MACROECONOMIC DETERMINANTS OF EUROPEAN OUTWARD FOREIGN DIRECT INVESTMENT

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Abstract

The global expansion of trade and capital flows, largely driven by globalization, has significantly impacted the dynamics of foreign direct investment (FDI). This paper examines how country-specific characteristics such as real income, exchange rates, economic openness, and European monetary integration influence the outward FDI (OFDI) from European Union (EU) countries. Utilizing econometric models on data spanning from 1980 to 2020, the study confirms that these macroeconomic factors are critical in shaping FDI trends. Particularly, real income and economic openness are found to be the most influential determinants. These findings underscore the nuanced role of national economic traits in FDI outflows and suggest implications for the economic policies of EU countries. This research contributes to the literature on international investment and economic globalization (Dunning, 1993; Buckley & Casson, 1985), providing a refined understanding of the macroeconomic underpinnings of OFDI.

Keywords: Outward FDI, European Union, Panel Data Model

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1. INTRODUCTION

Foreign direct investment (FDI) is commonly understood as an investment made by a firm or individual in one country into business interests located in another country, typically involving the acquisition or construction of physical assets. FDI is characterized by a lasting management interest in a foreign operation, often seen in the form of control over a foreign firm (Falzoni, 2000). This strategic investment reflects not just economic transactions but also the integration of business strategies across borders.

Economic theories, such as Dunning's eclectic paradigm, propose that a country's FDI outflow is driven by a blend of ownership advantages (O), location advantages (L), and internalization advantages (I), which evolve with the country's economic development (Dunning, 1993; Dunning & Narula, 1996). These advantages suggest that firms with the capacity to manage and utilize income-yielding assets effectively are more likely to engage in foreign investment. This capacity often depends on both inherent and developed assets — ranging from natural resources and unskilled labor to sophisticated capital, advanced technology, and skilled labor. These endowments are specific to each country and significantly influence its firms' ability to invest abroad (Kyrkilis & Pantelidis, 2003).

The primary aim of this paper is to test the hypothesis that the outward FDI (OFDI) of European Union (EU) countries can be systematically

explained by certain macroeconomic and qualitative variables unique to each country. By employing time series and panel data models, this study analyzes statistical data from 1980 to 2020 to assess the impact of these variables on OFDI behavior. The analysis focuses on specific EU countries, providing a detailed examination of how these variables correlate with FDI trends and suggesting policy measures based on empirical findings.

This introduction provides a comprehensive framework for understanding the research scope, highlighting significant gaps such as the need for a nuanced analysis of how individual country characteristics impact FDI. The study's findings are intended to inform policy-making within the EU, offering insights that could guide the development of strategies to optimize FDI flows based on the identified macroeconomic factors. Such insights are crucial for policymakers aiming to enhance their country's international economic engagement and competitiveness.

The structure of this paper is as follows. Section 2 reviews the relevant literature, laying the groundwork for the theoretical models used. Section 3 describes the methodology employed for the empirical analysis, including the justification for choosing specific econometric models. Section 4 presents the results of the analysis, discussing how each variable influences OFDI, and discusses these findings in the broader context of economic theory and their implications for EU economic policy. Finally, Section 5 concludes with a summary of the findings and their significance for future research and policy formulation.

2. LITERATURE REVIEW

As a process, globalization is about the development of national industries on an international scale (Kyrkilis, 2010), whereas the internationalization of an economy is about developing business strategies in the international market. The impact of globalization on the global economy affects the economic development of individual countries. The strengthening of globalization is evident in the key role that foreign capital has come to play in every economy.

Amid globalization, nations can leverage international resources to advance their economic agendas via OFDI. Globally, there is a trajectory by which a nation can bolster its ability to invest overseas by drawing in FDI. Additionally, reinforcing intellectual property rights (IPR) protection boosts the spillover benefits of FDI and the ability of domestic firms to absorb these benefits, thereby amplifying the positive impact of FDI on OFDI (Zhang & Liu, 2022).

In such a field, multinational enterprises (MEs) are the most important actors as regards the development of FDI. FDI and MEs represent two sides of the same coin (Buckley & Casson, 1985). Without FDI, no enterprise can be considered to be the European Parliament (EP) (Pitelis & Sudgen, 2002). In other words, there is no other form of international business activity that suffices to designate an enterprise as a multinational. The term EP denotes an enterprise that creates added value in more than one country (Dunning, 1993). That is, MEs operate in more than one country Organization for Economic Co-operation and Development (OECD, 2008). MEs are inextricably linked to FDI.

