VILNIUS UNIVERSITY

FACULTY OF ECONOMICS AND BUSINESS ADMINISTRATION

Global Business and Economics

Valentyn Nefedov

Master thesis

| TUI tipų lyginamasis vertinimas ES-14 ir Vidurio bei Rytų Europos šalyse | Comparative assessment of FDI types in EU-14 and Central and Eastern European countries |

Supervisor: doc. dr. Jolanta Droždz

Vilnius, 2024

TABLE OF CONTENTS

LIST OF ABBREVIATIONS

FDI – Foreign direct investments

EU – European Union

USA – United States of America

DC – Developed counties

NMS – New member states

CEE – Central and Eastern Europe

COVID-19 - Coronavirus disease of 2019

OECD – Organisation for Economic Co-operation and Development

R&D – Research and development

MNC – Multinational Corporation

FSA – Firm-specific advantages

OLI – Ownership, Location, and Internalization

LDC – Least developed counties

GDP – Gross domestic product

PLC – Product life cycle

IDP – Investment development path

MENA – Middle East and North Africa

SEE – South Eastern Europe

ARDL – Autoregressive Distributed Lag

OLS – Ordinary least squares

GLS – Generalized least squares

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION

The relevance of the topic. The foreign direct investments (FDI) play vital part in economic prosperity of modern country in the globalized world of today. Although, foreign private capital flows and portfolio investment were seen as possible sources of growth financing, their likelihood of failing to meet financial objectives, due to volatile and speculative nature, resulted in FDI being dominant investment method especially for developing countries (OECD, 2002).

Understanding the importance of FDI in modern economy, countries started to develop special strategies and implement policies in order to attract more investment of this kind. Moreover, this approach is working for both developed and developing countries as FDI have become considerable contributor to the economic growth of both of these groups of countries (Dellis et al., 2020; Sujit et al., 2020). Starting from the 1990's, global FDI inflows rose sharply, with even more significant growth in the beginning in 2000s. The EU was always one of the key destinations of the FDI in the world, being leader in FDI inflows up until 2019, when it was overtaken by the USA due to several factors that include Brexit, Covid-19 pandemic and Russo-Ukrainian war. Still in 2022, the EU accumulated $11722 trillion of FDI inflows (The World Bank, 2023).

Novelty of the study. Prior research into this topic found out that destination for market-seeking FDI, also known as horizontal FDI usually is Western Europe and efficiency-seeking FDI, also known as vertical FDI, is prerogative of the transition economies of the EU (Mateev and Tsekov, 2014). However, this division is not definitive and requires deeper analysis.

This paper is set to identify underlying determinants in attracting FDI among two distinguished groups of the EU countries: Western European countries (EU-14) and countries of the Central and Eastern Europe (CEE). By analysing determinants, based on relative FDI performance of these two groups of countries, this work will explain the differences in the level and type of their FDI performance reflecting different paths of economic development for these groups of countries.

All prior research on the topic was done years ago, since then economic and political situation in Europe changed drastically with such phenomena as Brexit taking place. Also world has gone through couple of crises: connected with Covid-19 pandemic and 2014 Russo-Ukrainian war. This theoretically could have influenced determinants of the FDI, mainly in the CEE region but also in Western Europe. This work will also provide novelty by including new

economic data from 2000 until 2021 and by employing diverse set of dependant variables, some of which are understudied such as natural-resources and asset-seeking proxies.

The level of exploration of the topic and research gap. Scientific literature has vast amounts of papers on the FDI determinants of the CEE region and the EU overall, which analyse various factors. The most recent of which focused on economic (Toshevska-Trpchevska et al., 2019; Su et al., 2018; Bilas, 2020; Pečarić, 2021) or institutional factors (Sabir, 2019; Bailey, 2018; Meinhart, 2023). However, only three works have been researching comparison of determinants between different parts of the EU (Mateev and Tsekov, 2014; Igošina, 2015; Özkan-Günay; 2011), which shows clear research gap. These works have been done years ago and may not reflect modern stance in the economies of EU today. Apart from that, in this thesis, different explanatory variables are going to be used to better represent all types of FDI.

The aim of the paper is to evaluate the relative importance of different macroeconomic, policy and institutional factors as determinants of FDI inflows into the economies in Central and Eastern Europe (CEE) and Western European countries and find out predominant type of FDI each group is attracting.

