in 25 European countries. In 2022, the number of operated trains reached 16,000, showing a 9% year-on-year increase. Furthermore, the successful opening of the southbound passage has introduced a new transportation solution to Europe. Countries such as Poland, Hungary, and Slovakia have emerged as crucial hubs and destinations for the



China-Europe Railway Express. Concurrently, the construction of the China-Europe land-sea express line is actively progressing, fostering closer cooperation in port logistics between China and countries like Poland, Slovenia, and Croatia. These endeavors facilitate multi-dimensional and diversified connectivity, offering opportunities for joint ventures and cooperative development projects that can enhance collaboration between the two parties. China's investments in the CEECs create opportunities for mutually beneficial cooperation, stimulating economic growth, generating employment, and providing access to capital, technology, and market opportunities for CEECs.

4. CHARACTERISTICS OF OFDI IN CEECS

China's OFDI in the CEECs has exhibited a consistent upward trajectory in recent years. Chinese companies have shown growing interest in various sectors within this region, with a particular focus on infrastructure, manufacturing, finance, and high-tech industries. Notably, China's OFDI frequently entails the transfer of technology and management expertise, thereby bolstering the production capacity and competitiveness of the CEECs. The scale of OFDI in the CEECs has consistently grown in recent years, with the establishment of the "16+1" cooperation mechanism playing a significant role in fostering this growth. Specific investment data reveals that China's total direct investment in the CEECs has surpassed billions of dollars. The introduction of the BRI has presented both opportunities and challenges to bilateral development and has been a key driver of OFDI in the region. China's net direct investment (flow) in the CEECs was a mere 6.73 million USD in 2003. However, by 2017, this figure had skyrocketed to 368.12 million USD, reflecting an astonishing growth rate. Such remarkable achievements have been made possible through the concerted efforts of countries involved in deepening their cooperation.

Analysis of the data presented in Fig. 2 reveals that OFDI in the CEECs is notably influenced by global economic fluctuations and external factors (Völgyi – Lukács 2021; Sutherland et al.

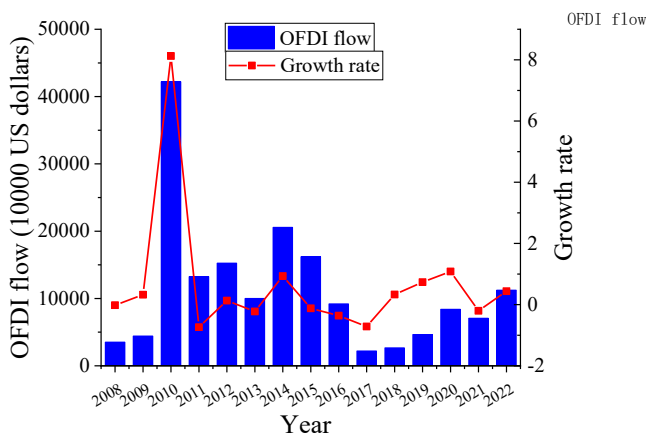


Fig. 2. OFDI flows to the CEECs

Source: author, based on data from the National Bureau of Statistics of China.



2020; Peng et al. 2022). The direction of China's OFDI in CEECs is shaped by China's global investment strategy while also being influenced by region-specific factors. These factors encompass geography, government policies, industry demands and dynamic process, necessitating comprehensive global and regional analysis. The European debt crisis and the refugee wave further impacted OFDI flows to CEECs, causing ongoing fluctuations. However, despite these unfavorable factors, OFDI in the region has maintained a relatively stable growth trajectory.

As illustrated in Fig. 3, investment stock data demonstrates that since 2008, China's investment stock in the 16 CEECs has consistently increased annually. This growth can be attributed to several factors. First, the investment environment in the CEECs has improved, fostering an attractive landscape for foreign investors, including China. Second, China's overall economic strength has increased over time, contributing to increased investment capacity. Additionally, the political stability of CEECs and the rise in residents' income levels have played a significant role in attracting foreign investment. As emerging markets, these countries actively seek foreign investments to diversify their economic structures beyond the dominance of the European Union and explore new avenues for development. This favorable environment presents promising prospects and ample room for the continued growth of OFDI in CEECs (Jovičić et al. 2020; Zeng – Li 2019).