Some theoretical aspects of FDI are: the eclectic paradigm of Dunning (1988) suggests that there are three sets of variables that determine the extent and form of foreign-owned production: ownership-specific advantages, location-specific advantages, and internalization advantages; Dunning (1988) identified four categories of motives for FDI — resource-seeking, market-seeking, efficiency-seeking, and strategically motivated seeking.

Both economic theory and recent empirical evidence from the 2000s demonstrate the beneficial effect that FDI has on developing host countries. More recent work, however, highlights some potential risks that can be reversed through financial transactions. Although the empirical relationship of some of these sources of risk remains to be proven, the potential risks seem to make a case for discouraging the potential impact of FDI. Policy recommendations for developing countries should focus on improving the investment climate for all types of capital, domestic and foreign (Lipsey, 2015).

The empirical findings highlight that policy implications are particularly significant for low-middle and low-income countries, where the effect of OFDI on economic growth through domestic institutions tends to be weak. Consequently, policymakers should adopt a comprehensive strategy that encompasses enhancing national institutions, boosting the absorptive capacity of local firms, and implementing effective economic policies that align FDI policies with national institutions to amplify the impact of overseas investments on economic growth. Nonetheless, the differences in institutional quality among various income groups are not the sole factors influencing the impact of OFDI spillovers on economic growth. Other factors such as resource availability, political stability, and the level of economic development may also hinder overseas direct investment in certain countries (Osarumwens & Igor, 2023).

FDIs can bring many advantages to a country. However, there is no perfect way to invest abroad. Any business interested in investing in another country has to take all relevant factors into account in order to succeed. It is worth mentioning that FDIs in Eastern Europe have increased enormously in recent years due to the development potential of the region, while Western Europe remains interesting for investment due to its educated workforce and market proximity (Lipsey, 2015).

According to Pfaffermayr (1996), "the relationship between foreign outward direct investment and exports is crucial for assessing the impact of increased internationalization by foreign outward direct investment on a country's welfare" (p. 501). Thus, policymakers should bear in mind that policies aimed at promoting investment abroad, taking advantage for instance of new special economic zones (SEZs) regimes introduced over the last decades in many countries, would be welcome, among other reasons, for the expansion of exports they would trigger. As a result, such policies are likely to enhance domestic employment and economic welfare in the long term (Maza & Gutiérrez-Portilla, 2022).

The connection between growth and investments is the primary goal of all governments. FDI is one of the most important factors of long-term economic

growth. However, there are various components to creating a good economic environment for attracting FDI. Any type of private investment requires a stable economic environment and political stability in the host country. Furthermore, policymakers should pursue policies involving reduced taxes and lower production costs in order to attract FDI (Kukaj et al., 2022).

The development of OFDI activities of enterprises helps improve the level of technological innovation of enterprises, and this has a lag effect. Research and development (R&D) type OFDI activities play a vital role in promoting the enterprises' ability to engage in technological innovation. Compared with low-income host countries, investment in high-income host countries is more effective as regards promoting the enterprises' ability to achieve technological innovation (Wang et al., 2021).

3. RESEARCH METHODOLOGY

This study employs econometric time series and panel data models to examine the influence of various macroeconomic factors on the OFDI of EU countries. The choice of these models is driven by their robustness in analyzing time-series data and their ability to handle data variations across different countries over the specified period from 1980 to 2020. Time series models are particularly useful for observing the behavior of a variable over time, identifying trends, and forecasting future directions, while panel data models enhance the analysis by considering cross-sectional data, thus providing a more comprehensive view of the dynamics at play.

In implementing these models, the study utilizes a structured approach where initial analyses are performed to ensure data integrity and appropriateness for the modeling techniques. This includes tests for stationarity, the presence of unit roots, and the selection of appropriate lags for the variables involved. Econometric software (Stata) is employed to carry out the regression analyses, with robust standard errors to account for potential heteroskedasticity and autocorrelation in the panel data.

3.1. Dependent variable

Annual OFDI: *OFDI*, also called direct investment abroad, includes assets and liabilities transferred between resident direct investors and their direct investment enterprises. It also covers transfers of assets and liabilities between other resident and non-resident enterprises if the ultimate controlling parent is a resident (World Bank, n.d.).