The objectives of the work are following:

1. Explore theoretical implications and existing scientific literature on the variety of FDI determinants, covering the relative importance of different macroeconomic, policy and institutional factors;
2. Collect and systematize data on the topic and establish FDI determinants as proxies of FDI types;
3. Using fixed and random effects panel data models provide analysis of how determinants influence FDI in EU-14 and CEE countries;
4. Compare results and find out the types of FDI each group attracts in order to understand the dynamics of the investment climate in different regions and provide scientific backing for future policy decisions
5. Express recommendations to policymakers for thought-out decisions in FDI attraction and form conclusions for further research in the topic of FDI determinants.

Scope of the study and methods used. Previous known research on this topic used panel data approach using the econometric methodology of fixed and random effects to tackle this problem (Igošina, 2015; Nur Özkan-Günay, 2011; Zarić, 2022). This research is going to use the same methodology but with longer period of observed data. Analysis would be held for the 8

countries of Central and Eastern Europe (the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia) and EU-14 countries (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain and Sweden) for the span of 21 years from 2000 to 2021. Secondary data is used for research, taken from databases of World Bank, OECD, UNCTAD and Eurostat.

The paper is structured as follows: firstly the extensive empirical overview and the list of existing literature on the theory on the determinants of FDI are provided. Secondly, econometric model and data analysis methods are presented in the methodology section. Thirdly, the actual econometric research results from FDI panel regressions are presented. Ultimately, final remarks are given in the last section.

1. THEORETICAL OVERVIEW OF FDI

The most widely accepted definition of FDI formulated by OECD is "cross-border investment in which an investor resident in one economy establishes a lasting interest in and a significant degree of influence over an enterprise resident in another economy." (OECD, 2022) Although the interpretation of "significant degree of influence" clause is varying, the most common one describes it as "ownership of 10 percent or more of the voting power in an enterprise in one economy by an investor in another economy" (Christiansen and Branch, 2023).

Concept of the foreign direct investments is very complex and multidimensional. Despite its prolonged and extensive research in the literature for several decades, exact origin of FDI in unknown and there is no scientific consensus on general theory of FDI that would explain it from all sides (Makoni, 2015). Therefore, this chapter is set to provide analysis of existing theoretical literature on the topic and point out which theories are going to be used as background for this work.

1.1 Origins of FDI theories

The starting point in development of theories that were set to explain investment over time is attributed to classical economists with Smith (1776) and Ricardo (1817) being the most prominent. In the theory of absolute advantage, established by the work of Smith, while rejecting popular at that times policy of mercantilism, he argues that free trade is much more beneficial for wellbeing of states and proposes that states should develop a specialty in the creation of the goods they can produce more cheap than others ones. This theory works in the case of division of labour, which increases its productive power. However, Smith's theory had big drawback as it provided no explanation how trade arose between states, one of which did not engage in the business of production. Also, theory did not establish grounds for mutual benefit for all parties.

As the answer to these problems, Ricardo formulated theory of comparative advantage which says that the comparative differences between states determine their trade relations. Therefore, countries should develop a specialty in the creation of the goods in which they have the highest *comparative* advantage. Ricardo's theory is also very important to the development of FDI theories as it recognizes an importance of influence of technology on international trade. This theory, however, also held massive disadvantage as it relied on

assumption of two countries, two products and ideal factor mobility as Ricardo recognized movement of capital and labour in the boundaries of countries but not internationally. Because of this factor, under theory of comparative advantage, FDI cannot exist and therefore is unexplainable (Kindleberger, 1969).

The theory developed by Heckscher-Ohlin (Ohlin, 1933) is founded on the grounds of Ricardo's comparative advantage and states that „a capital-abundant country will export the capital-intensive good, while the labour-abundant country will export the labour-intensive good" thus taking into account international movements of capital. Starting from model of Heckscher-Ohlin, all the following theories related to FDI, would be agreeing among themselves only on one point: that FDI is essentially born out of imperfect competition between the countries and in the world with perfect competition, FDI is not possible (Kindleberger, 1969). Therefore this denied perfect factor mobility of Ricardian comparative advantage.

However, despite theory of comparative advantage and Heckscher-Ohlin model seemingly being non-relevant to FDI, it can still provide important insight in economics of EU and CEE region in particular. Research by Kordalska and Olczyk (2021) analysed differences in global value chains in CEE region with conclusion that countries had *comparative advantage* in different sectors of economy: „Poland and Slovakia specialise in the fabrication function, the Baltic countries and Slovenia in management, Hungary and Latvia in marketing, and the Czech Republic and Slovenia both in fabrication and R&D". Researchers pointed out however, that the most striking difference was with countries of Western Europe, as Germany, for instance, had heavy advantage in R&D. Although such contrast can be interpreted as an explanation of difference between types of inward FDI EU-14and CEE countries attract, which would be explored in the next section, is should be taken with a pinch of salt as Charles Murdock (2020) argues in his work that modern global economy has no place for Ricardian theory of comparative advantage.