The collaboration between China and CEECs is continually expanding, accompanied by a diversification trend in China's investment portfolio. Currently, Chinese enterprises' OFDI in CEECs has exceeded 2 billion USD, spanning various sectors, including machinery manufacturing, the chemical industry, finance, environmental protection, logistics, and new energy. Table 1 provides an overview of the extensive distribution of Chinese enterprises' OFDI in CEECs across different industries as of 2020. Projections indicate that by 2025, the demand for capital in transportation infrastructure construction in CEECs will reach approximately 600 billion euros. This positions CEECs as one of the most attractive markets for investors from China and other countries. It is foreseeable that in the upcoming years, Chinese investment in CEECs will further escalate, with a particular focus on the infrastructure sector.

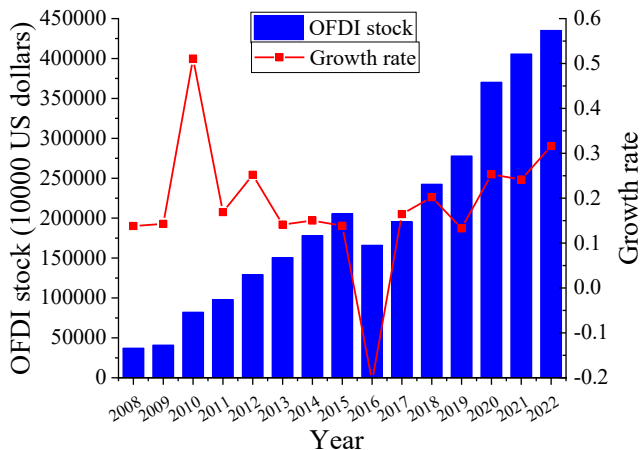


Fig. 3. China's stock of OFDI in the CEECs

Source: author, based on data from the National Bureau of Statistics of China.



Table 1. Distribution of Chinese enterprises' OFDI in the CEECs by industry, 2020

| Industry | Number of enterprises | Proportion (%) | Industry | Number of enterprises | Proportion (%) |
|-------------------------------------|-----------------------|----------------|--|-----------------------|----------------|
| Real Estate | 85 | 18.36 | Electricity, Heat, Gas, etc. | 83 | 17.93 |
| Manufacturing | 77 | 16.63 | Construction Industry | 48 | 10.37 |
| Transportation Industry | 45 | 9.72 | Education, Culture, Health | 42 | 9.07 |
| Water Conservancy, Environment | 26 | 5.62 | Business Services | 15 | 3.24 |
| Information, Software | 12 | 2.59 | Agriculture, Forestry, Fishery, Animal Husbandry | 11 | 2.38 |
| Catering and Accommodation Industry | 8 | 1.73 | Research Industry | 5 | 1.08 |
| Resident Services | 4 | 0.86 | Mining Industry | 2 | 0.43 |

Source: author, based on [National Bureau of Statistic of China \(2021\)](#).

5. TRADE CHARACTERISTICS OF CHINA AND CEECS

An in-depth exploration of the trade between China and CEECs becomes more feasible when considering the analysis of China's OFDI in the region. These two aspects are closely intertwined, as FDI commonly exerts an influence on bilateral trade, and reciprocally, bilateral trade impacts investment dynamics ([Turcsányi 2020](#)). As the cooperation between China and the CEECs deepens, bilateral trade also increases. Since the introduction of the BRI in 2013, trade between China and CEECs has exhibited continuous growth ([Tang 2020](#)). While the growth rate experienced a temporary decline due to the impact of the European refugee wave in 2015, it resumed an upward trend in 2016 and 2017. Notably, the growth rate of imports from CEECs reached 0.22%. Based on the data illustrated in [Fig. 4](#), the trade relationship between China and CEECs displays several evolving characteristics. First, starting from 2007, there was a continuous decline in both China's exports to CEECs and the exports from CEECs to China, with the exception of 2009. This decline can be attributed to the repercussions of the global financial crisis, which instigated a downward trajectory in international trade. However, the total import and export volume between China and the CEECs has generally experienced steady growth over the past eight years ([Kułyk – Augustowski 2020](#); [Rogers 2020](#); [Zhao – Lee 2019](#)). The total trade volume in 2007 was approximately 22.8 billion USD, which increased to about 61.3 billion USD a decade later. Second, CEECs's exports to China have shown year-on-year growth, with an average annual growth rate of 7% from 2008 to 2017. However, this growth rate is relatively slow compared to that of the CEECs's imports from China. Third, in terms of the trade balance, the growth rate of China's exports to CEECs surpasses that of CEECs's exports to China. The trade