3.2. Independent variables

Income: The rise of a country's income brings about changes in its economic structure, also affecting the mix of its competitive advantages. Manufacturing and services represent an increasing share of the gross national product (GNP), production becomes more capital intensive, there is a shift in demand patterns towards the consumption of differentiated products, and markets grow. Market growth leads to economies of scale as specialization increases, new technology is introduced, and output volumes rise (Kyrkilis & Pantelidis, 2003). The firms that successfully exploit country-specific agglomeration advantages are capable of developing their ownership advantages. For example, sophisticated demand patterns provide firms, especially those active in the consumer goods and services sectors, with a motive to differentiate products and gain more marketing expertise. This in turn may present them a significant competitive advantage as regards the establishment of overseas production, especially in markets where it is necessary for products to be adapted to local demand conditions. The accumulation of ownership-specific advantages by firms increases their propensity to engage in direct production abroad. This is particularly true in cases where these advantages are intangible, and the best way of transferring them abroad is by creating an internal market instead of undertaking an arm's-length transaction (internalization advantages). The rise of a country's income levels is expected to lead to increased *OFDI* activity. Real GNP will be used as a proxy for a country's income level and structural transformation.

Interest rate: Firms planning to establish operations abroad need to commit significant amounts of capital, especially if they intend to enter capital-intensive sectors characterized by great economies of scale, as is the case for most FDI. Capital abundance in the home country may provide the necessary background for the establishment of large firms with adequate financial means and relatively easy access to capital markets. The relatively low interest rates that are associated with such an abundance of capital, lead to a reduction in the opportunity cost of capital. As a result, investments abroad may become profitable despite the risks and uncertainties they imply. It is assumed that the lower the home country's interest rate is, the higher this country's propensity for *OFDI* is (Kyrkilis & Pantelidis, 2003).

Exchange rate (*ER*): Aliber (1970) argued that firms originating in countries with strong currencies are better equipped to financially support their foreign investments than firms from countries with weak currencies. Any increase in the value of the home country's currency reduces the amount of capital required for foreign investments in domestic currency units, and, as a result, the firms that invest abroad find it easier to raise capital than affirms facing a depreciated currency. Moreover, the appreciation of the home country's currency causes the nominal competitiveness of exports to deteriorate, providing firms with the increased motive to choose FDI as the means of servicing foreign markets. We assume that there is a positive correlation between the *ER* and *OFDI* and we will use the home country's effective *ER* index as an approximation of this variable.

Technology: The assumption that technological capability is positively related to FDI has been widely supported in both theoretical and empirical terms (Kyrkilis & Pantelidis, 2003). Any firm that is capable of organizing and undertaking the production of technological inputs enjoys a critical competitive ownership advantage that generates income for it.

Markets fail to optimize the returns from technological input transactions, especially in the case of information-intensive technology (Buckley & Casson, 1985; Dunning, 1993). In this case, companies employ FDI as a means of internalizing the exploitation of technologically intermediate goods across nations.

The firm's ability to organize and produce technological inputs varies across countries. This may be due to characteristics such as the legal and patent systems, the availability of inputs and skills necessary for the production of technology, the structure of markets, government policies, scientific research, incentives in education, and so forth. We assume that the number of patents issued in a country approximates its firms' ability to generate technological inputs and therefore it is positively related to the country's *OFDI* propensity.

Human capital: Human skills are another key ownership advantage, which enables the acquisition of other types of competitive advantages. Activities related to R&D, marketing, management, and organization, as well as foreign operations, require the existence of a competent and skilled workforce. Empirical research has demonstrated that the likelihood of FDI is higher in skill-intensive sectors (Kyrkilis & Pantelidis, 2003). Again, the supply of human capital supply varies across countries because of factors such as education and training systems, and government policy. We intend to use the number of higher education personnel engaged in R&D as an approximation for this variable. Because of the non-availability of this kind of data for non-EU countries, we will use as a substitute the number of tertiary education students. Higher numbers of tertiary education graduates imply that the skill content of the workforce will also be higher, and the assumption of a positive relation between this variable and FDI.

Openness of the economy (*OP*): The liberalization of a country's international financial and trade flows is expected to have a positive effect on its firms' *OFDI* activities. First, the absence of capital controls makes it possible for firms to finance their overseas investments without facing any restrictions at all (Kyrkilis & Pantelidis, 2003). Second, when an economy is export-oriented firms are capable of acquiring information about foreign markets, as well as knowledge and skills about how to organise their foreign operations and market their products internationally. All the above may provide them with a basis for switching from exports to FDI as regards their internationalization. Third, firms may choose to deal with competition from imports by boosting their presence in the home markets of the companies that are producing these imports — FDI is certainly a good means to retaliate. Overall, we assume that a higher degree of openness is associated with higher levels of *OFDI* activity. We will use the sum of a country's exports plus imports as an approximation of its openness.