Prior to 1960's, the most dominant theory that provided explanation of capital movements, was neoclassical theory of capital flows, which assumed that markets are efficient, transaction costs should not exist and capital should flow should be based on the changes in the interest rate (Dunning and Rugman, 1985). However, it contradicted trends in the economics that formed after the end of the Second World War. Countries of Western Europe, which suffered the most during the wartime, started receiving huge investments from the USA, therefore reducing role of exports in the economy and increasing role of FDI.

Partially as a result of this process, multinational corporations (MNC) started gaining importance (Denisia, 2010). Theory of capital flows, meanwhile, did not provide role for FDI as we know it now, explaining only transactions between independent buyers and sellers. Despite this, theory is still applicable in research of capital flows as, for example, Bilewicz (2019) did in the study of net foreign capital outflow from CEE countries in years 2015–2016. Role of MNCs was not explored until Hymer (1976) formulated it in his 1960 dissertation.

Theories that lie at the origins of FDI are very important for understanding of modern state of FDI in the EU. Although application of these theories nowadays is restricted, they still provide important insights in FDI determinants and are used in research on this topic.

1.2 Microeconomic FDI theories

Starting from this point, theories of FDI take form of two different views. One part of theories prefers to explain FDI through industry-level perspective, relying on evidence from firms and examines the decision-making of business entities regarding their chosen country of investment. They are classified as microeconomic FDI theories. The second part of FDI theories takes more big-picture view, seeing FDI as flow of capital between countries. They are called macroeconomic FDI theories. Although, this work takes perspective of macroeconomic view, it is important to understand microeconomic perspective as well becuase some theories intertwine with one another and provide very important background for the work, which would be described later.

First truly microeconomic theory was developed by Hymer (1976). He clearly defines two types of foreign direct investments that are explaining flow of investments across countries. Firstly, he defines already known by this time theory of capital flows stating that the interest rate is the crucial factor that would allow direct investment to replace portfolio investment "when the distrust of foreigners is high, or when fear of expropriation and risks of exchange-rate changes are high" (Hymer 1976). However, he also introduced novelty idea at that time, stating that „it is not the prudent use of assets but something quite different. The control of the foreign enterprise is desired in order to remove competition between that foreign enterprise and enterprises in other countries. Or the control is desired in order to appropriate fully the returns on certain skills and abilities". Therefore, MNC are not defined just as factor of exchange of goods between countries but more as production of such goods.

And the process of production requires share of knowledge and technology between different units of one company in different countries.

Although, Hymer's work is highly regarded among scholars for giving foundations for modern business management policy, his theory hold several flaws (Dunning and Rugman, 1985). According to Dunning, Hymer's view of market imperfection is inaccurate as only structural imperfections in the work of MNCs is being regarded as driving force for their development. Hymer is supporter of the idea that the only motive for MNCs to engage with internalization is to become monopolistic structure in the market, not to take benefit of structural market imperfections. Also, he omits geographical and spatial factors of FDI.

Theory of FDI from point of view of firm was developing further with the works by Buckley and Casson (1976), who argued that MNCs are developing their internal activities, so that they could exploit advantages of market imperfections and expand abroad in order to overcome the market failure. MNCs in this way „remedied the absence of future markets, solved bargaining stalemates, reduced information asymmetry, enabled discriminatory pricing and helped avoid taxes and tariffs" (Hennart, 2015). Theory of internationalization, as it was called, also implies that market failure in intermediate input markets causes horizontal FDI to grow and market failure in the intermediate output markets – vertical FDI (Musabeh, 2018). The idea of division between vertical and horizontal FDI was later developed by Hennart (1982).

Despite the existence of several other theories that look into issue of FDI from perspective of the firm, namely Knickerbocker (1973), who developed oligopolistic reaction theory of firms following the market leader and Rugman (1981), who took the idea of firm-specific advantages (FSA) even father and argued that companies are in capacity of creating an internal market in order to avoid tariff and non-tariff barriers in order to execute FSA, these theories would not be described in great detail as they all include the same features that are being explained in one of the most prominent FDI theories - The Eclectic Paradigm of Dunning.