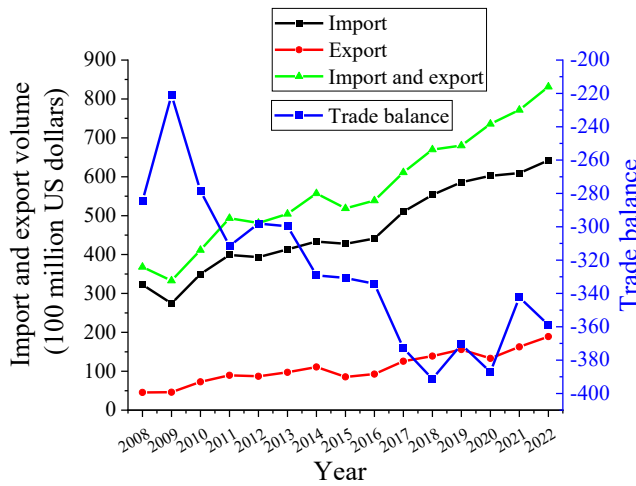


Fig. 4. Import and export volume and trade balance between China and CEECs
 Source: author, based on OECD data.

balance deteriorated from -15.5 billion USD in 2007 to -37.7 billion USD a decade later. Over the course of ten years, the trade balance amounted to about 30 trillion CNY. As the rate of exports notably surpasses that of imports, the trade ties between China and the CEECs remain ripe for further expansion, CEECs may contemplate augmenting their imports from China to cater to domestic needs or enhance their supply chains. Simultaneously, China can explore additional export avenues in the markets of CEECs, thereby increasing its market share. The cultivation of such a trade relationship has the potential to foster mutual economic growth and benefits for both parties. The analysis shows that China’s exports to CEECs have experienced significantly faster growth than imports, indicating substantial potential for further trade development between the two regions.

The trade effects of OFDI on a home country’s import and export can be analyzed through the concepts of trade substitution and trade creation. Trade substitution refers to how OFDI can restrict the trade of the home country, resulting in a decrease in trade volume. This effect can manifest as export substitution and import diversion. Conversely, trade creation refers to how OFDI stimulates a country’s imports and exports, leading to an increase in trade volume. This effect is observed in export-induced and reverse-import effects (Hejazi – Safarian 2001; Xu – Wang 2007; Grgić 2021; Kuttar 2022). Figure 5 illustrates the trade-effect mechanisms associated with different types of OFDI. Market-seeking investments typically generate trade substitution effects. When enterprises invest directly in a target market and establish production facilities, their products can directly cater to market demand, reducing the reliance on imports and thus restraining the home country’s imports. Resource-seeking investments tend to generate trade-creation effects. When firms acquire resources such as raw materials and energy in target countries through direct investment, they can utilize these resources to produce and export more products (Park – Jung 2020; Szymczak et al. 2022; Wang et al. 2023). Efficiency-seeking investments primarily impact trade by enhancing production efficiency and reducing costs.