Corporate tax rate (*COR_TAX*): A positive correlation is expected between the *COR_TAX* and FDI. According to the International Monetary Fund (IMF), OECD countries with high *COR_TAX* have experienced high levels of net FDI outflows and declining corporate tax revenues (IMF, 2001). *OFDI* is attracted to countries with low-profit tax rates (Duanmu & Guney, 2009). The strengthening of the tax complexity difference between the source country and the destination country is associated with an increase in FDI outflows from the country of origin to the country of destination (Esteller-Moré et al., 2021).

Unemployment index: A positive correlation is anticipated between the unemployment index and

OFDI. *OFDI* negatively impacts domestic output and employment, indicating that it leads to a reduction in domestic production and job opportunities (Huijie, 2018). Based on investors' motivations, *OFDI* can be classified as natural resource-seeking, market-seeking, or efficiency-seeking. For the first two types, the unemployment caused by export substitution and reimports is expected to be significantly lower than the employment generated by additional exports of capital equipment, intermediate products, new product lines to foreign subsidiaries, and the increased need for office jobs in the countries of origin. Conversely, efficiency-seeking FDI may result in more unemployment due to export substitution and reimports than the employment generated through additional exports in the host countries (Agarwal, 1996).

Dummy variable: The creation of the euro in 2002 is expected to affect *OFDI*. The dummy variable takes the value of 1 for years up to 2001 and the value of 2 for subsequent years.

Qualitative variables (*political stability, government effectiveness, corruption*): The correlation between qualitative variables and *OFDI* is examined. Political stability — *PS* — is positively related to *OFDI*. The same is true of government efficiency — *GE*. More specifically, the stronger the political stability in a country and the more effective the government policy is, the greater the size of *OFDI* is.

Regarding corruption — (*COR*), there is no specific prediction, in the sense that the correlation can be either positive or negative depending on the state of the country (Kolstad & Wiig, 2009; Zhang & Hao, 2018; Zander, 2021).

3.3. Methodology and data

The model can be summarised as follows: *OFDI* is the dependent variable, taking into account the annual outflows for each EU country that is being examined. The independent variables are *income*, the *ER*, the *OP*, the *profit tax rate*, *unemployment*, dummy variables, and qualitative variables — *PS, GE,* and *COR*.

A total of three samples will be evaluated. The first two are time series and the other sample with fixed effects. Models 1 and 2 are estimated by the method of ordinary least squares (OLS) for ten EU countries (including the United Kingdom — UK) for the period from 1980–2020 with annual data. Model 3 is estimated using the fixed effects method for the period from 1980–2020 with annual data.

The autocorrelation (Durbin-Watson) coefficients in the time series regressions indicate no autocorrelation. All necessary diagnostic tests were performed (diagnostics, Hausman, and test for stationarity).

Model 1 (Time series model)

$$FDI = a_0 + a_1 Y + a_2 ER + a_3 OP + a_4 D + \varepsilon \qquad (1)$$

where,

- *FDI* = outward flows of FDI;
- *Y* = home country's real GNP, is positively related to FDI;
- *ER* = home country effective *ER* index is positively related to FDI;

- *OP* = openness of the economy; it is approximated by the sum of exports plus imports, and negatively related to FDI;
- *D* = dummy variable for the creation of the euro from 2001 onwards; it takes the value 1 for years before 2001 and the value 2 for subsequent years.

Model 2 (Time series model)

$$FDI = b_0 + b_1Y + b_2ER + b_3OP + b_4PS + b_5GE \\ + b_6COR + \varepsilon \quad (2)$$

where,

- *PS* = political stability index, qualitative variable; it is positively related to FDI;
- *GE* = government efficiency index, qualitative variable; it is positively related to FDI;
- *COR* = corruption index, qualitative variable.

Model 3 (Fixed effects model)

$$FDI = c_0 + c_1Y + c_2OP + c_3ER + c_4COR\_TAX \\ + c_5D + \varepsilon \quad (3)$$

where, *COR_TAX* = corporate tax rate in the country of origin, is positively related to FDI;

The points below the variables indicate the expected type of association (negative or positive) between the independent variables and FDI outflows. The linear form of the equation is estimated using OLS for each country separately with annual data for the period 1980–2020.