Eclectic paradigm, also known as OLI Model or OLI Framework is creation of British economist John Dunning, who managed to incorporate three hypotheses into one theory. It is represented through three conditions that should be met for company to be engaged in the FDI.

Firstly, hidden under "O" in abbreviation are ownership advantages: companies should have significant advantage with tangible and intangible assets that would allow them to surpass operating costs on a foreign market. Examples of such advantages include innovation and technological developments, better access to specific resources, economies of scale and cheap finance (Musabeh, 2018). This points were emphasized in theories developed by Kindleberger (1969) and Hymer (1976) being expressed as monopolistic advantages and FSE.

Secondly, "L" for Location: theory states that internal ownership advantages should be combined with set of location advantages which include many factors from such economic ones as lower costs for transportation, production and telecommunications to political and social ones: incentives from government, stable political and legal system, distance between the home and host country and cross-cultural issues such as diversity, attitude towards foreigners etc. This part includes location-based approach to FDI theories, explored deeper, for example, by Popovici and Calin (2014).

Third part of OLI Model is Internationalization. According to Dunning (1973), just having ownership and location advantages is not enough to be engaged in the FDI. For the firm it should be profitable to use abovementioned advantages abroad, rather than contracting, selling or leasing them to other business entities which is referred as "externalization" (Makoni, 2015).

Eclectic paradigm shows that its parameters are very firm- and country-specific, so this model, being highly contextual, can, in theory, be applied in very different political and economic frameworks. Despite Dunning's theory being recognized globally. It still was criticized because of different factors: being too complex and not practical, less applying to LDCs (Makoni, 2015).

Under influence of OLI framework, location advantages of FDI were given specific typology. Firstly expressed by Behrman (1972) and later confirmed by Dunning (2002) himself, it was established that 4 types of reasoning for FDI can be defined: resource-seeking FDI, market-seeking FDI, efficiency-seeking FDI and natural assets seeking FDI (Table 1).

Table 1. *Types of FDI inflow rationale*

Wider type	FDI rationale	Description
„Horizontal" FDI	Market-seeking FDI	Main motive to invest abroad for firms in this case is identifying and exploiting new markets for the firms` finished products. Such firms would judge host country of FDI by such factors as market size and demand potential.
Not defined clearly	Resource-seeking FDI	Motive of FDI in this case is exploitation of natural resources or agricultural capabilities in the host country. Investors judge potential host counties mostly on specific location characteristics even if such factors as market size and political stability are not appealing due to usually low number of countries that hold specific resources.
	Asset-seeking FDI	Motive of investor in this case is acquiring access to strategic assets such as distribution networks, technology, valuable human capital and brands. Host country is chosen based on technological infrastructure, availability of skilled labour and certain companies.
„Vertical" FDI	Efficiency-seeking FDI	Standalone type of FDI also called „global sourcing FDI" that is performed not in the same industry as firm operates (as in all horizontal FDI) but along the supply chain. Firms therefore are using economies of scope and are allocating different parts of production of goods in different countries based on cost of labour and production.

Source: prepared by author, based on Dunning (2002) and Behrman (1972)

Overall, microeconomic theories of FDI are providing important background for comparative analysis of FDI determinants between EU-14and CEE countries. Going all the way back to the comparative advantage theory of Ricardo (1817) and taking into account later developments by Heckscher-Ohlin (Ohlin, 1933), we can establish that there is

particular difference between countries of Western Europe and CEE countries. In the terminology used by Heckscher-Ohlin, it can be stated that EU-14counties represent "capital-abundant countries" and CEE region – "labour-abundant countries" (Figure 1). Although most of the countries in both of these groups are the members of the European Union, which should act as joint political and economic community, still there is imperfect competition between the countries in the union, which creates differences in FDI determinants.