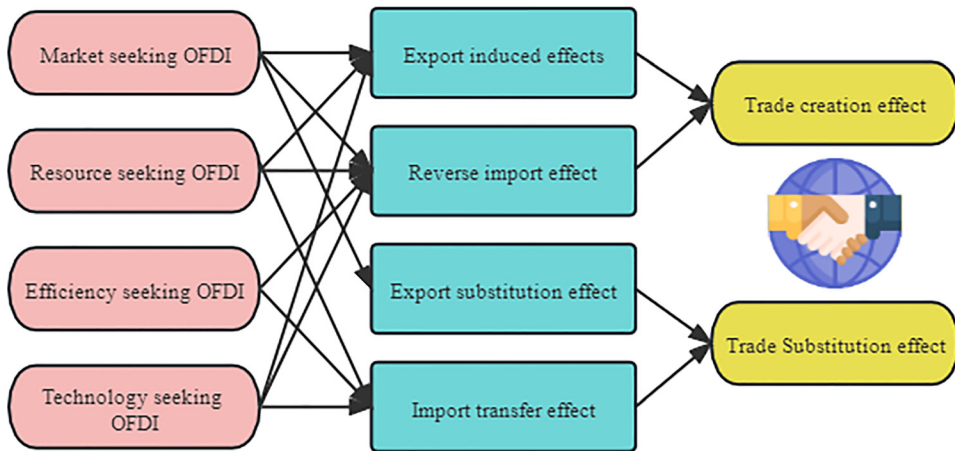


Fig. 5. Mechanisms of trade effects of different types of FDI

Source: author.

Through direct investment, enterprises entering a target market can leverage advanced production technology and management experience to improve product quality and production efficiency. Additionally, technology-seeking investments also have a positive influence on trade. By introducing advanced technology and knowledge through direct investment, enterprises can enhance their production capacity and innovation capabilities, thereby improving product quality and technical content (Prokop et al. 2022).

6. AN EMPIRICAL ANALYSIS OF THE INFLUENCE OF DIRECT INVESTMENT ON BILATERAL TRADE

This study focuses on the total import and export trade volume between China and 16 CEECs from 2008 to 2022 as the primary indicator, considering data availability. The data sources utilized in this study include the Organization for Economic Cooperation and Development (OECD) database and relevant national statistical bureaus of the countries involved. The main explanatory variable examined is OFDI in these 16 CEECs. The objective is to assess the impact of China's foreign direct investment on overall bilateral trade. To provide a comprehensive analysis of the influencing factors, control variables such as the infrastructure of the CEECs, economic distance, and the bilateral real exchange rate are included in the study. Detailed information on data processing can be found in Table 2, ensuring the research fundings' reliability and interpretability.

The gravity model has gained significant prominence in the analysis of bilateral trade issues. Drawing inspiration from the concept of gravity in physics, the model posits that the volume of trade between countries is influenced by factors such as their economic size (e.g., GDP), market size (e.g., population), geographical distance, and other related variables. The fundamental expression of the gravity model can be represented as Equation (1).



Table 2. Variable types and selected indicators

| Variable type | Variable name | Selected indicators |
|-----------------------|----------------|---|
| Explained variable | $LnTrade_{it}$ | Trade volume between China and CEECs |
| Control variables | $LnInfra_{it}$ | Infrastructure in CEECs |
| | $LnDist_{it}$ | The economic distance between China and CEECs |
| | $LnBRER_{it}$ | Bilateral real exchange rate |
| Explanatory variables | $LnOFDI_{it}$ | China's OFDI stock to CEECs |
| | $LnGDP_{it}$ | GDP growth rate of CEECs |
| | $LnLab_{it}$ | Labor force population in CEECs |

Source: author.

$$T_{ij} = A \left(\frac{Y_i Y_j}{D_{ij}} \right) \tag{1}$$

In Equation (1), i and j denote two countries, representing the bilateral trade flow. Y_i and Y_j denote the economic scale (GDP) of country i and country j , respectively; D_{ij} refers to the distance between the two countries; A signifies a constant term.

To account for heteroscedasticity, this study employs the logarithm transformation for variables such as OFDI and import-export volume. Consequently, the trade research model is derived as Equation (2).

$$LnTrade_{it} = \alpha_1 + \alpha_2 LnOFDI_{it} + \alpha_3 LnGDP_{it} + \alpha_4 LnLab_{it} + \alpha_5 LnInfra_{it} + \alpha_6 LnDist_{it} + \alpha_7 LnBRER_{it} + \mu_{it} \tag{2}$$

In Equation (2), t stands for the year, and μ_{it} denotes a random disturbance term.