The variables related to *OFDI*, exports, and imports are taken from Oxford Economics. The tax rate of each country, the population of the countries, as well as the variable of research and development as a percentage of GDP have been retrieved from the World Bank databases. The unemployment rate and *ER* are taken from the OECD. The index concerning human capital was drawn from databases of the University of Groningen, while databases from Directorate-General for Economic and Financial Affairs (DG ECFIN) AMECO were used for the index of labor costs. Also, the qualitative variables: *COR*, *PS*, and *GE* data were drawn from the Worldwide Governance Indicators database. Finally, it is worth mentioning that a dummy variable was also used to improve the presentation of the factors influencing *OFDI*. All the variables were extracted from the database during 2022.

While the econometric models employed are well-suited for this study's aims, alternative methodologies could also offer valuable insights. One such alternative is structural equation modeling (SEM), which provides a sophisticated means of assessing causal relationships among observed and latent variables. SEM is particularly adept at testing theoretical propositions about complex causal relationships and could be applied to explore the direct and indirect effects of macroeconomic factors on FDI. For instance, studies like Hair et al. (2010) have effectively demonstrated the utility of SEM in elucidating the paths and relationships in economic research. Another alternative could be qualitative comparative analysis (QCA), which is recommended by Ragin (2008) for analyzing patterns of multiple causation by identifying combinations of causally relevant conditions. QCA could be used to understand how various configurations of economic, political, and social factors interact to influence FDI across different EU countries.

These alternatives were initially considered but were not selected for this research, given the specific objective of quantifying the impact of individual macroeconomic factors over an extensive period and a wide geographic range. The chosen econometric methods are more directly applicable to these aims. However, future research might explore these alternative methodologies to provide complementary insights into FDI dynamics in the EU, potentially leading to a richer understanding of the factors influencing *OFDI*.

4. RESEARCH RESULTS AND DISCUSSION

4.1. Main findings

The results are presented in Table 1, set Table 2, and set Table 3. The time series model yields satisfactory estimates. The market size, denoted by real GDP, of origin countries shows a statistically significant positive correlation in Denmark, Finland, Portugal, and the UK. While a positive relationship is observed for most other countries, it lacks statistical significance. This indicates that a country's growth magnitude significantly influences its *OFDI*.

Economic openness is positively correlated with *OFDI* and is statistically significant for Finland, the Netherlands, and Spain. Even though a positive relationship is seen in many other countries, it doesn't achieve statistical significance. European countries' international trade complements FDI realization.

The *ER* exhibits statistical significance for Austria, Portugal, Spain, the UK, and the Netherlands. An appreciation of a country's domestic currency positively impacts FDI realization. For other nations, the expected negative relationship between FDI and the *ER* is observed, though it's statistically insignificant.

Adopting the euro negatively affected FDI for countries like Denmark, Finland, France, Spain, and the UK, implying that the euro wasn't beneficial for outbound investments in the EU. European firms seemed to prefer international trade over FDI for global expansion.

The qualitative variable representing *PS* is significant for Finland (positive) and the Netherlands (negative), with no significant relationships for other countries. Governance effectiveness is significant with a negative sign for Finland, Italy, and Spain. The *COR* variable is significant and positive for France, the Netherlands, Portugal, and Spain, and negative for Finland.

The fixed effects model adequately explains European *OFDI* trends. *OFDI* relies positively on the *ER*, suggesting that appreciation of origin countries' domestic currencies boosts *OFDI*. The market size of these countries also promotes *OFDI*. International trade and FDI are complementary, meaning trade liberalization and FDI are interconnected. Factors like business taxes in origin countries, monetary unification in the Eurozone post-2002, and unemployment levels don't show a significant influence on *OFDI*.

Table 1. Times series model with OLS estimation during the period 1980–2020 (Set 1)