Figure 1. *Microeconomic theoretical background of FDI influences in CEE and EU-14 regions*
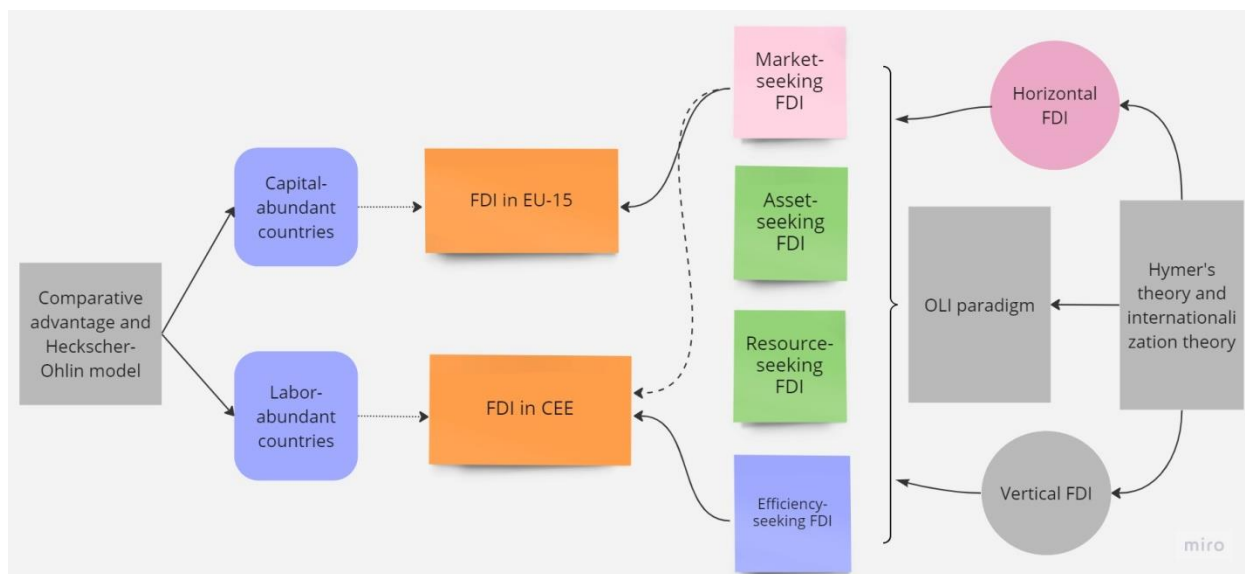
Source: prepared by author

Further understanding of FDI in the region of CEE and EU-14is being performed through OLI model of Dunning. As a popular theoretical background for the FDI research, it has been previously used to evaluate differences between FDI determinants in two European regions represented in works by Igošina (2015) and Mateev and Tsekov (2014) that were partially based on eclectic paradigm. Taking into account theory of internationalization by Buckley and Casson (1976) and typology of FDI developed by Hennart (1982), it can be theorized that EU-14countries are more likely to attract „horizontal" FDI as Western Europe is being characterized by big market sizes and high demand for wide array of goods. Countries of Central and Eastern Europe, on the other hand, in theory, should attract "vertical" FDI as these states possess cheaper labour and production costs.

Employing terminology of eclectic paradigm, EU-14countries are in position to get market-seeking FDI and CEE region - efficiency-seeking FDI (Figure 1). With other types of FDI motives described by Behrman (1972), resource-seeking and asset-seeking FDI not

clearly defined as they are very country and industry-specific. However, empirical findings are showing that shift is occurring in FDI determinants. Research done by Mateev and Tsekov (2014) showed that market-seeking motives are now spread among all European states. Due to lack of further developments in this topic, additional research is needed to get more clarity in the determinants, which would be provided by this work.

1.3 Macroeconomic FDI theories

Despite microeconomic FDI theories holding very important position in this work, macroeconomic side of theories nevertheless, provides us with much more better understanding of how FDI are functioning in the bigger picture. In terminology of macroeconomic theories, FDI is specific type of flow of capital across countries, which occurs from "home" country (where it originates) to the host country (final destination of investment). The most common definition of FDI by OECD, mentioned in the Introduction is "cross-border investment in which an investor resident in one economy establishes a lasting interest in and a significant degree of influence over an enterprise resident in another economy." (OECD, 2022) is solely based on macroeconomics. Practical implementation of theories discussed below, is being done through analysis of certain set of macroeconomic variables such as GDP, foreign trade, domestic credit, economic growth rate, tax revenue but also social and political factors such as corruption, population density, educational levels etc. These variables are widely used in research of FDI and sometimes are acting as proxies for microeconomic factors. This work also uses this method.

OLI paradigm, discussed in the previous chapter, apart from other points of criticism, of course, do not take into account macroeconomic situation of the countries. To partially address this issue, Dunning (1981) developed Investment Development Cycle or Path (IDP), which drew its influence from Vernon's (1966) product life cycle (PLC) theory. PLC itself in based on classical Riccardian comparative advantage and explains rationale for internationalization, analysing the relationship between product lifecycle and FDI flows. Three stages are determined (Musabeh, 2018): Innovation (creation of goods locally and export the surplus), Growth (standardization and expansion of production to other low-cost territories), and Maturity (full standardization and decline of the prices). Sometimes, however, fourth stage is recognized: decline as competition start to grow from other countries (Denisia, 2010).