6.1. Results of the empirical test of the total sample model

Descriptive analysis is conducted on the collected data, and the specific results are presented in Fig. 6, which includes the mean, standard deviation, maximum, and minimum values for each variable. A multi-collinearity test is performed on the variables to assess the presence of severe multi-collinearity in the data, and the results are displayed in Fig. 7. Table 3 shows that the correlation coefficient between OFDI and labor is 0.809, while the correlation coefficients between other factors are below 0.8. These findings indicate the absence of significant multi-collinearity among the variables.

6.2. Total sample regression analysis results

The Pearson correlation test provides insights into pairwise correlations between variables but does not capture the more intricate relationships among them. This study employs panel data regression analysis to ensure accurate data analysis. This approach allows for a comprehensive examination of the impact of each variable on the results while mitigating the potential influence



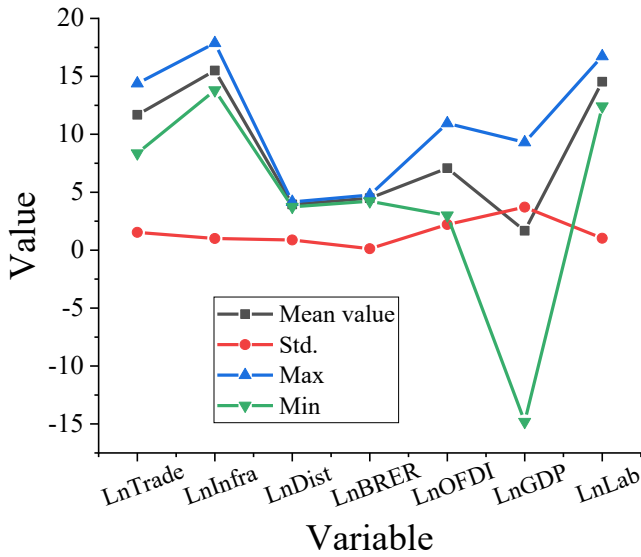


Fig. 6. Descriptive statistics of the variables
 Source: author.

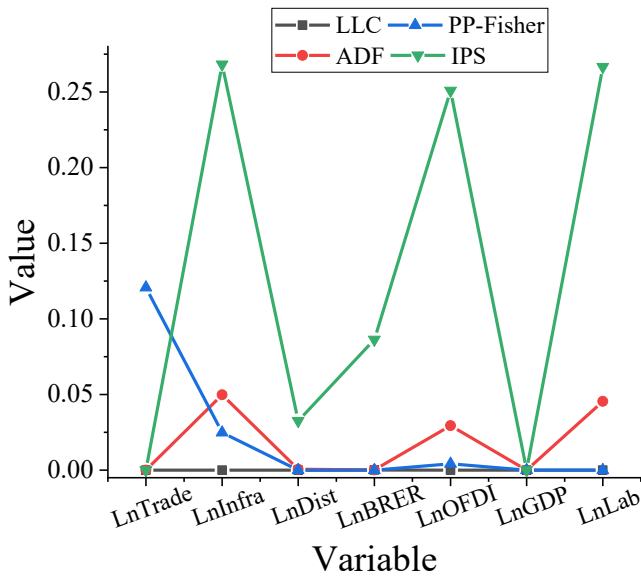


Fig. 7. Unit root test results
 Source: author.



Table 3. Pearson correlation coefficients

| Variable name | LnOFDI | LnGDP | LnLab | LnInfra | LnDist | LnBRER |
|---------------|--------|--------|-------|---------|--------|--------|
| LnOFDI | 1 | | | | | |
| LnGDP | 0.125 | 1 | | | | |
| LnLab | 0.808 | 0.088 | 1 | | | |
| LnInfra | 0.717 | 0.095 | 0.755 | 1 | | |
| LnDist | 0.057 | 0.046 | 0.055 | 0.035 | 1 | |
| LnBRER | −0.231 | −0.241 | 0.014 | −0.028 | 0.107 | 1 |

Source: author.

of multi-collinearity. In panel data regression analysis, researchers typically choose between random effect models, fixed effect models, and mixed effect models to assess their respective strengths and limitations. The appropriate testing method can be utilized to determine whether a mixed-effects model or a fixed-effects model should be employed.