Variables	Austria	Denmark	Finland	France	Italy	Netherlands	Portugal	Spain	Sweden	UK
Openness (OP)	4.374***	1.663	1.270	1.914**	1.288	1.823	-0.915	4.676***	1.685	0.101
	(1.470)	(1.761)	(1.199)	(0.834)	(1.813)	(1.120)	(2.006)	(0.765)	(1.209)	(1.139)
Exchange_rate (ER)	-3.872*	-1.108	1.887	-0.470	-1.090	-1.012	3.229*	-2.620**	0.191	-5.756***
	(2.266)	(1.192)	(1.863)	(0.867)	(1.725)	(1.114)	(1.636)	(0.965)	(0.227)	(1.460)
lnGDP_real (Y)	-1.746	1.567**	2.853***	1.130	0.828	0.360	3.317***	-1.156*	0.166	2.514***
	(1.857)	(0.752)	(0.763)	(0.763)	(0.952)	(1.234)	(1.194)	(0.674)	(0.930)	(0.792)
Euro_dum (EMU)	0.280	-1.836**	-2.458***	-1.331***	0.309	0.460	-0.174	-0.958***	-0.582	-1.114***
	(0.275)	(0.771)	(0.841)	(0.427)	(0.704)	(0.310)	(0.654)	(0.245)	(0.486)	(0.371)
Constant	3.537	-43.486**	-80.280***	-46.422***	-30.643***	-22.415	-69.753***	-16.978*	-17.338	-56.395***
	(33.253)	(21.046)	(9.699)	(12.514)	(9.224)	(19.981)	(10.322)	(9.585)	(16.009)	(8.495)
Observations	34	38	34	41	41	39	35	40	40	37
R-squared	0.924	0.705	0.774	0.783	0.641	0.909	0.882	0.951	0.568	0.696
DW	1.740	1.318	2.151	1.677	1.868	2.023	1.708	1.146	1.245	1.434

Note: Independent variable — OFDI. DW — Durbin-Watson. *** p < 0.01, ** p < 0.05, * p < 0.1. Standard deviation in the parentheses.
Source: Authors' elaboration based on the data from Datastream (Oxford Economics, World Bank, OECD, University of Groningen) and Worldwide Governance Indicators.

Table 2. Times series model with OLS estimation during the period 1980–2020 (Set 2)

Variables	Austria	Denmark	Finland	France	Italy	Netherlands	Portugal	Spain	Sweden	UK
Openness (OP)	10.957	-0.269	18.412**	3.266	5.564	10.158***	2.716	7.120***	1.962	-0.695
	(6.312)	(2.077)	(8.365)	(3.483)	(3.546)	(2.404)	(3.552)	(1.628)	(1.393)	(3.421)
Exchange_rate (ER)	-15.931	7.009	-10.124	-3.663	-6.983	-14.128***	5.558	-6.085**	-0.082	-6.615***
	(10.480)	(7.280)	(8.296)	(5.955)	(6.672)	(3.933)	(4.097)	(2.152)	(0.259)	(2.101)
lnGDP_real (Y)	-10.764	0.197	-15.720	-3.536	-4.836	-9.785**	1.436	-4.965***	-0.599	1.882
	(8.931)	(3.134)	(9.450)	(4.458)	(4.628)	(3.406)	(3.359)	(1.481)	(1.073)	(2.336)
POL_STAB (PS)	-0.002	-0.451	6.319***	0.167	0.723	-2.112**	-2.554	0.064	0.092	0.409
	(0.911)	(4.550)	(1.888)	(0.530)	(1.443)	(0.973)	(1.685)	(0.510)	(0.833)	(0.548)
GOV_EFF (GE)	-1.200	-2.621	-7.652**	1.325	-4.158**	1.187	-2.287	-1.121***	3.858*	0.573
	(4.254)	(3.585)	(2.792)	(0.932)	(1.978)	(1.380)	(1.561)	(0.392)	(1.877)	(3.780)
CORR (COR)	0.798	7.961	-15.045***	3.045**	-0.451	5.741***	8.021***	1.530***	-1.445	-0.152
	(2.333)	(7.307)	(4.302)	(1.446)	(1.392)	(1.520)	(2.478)	(0.393)	(1.464)	(1.524)
Constant	170.408	-57.940	249.751	62.804	77.608	139.782**	-68.786	57.871**	-2.474	-28.258
	(169.883)	(131.874)	(166.211)	(84.684)	(101.318)	(65.680)	(58.147)	(21.825)	(17.420)	(32.964)
Observations	18	22	20	25	25	23	21	24	24	21
R-squared	0.790	0.163	0.613	0.505	0.503	0.742	0.630	0.730	0.228	0.396
DW	2.472	1.515	1.622	1.387	2.090	1.270	1.887	1.527	2.157	1.456

Note: Independent variable — OFDI. DW — Durbin-Watson. *** p < 0.01, ** p < 0.05, * p < 0.1. Standard deviation in the parentheses.
Source: Authors' elaboration based on the data from Datastream (Oxford Economics, World Bank, OECD, University of Groningen) and Worldwide Governance Indicators.