Dunning has developed similar stages to Vernon's theory but has taken into consideration investment incentives created by the government to induce macroeconomic situation in the given state (Figure 2). Five stages have been highlighted to represent IDP theory.

During first stage, inward FDI is almost non-existent, due to domestic market being limited, underdeveloped infrastructure, political instability etc. This creates no location advantages to attract inward FDI (Djokoto, 2021). Outward FDI, if exists, exceeds inward one.

The second stage shows slow growth of inward FDI in the primary commodities and natural resources and most labour-intensive industries (Fonseca and Mendonça, 2016). Due to changes in such factors as comparative cost of production, there is relative increase of inward FDI relative to outward FDI, which engages in market-seeking abroad (Djokoto, 2021).

If the previous two stages were appealing to so called developing countries, the third stage already represents so-called emerging countries. At this point, outward FDI starts to have much more weight in the economy as local companies develop FSA and comparative advantages in labour-intensive industries are being eliminated (Djokoto, 2021). In previous two stages, inward FDI was mainly "vertical", in the third one, shift in happening towards "horizontal" one.

IDP theory says that forth stage is distinguished by outward investment surpassing inward FDI due to significant ownership and location advantages for local firms resulting in higher rates of internationalization, which is characteristic of developed economy (Djokoto, 2021). However empirical evidence shows that countries that reached fourth stage are building economic prosperity with the evidence of high GDP per capita and developed infrastructure, but outward FDI still may not be at desired levels: examples may be Ireland and New Zealand (Fonseca and Mendonça, 2016).

The final fifth stage represents countries with the most developed economies like USA and Japan with little fluctuations of net outward investment and equally high levels of outward and inward FDIs.

IDP theory implies that changes to the state of economy in the given country, are driven not only by natural developments in the market economy under influence of the competition, but also institutional changes to the following three points: governmental,

sociocultural and educational issues. To reflect on these considerations, Wilhems and Witter (1998) created concept of Institutional FDI Fitness.

This theory, developed in the process of research on African countries, tries to explain process of attraction and retention of FDI in the countries with developing economy. Presented in the form of the pyramid, so-called „sociocultural" fitness lies at the bottom of it, representing deep values of the nation, that are making foundation for other factors. Changes to this ground factor could be quite slow because of their complexity.

Next layer in the pyramid is educational fitness, as this institutional factor influences labour market but also „builds human capital and prepares it for successfully handling the rapidly changing global economy" (Wilhems and Witter, 1998). Education is important for number of business processes as availability of certain particular skills in the work force of the host country is needed for companies to internationalize.

Wilhems and Witter (1998) highlighted market as separate institution that „reflects physical and financial capital such as machinery and credit". This feature includes wide variety of factors that judges overall health of the market as MNCs are more likely to proceed with internationalization in such countries.

The top of the pyramid includes all government-induced changes, mainly connected with all kinds of laws that directly and indirectly influence FDI but also general political stability in the country and reflects intervention of government in trade, exchange rate, corruption levels and transparency of public actions. This layer was researched with particular intensity as, for example, Adler and Hufbauer (2008) studied the impact of inward and outward FDI stock, concluding that "roughly 30 percent of US inward FDI stock growth and 18 percent of US outward FDI stock growth between 1982 and 2006 can be attributed to policy liberalization".

Authors of the theory stated that these institutional pillars are interrelated and in practice influence each other.

Figure 2. *Macroeconomic reasoning of the work*
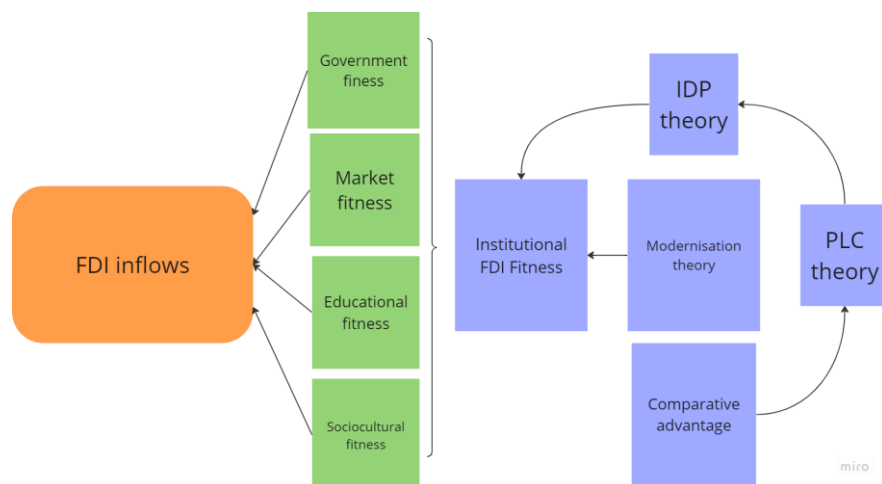
Source: prepared by author