This study conducts an *F*-test to determine whether a mixed-effects model or a fixed-effects model should be employed. The calculated *F*-value of 221.58 rejects the null hypothesis, indicating that a fixed-effects model is appropriate. A stepwise regression method is employed to construct the impact model of foreign direct investment on trade, gradually introducing control variables such as GDP, labor force population, and infrastructure. This approach enables a more accurate analysis of the variables' impact on the results and yields reliable conclusions. The total sample regression results are presented in Table 4. The high goodness of fit, with an R^2 value of 0.975, indicates that the model fits well. Furthermore, the *F*-test result of 340.721 suggests a significant linear relationship between the regression variables. Upon adding the control variables, a 1 percentage point change in OFDI corresponds to a 0.054 percentage point change in trade between China and the various countries in CEE. This finding indicates that China's investment in CEECs promotes the development of bilateral trade, supporting the conclusion that OFDI in CEECs has a complementary effect on trade. This result underscores the significance of incorporating control variables. Control variables are employed to mitigate the influence of other potential factors on investment and trade, thereby enhancing the precision of the results in assessing China's investment effects on CEECs.

6.3. Policy recommendations for bilateral trade development

The volume of trade between CEECs and China continues to grow, encompassing multiple industries, including manufacturing, agriculture, energy, and the services sector. Bilateral trade between CEECs spans various sectors, with a strong presence in manufacturing, including automobile manufacturing, machinery and equipment, and electronic products. CEECs have implemented proactive measures to attract Chinese investments and boost bilateral trade. These measures include offering tax incentives, streamlining market access, and ensuring investment protection. Moreover, CEECs and China can further enhance their trade relations by negotiating and entering into free trade agreements or bilateral trade agreements. These agreements would



Table 4. Regression analysis results of panel data

| Variable name | <i>LnTrade</i> | <i>LnTrade</i> | <i>LnTrade</i> | <i>LnTrade</i> | <i>LnTrade</i> | <i>LnTrade</i> |
|----------------|-----------------------|-----------------------|---------------------|---------------------|----------------------|-----------------------|
| C | 10.552*** (50.573) | 10.625*** (61.608) | 19.033 (1.479) | 0.096 (0.011) | −20.497 (−1.423) | −17.996 (−1.104) |
| <i>LnOFDI</i> | 0.157*** (6.195) | 0.137*** (5.850) | 0.137*** (5.865) | 0.067*** (3.039) | 0.058** (2.528) | 0.054** (2.152) |
| <i>LnGDP</i> | | 0.033*** (5.525) | 0.032*** (5.338) | 0.027*** (5.326) | 0.028*** (5.324) | 0.026*** (5.945) |
| <i>LnLab</i> | | | −0.574 (−0.501) | −1.266* (−1.681) | −1.055 (−1.385) | 1.085 (1.412) |
| <i>LnInfra</i> | | | | 1.901*** (7.533) | 1.751*** (6.855) | 1.709*** (6.271) |
| <i>LnDist</i> | | | | | −1.523** (−2.473) | −1.429** (−2.101) |
| <i>LnBRER</i> | | | | | | −0.075*** (−3.310) |
| R ² | 0.9671 | 0.9737 | 0.9742 | 0.9781 | 0.9786 | 0.9785 |
| F-statistic | 266.321 (0.000) | 313.55 (0.000) | 301.112 (0.000) | 345.630 (0.000) | 340.043 (0.000) | 340.721 (0.000) |

Note: ***, **, and * represent the significance levels of 1%, 5%, and 10%, respectively.

Source: author.

serve to reduce tariffs and non-tariff barriers, facilitate market access, and promote trade liberalization.

First, enhancing bilateral trade cooperation is of paramount importance. CEECs can strengthen their trade ties with China by reducing trade barriers and tariffs, as well as by signing or strengthening free trade agreements. Both parties can also improve trade negotiation and cooperation mechanisms, including regular high-level meetings, to promote a deeper level of trade cooperation.