Table 3. Fixed effects model with OLS estimation during a period (1980–2020)

Variables	(1)
	All
Openness (OP)	2.139***
	(0.495)
Eff_exch_rate_index	0.025**
	(0.009)
lnGDP_real	0.872*
	(0.400)
COR_TAX	0.949
	(2.241)
Euro_dum (EMU)	-0.643
	(0.442)
Constant	-44.276***
	(6.109)
Observations	332
Number of country_id	10
R-squared	0.657

Note: *** p < 0.01, ** p < 0.05, * p < 0.1. Standard deviation in the parentheses.
Source: Authors' elaboration based on the data from Datastream (Oxford Economics, World Bank, OECD, University of Groningen) and Worldwide Governance Indicators.

4.2. Discussion of the results

According to the above-mentioned analysis, *OFDI* has an important contribution to the economic growth of a country and they are a basic element of the global economy. More specifically, the impact of *OFDI* on the economic growth of European countries is crucial and for this reason, EU policies must strengthen the international investment position of EU countries. This means that the EU must take measures in order to invite countries to participate in investments and to create the circumstances to participate. All of the above should be carried out taking into account the new conditions that are taking place at a global level such as technological advancements, and the effects of climate change.

5. CONCLUSION

This study has provided a comprehensive analysis of the macroeconomic determinants influencing OFDI within the EU, identifying real income, economic openness, ER fluctuations, and European monetary integration as pivotal factors. Each of these elements plays a crucial role not only in shaping the volume and direction of FDI but also in reflecting broader economic dynamics that can guide policy formulation.

The positive correlation between real income levels and OFDI highlights the significant role of economic strength in fostering international investment. Countries with robust economic growth are more likely to engage in OFDI, suggesting that aligning economic growth strategies closely with FDI policies could enhance external economic engagements. Similarly, the relationship between economic openness and increased FDI underscores the benefits of liberalizing trade and simplifying regulatory frameworks. This implies that EU policies aimed at reducing trade barriers could not only boost domestic economic performance but also strengthen the international investment position of EU countries.

Moreover, the influence of ER stability on FDI suggests that volatile currency conditions can deter investments abroad. Promoting stable ERs through coordinated monetary policies or mechanisms within the EU could help mitigate some of the uncertainties currently discouraging OFDI. Additionally, the nuanced effects of European monetary integration on FDI indicate that while the euro has facilitated certain economic efficiencies, its impact on OFDI is complex and requires careful policy consideration to fully understand its implications.

These insights offer actionable recommendations for EU policymakers, who might focus on strategies that promote economic growth and stability, enhance openness, and ensure currency stability to boost OFDI. Furthermore, understanding the multifaceted impacts of monetary integration on FDI could inform future reforms in EU economic governance.

Despite its contributions, this research is not without limitations. The focus on EU countries may not fully translate to other regions with different economic conditions, suggesting the need for future studies to extend this analysis globally or to specific non-EU countries. As new economic challenges emerge, particularly those related to digital economies and post-pandemic recovery, further understanding of their impact on FDI will be crucial. Upcoming research could also explore how technological advancements and digital infrastructure shape FDI trends, providing a richer landscape for understanding international investment dynamics.

REFERENCES

Agarwal, J. P. (1996). *Does foreign direct investment contribute to unemployment in home countries? An empirical survey* (Kiel Working Paper No 765). Kiel Institute of World Economics. https://www.econstor.eu/bitstream/10419/47220/1/257779833.pdf

Aliber, R. Z. (1970). A theory of foreign direct investment. In C. P. Kindleburger (Ed.), *The international corporation: A symposium* (5th ed., pp. 17–34). MIT Press.

Buckley, P. J., & Casson, M. (1985). *The economic theory of multinational enterprise.* Palgrave Macmillan. https://doi.org/10.1007/978-1-349-05242-4

Duanmu, J.-L., & Guney, Y. (2009). A panel data analysis of locational determinants of Chinese and Indian outward foreign direct investment. *Journal of Asia Business Studies*, *3*(2), 1–15. https://doi.org/10.1108/15587890980001512

Dunning, J. H. (1988). The eclectic paradigm of international production: A restatement and some possible extensions. *Journal of International Business Studies*, *19*(1), 1–31. https://doi.org/10.1057/palgrave.jibs.8490372

Dunning, J. H. (1993). *Multinational enterprises and the global economy.* Addison-Wesley Publishing Company.