In this research, macroeconomic theories play vital role, providing theoretical background for usage of determinants, described in the Methodology part of this work (see Table 2). Investment Development Path is important for understanding, on which of the previously mentioned five stages, CEE region and EU-14countries are on. If these sets of countries are on the different layers of development it would explain distortions in FDI determinants. FDI Fitness Institutions theory relevance is confirmed in this case, by the authors of the concept themselves as they confirm that "the sudden, revolutionary collapse of the former Eastern bloc can be attributed largely to institutional ossification that resisted evolutionary change." (Wilhems and Witter, 1998). As countries of CEE region came from non-existent FDI in 1990s to the competitor for inward FDI with Western Europe, institutions played huge role in this process and should be acknowledged in this research (Figure 2).

1.4 **Modernization vs. dependency theory**

In the research of foreign direct investments in the CEE region, another important theoretical dimension is analysis of the impact of FDI on overall nation's development. Two the most popular theories that are used for these matters are modernization and dependency theories that represent opposite views.

Modernization theory represents more popular views among scholars. Deriving from neoclassical economics, it states that, despite theoretical division of the world into DC

(developed countries) and LDC (least-developed countries), the latter are in the position to change their status by following the path of advanced economies and integrating into world economy (Mihaylova, 2015). This theory promotes FDI and activities that meant to encourage it, arguing that such type of investment has many advantages for the host country: from FDI spillovers to improved competitiveness. Crucially, modernization theorists highlight that even if FDI is flowing only to one particular sector, it still eventually will benefit whole economy. It should be noted, however, that modernization theory is criticized by number of scholars for its eclectic views, stating that convergence may not work is the way it was thought as „the economies of countries might [...] be forming two distinct clubs of convergence – a club of high-income countries and a club of low-income countries with any middle-income groups disappearing over time as the global system approached a steady state. So while there was convergence within each of those clubs, the world, on the other hand, is characterized by divergence as the difference in economic income between the clubs increased." (Goorha, 2010). Nevertheless, as modernization theory is in the tact with current policies of the counties in research, main idea of the theory is being employed in this work.

The opposite approach is represented by dependency theory and world-systems concept. Derived out of works by Lenin and Marx that criticized practice of imperialism, it divides world into „core" and „periphery" parts. The main idea of the theory is that despite integration of "periphery" or developing countries into world economy, there are no benefits for host country from FDI. Through the vertical FDI, firms from the advanced economies are exploiting natural resources, low-skilled labour in order to transfer all valuable capital from the host country to the "core" home country.

Also, it is said that despite initial increase in wages, FDI will eventually lead to higher unemployment and higher inequality between different classes of people (Mihaylova, 2015). There is large amount of criticism of this theory that point out to incorrect definitions of capitalism, imprecise implication of relationship between different types of countries and Eurocentric nature. The other point of criticism is that theory does not propose reasonable solution to mentioned problems as the only consideration by classical followers of theory is to get "out of the world capitalism" and introduce socialist political system (Hubbell, 2008). Despite this views are highly unpopular in the counties of CEE region especially, Oliver Weiss (2015) concludes in his doctoral thesis on Eastern Europe that this theory is still „useful frame of analysis for asymmetrical international economic relations", although „changes need to be made from the classics of the dependency tradition".

Modernisation and dependency theories provide important background for big-picture understanding of FDI determinants especially for CEE region. Also, they were main influence of development of FDI institutional fitness model.

1.5 Overview of previous research regarding FDI inflows to CEE

Existing literature concerning FDI inflows and their determinants is vast; however research in this topic is very sensitive to the selected sample and the time period. Reflecting the topic of this work, the main focus in this chapter would be put on the FDI in the countries of Central and Eastern Europe.