Second, it is essential to promote trade facilitation measures. [Zuokui \(2021\)](#) emphasized the importance of governments committing to reducing barriers to imports and exports in his research. This commitment entails lowering tariffs, addressing non-tariff barriers, streamlining trade procedures, and fostering a transparent and predictable trade environment. Such measures can effectively attract domestic and international businesses to participate in bilateral trade ([Zuokui 2021](#)). CEECs, along with China, should collaborate to streamline trade procedures and minimize trade obstacles. Promoting e-commerce and digital trade can enhance trade efficiency and convenience. Establishing more efficient customs clearance, inspection, and quarantine mechanisms, along with providing faster and more convenient trade services, can contribute to creating a favorable trade environment for businesses.



Furthermore, it is crucial to enhance trade promotion mechanisms in order to stimulate bilateral trade. CEECs should establish and strengthen trade promotion mechanisms, facilitating trade-related activities such as trade promotion events, exhibitions, and business matchmaking meetings. These initiatives would foster trade connections and facilitate business cooperation between enterprises from CEECs and China. It is also essential to enhance exchanges between trade delegations from both sides, promoting communication and collaboration between business partners.

Encouraging two-way investment is another crucial aspect. CEECs can incentivize domestic enterprises to invest in China and foster increased two-way investment by collaborating with Chinese enterprises to jointly explore markets and strengthen production capacity cooperation. Strengthening investment promotion mechanisms, providing information and support on the investment environment, and encouraging cross-border investments would yield mutual benefits and win-win outcomes. CEECs, along with China, can establish an effective information-sharing mechanism to provide insights into market demand, trade policies, regulations, and standards. This would assist enterprises from CEECs in gaining a better understanding of the Chinese market and identifying opportunities for business growth.

Establishing a trade information exchange platform is crucial to promote information sharing and foster business cooperation, further enhancing bilateral trade cooperation. Given the diverse political and economic landscapes across CEECs, it is crucial to capitalize on their respective national characteristic industries and prioritize strategic investments in countries with lower investment efficiency. Additionally, by developing areas such as the deep processing of agricultural products, the return on investment projects can be increased, thereby improving the efficiency of direct investment in these countries.

Simultaneously, the CEECs hold a significant position within the EU. Therefore, China can enhance its relations with the EU by fostering cooperation with these countries within the EU framework. China can actively collaborate with EU member states to promote connectivity and trade cooperation. China's investments and trade activities with the CEECs should align with EU standards and regulations. This approach will help cultivate trust and cooperation between China and the EU while mitigating potential trade barriers. CEECs, as part of the EU, have already adopted various sustainable development goals. China should work with these nations to collectively pursue sustainable development objectives, including environmental conservation and collaboration on green technology.

7. CONCLUSIONS

Since the establishment of the China-CEECs cooperation mechanism, all parties have achieved fruitful cooperation guided by the principles of mutual benefits and win-win outcomes. This collaboration has played a significant and positive role in advancing the high-quality development of the BRI and fostering the construction of a community with a shared future for humankind. This study employs data from 2008 to 2022 concerning China's relationship with CEECs. Building upon the adjustment of the classic trade gravity model, this study introduces gross domestic product and infrastructure as control variables to investigate the impact of direct investment on trade outcomes. The study highlights the positive impact of OFDI in CEECs on bilateral trade. Chinese enterprises have successfully entered the CEECs' markets through OFDI, leading to trade growth and an



increase in bilateral trade volume. This finding underscores the pivotal role of direct investment in strengthening economic ties and fostering cooperation between the CEECs and China. Hence, reinforcing OFDI in the CEECs will inject new vitality into the development of bilateral trade, ultimately promoting economic growth for both China and the CEECs. Through deepened investment cooperation, the two sides can achieve broader and more diversified trade collaboration, thus creating economic growth and employment prospects for both regions.

This study has certain limitations as FDI and trade relations are dynamic, and the study period's choice may affect the research results' timeliness. Future research could contemplate extending the time frame or conducting longer-term studies. Additionally, the research could also contemplate offering practical recommendations for enhancing policies aimed at promoting bilateral trade and investment. This might encompass policy assessments, recommendations, and strategic planning to more effectively bolster economic cooperation between China and CEECs.

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