Dunning, J. H., & Narula, R. (Ed.). (1996). The investment development path revisited. In *Foreign direct investment and governments: Catalysts for economic restructuring* (1st ed., pp. 1–41). Routledge.

Esteller-Moré, A., Rizzo, L., & Secomandi, R. (2021). The role of tax system complexity on foreign direct investment. *Applied Economics*, *53*(45), 5208–5220. https://doi.org/10.1080/00036846.2021.1922587

Falzoni, A. M. (2000). *Statistics on foreign direct investment and multinational corporations: A survey.* https://surl.li/gxipoz

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Pearson.

Huijie, G. (2018). Outward foreign direct investment and employment in Japan's manufacturing industry. *Journal of Economic Structures*, *7*, Article 27. https://doi.org/10.1186/s40008-018-0125-z

International Monetary Fund (IMF). (2001). *International financial statistics yearbook.* https://archive.org/details/internationalfin0000unse_k1f2/mode/2up

Kolstad, I., & Wiig, A. (2009). *What determines Chinese outward FDI* (CMI Working Paper No. 2009:3). Chr. Michelsen Institute (CMI). https://www.cmi.no/publications/3332-what-determines-chinese-outward-fdi

Kukaj, H., Nimani, A., & Usaj, V. (2022). Foreign direct investment, economic growth, and unemployment: Evidence from developing countries. *Journal of Governance & Regulation*, *11*(2), 293–300. https://doi.org/10.22495/jgrv11i2siart8

Kyrkilis, D. (2010). *Ameses xenes ependyseis* [Foreign direct investments]. KRITIKI Publications.

Kyrkilis, D., & Pantelidis, P. (2003). Macroeconomic determinants of outward foreign direct investment. *International Journal of Social Economics*, *30*(7), 827–836. https://doi.org/10.1108/03068290310478766

Lipsey, R. E. (2015). *Foreign direct investment and the operations of multinational firms: Concepts, history, and data* (NBER Working Paper No. 8665). National Bureau of Economic Research (NBER). https://www.nber.org/system/files/working_papers/w8665/w8665.pdf

Maza, A., & Gutiérrez-Portilla, P. (2022). Outward FDI and exports relation: A heterogeneous panel approach dealing with cross-sectional dependence. *International Economics*, *170*, 174–189. https://doi.org/10.1016/j.inteco.2022.04.002

Organization for Economic Co-operation and Development (OECD). (2009). Foreign direct investment glossary. In *OECD benchmark definition of foreign direct investment 2008* (4th ed., pp. 227–243). OECD Publishing. https://surl.li/fdwjei

Osarumwense, O. I., & Igor, M. D. (2023). Global outward foreign direct investment and economic growth across income groups: The mediating effect of home country institutions. *SAGE Open*, *13*(2). https://doi.org/10.1177/21582440231163843

Pfaffermayr, M. (1996). Foreign outward direct investment and exports in Austrian manufacturing: Substitutes or complements? *Weltwirtschaftliches Archiv*, *132*, 501–522. https://doi.org/10.1007/BF02707510

Pitelis, C., & Sugden, R. (2002). *I fýsi tis polyethnikís epicheírisis* [The nature of the multinational enterprise]. Typothito Publications.

Ragin, C. C. (2008). *Redesigning social inquiry: Fuzzy sets and beyond.* University of Chicago Press. https://doi.org/10.7208/chicago/9780226702797.001.0001

Wang, C., Liu, T., & Wang, J. (2021). The influence of outward foreign direct investment on enterprise technological innovation. *Mathematical Problems in Engineering*, *2021*, Article 697298. https://doi.org/10.1155/2021/6697298

World Bank. (n.d.). *What is the difference between foreign direct investment (FDI) net inflows and net outflows?* World Bank Group. https://datahelpdesk.worldbank.org/knowledgebase/articles/114954-what-is-the-difference-between-foreign-direct-inve

Zander, T. (2021). Does corruption matter for FDI flows in the OECD? A gravity analysis. *International Economics and Economic Policy, 18*, 347–377. https://doi.org/10.1007/s10368-021-00496-4

Zhang, H., & Liu, Y. (2022). Do foreign direct investment and migration influence the sustainable development of outward foreign direct investment? From the perspective of intellectual property rights protection. *Sustainability, 14*(9), Article 5364. https://doi.org/10.3390/su14095364

Zhang, L., & Hao, X. (2018). The impact of political relations on China's outward direct investment. *Entrepreneurial Business and Economics Review, 6*(4), 11–26. https://doi.org/10.15678/EBER.2018.060401