The EU as a political and economic community could be divided into two groups of countries with distinguished differences between one another. Firstly, there are fifteen members of the EU, which include founding members and various accessions during 20th century. These countries are regarded as developed (DC) in scientific literature (Dellis et al., 2020). Secondly, following 2004 and 2007 enlargement of the EU, 12 new states became a part of the union, most of which were a part of former Eastern Bloc. There countries are usually regarded as transition economies. Throughout the years of mutual history in the same economic union, countries, among other, showed different behaviour in terms of FDI.

Most of the new member states of the EU: the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Bulgaria and Romania (excluding Malta and Cyprus), prior to regained independence in 1990s, were under strong influence or completely under regime of planned economy, which for the most part excluded any possibility of investments from abroad (Welfens, 1992). However, all these countries since then have gone through very significant changes in political and economic regimes and opened up possibility for FDI as the most valuable source of restructuring and modernization of economies as well as other benefits such as FDI slipovers, which increases technological advancement in the countries (Vujanović et al, 2022).

These countries made a leap from nearly non-existent foreign investment in the late 1980s to the significant destinations of FDI in Europe. This process especially accelerated after their accession to the EU was finished. From 2003 to 2008, 7-fold increase in FDI inflows happened in the region of Central Europe and Baltics (The World Bank, 2023). However, developed countries of Western Europe still were gathering much larger amounts

of FDI throughout these years, which reflected differences in types of the FDI that were being attracted by the Western Europe and NMS of the EU.

Determinants of FDI in CEE region were looked upon since 1990s as a prime example of transition economies. Lansbury et al. (1996) found that past trade linkages, innovation, infrastructure and the privatisation all had positive impact on FDI in Visegrád Group countries. Moreover, they also confirmed that there are „significant differences between the factors determining foreign direct investment from [...] Northern Hemisphere economies". Holland and Pain (1998) confirmed that FDI in region positively impacted the process of economic reconstruction with such determinants as trade and privatization impacting the most.

Laura Resmini (2000) was the first to study sector-specific effects for FDI determinants in CEE region, concluding that economic liberalization and other reforms to reach market economy, proximity to Western Europe and wage differentials impact FDI flows especially in science-based and capital intensive sectors, while openness of the economy and agglomeration effects impacts FDI flows in labour-intensive sectors. Bevan and Estrin (2004) established that unit labour costs, host and source country size, and proximity have definite influence on CEE's FDI.

Research by Pournarakis and Varsakelis (2004) on 12 CEE countries in years 1997-2001 confirm that market size and the internationalization „explain a significant part of the cross-country variation of FDI inflows". Grosse and Trevino (2005) insight into institutional economics tells us that corruption, political risk and the foreign exchange rate impact inward FDI in CEE region negatively while of bilateral investment treaties, economic incentives and market size – positively. Further analysis of institutional determinants was done by Tintin (2013) for 6 CEE countries in 1996–2009 period concluding that economic freedoms, political rights and civil liberties are important institutional determinants, from economic side GDP of host country is found to be important variable. The EU membership also was found to be very significant issue specifically for CEE countries. Study by Alena Dorakh (2020) covering 39 host and home countries over years 1991-2017 confirms previous results and states that FDI inflows rose by 23% on average because of EU membership. Recent work by Meinhart (2023) records positive and significant effect of EU membership on FDI stocks, saying that CEE region got bigger increase in outward FDI than in inward one.

Caetano and Galego (2009) have done a research comparing FDI determinants in the EU and MENA countries, concluding that although such economic variables as GDP per

capita and degree of openness have significant and positive effect on FDI, in comparison to MENA institutional factors of property rights and investment freedom seem to play less significant role.

Hunady and Orviska (2014) focused their research on effect of corporate taxes on FDI in EU countries but found no significant influence on FDI. Labour costs were identified as the most important factor with such variables as openness of the economy and GDP per capita also playing role.

Panel ARDL model used by Su et al. (2018) concluded that corruption index negatively impacted FDI in the countries of Visegrad group, while labour force with advanced education impacted positively. Another study using ARDL model done by Vlatka Bilas (2020) on 13 new member states of EU from 2002 to 2018, concluded that there is no interrelationship between GDP growth rate and FDI growth rate: it is being said that former influences latter but not vice versa.

Meta-analysis of the FDI in CEE countries, that used 44 different studies published during the 30 years from 1989 to 2018, has indicated that there is "the close relationship between the progress of transition to a market economy and FDI". Authors put general conclusion that CEE countries have benefited from macroeconomic impacts of FDI growth (Iwasaki and Tokunaga, 2019).

Toshevska-Trpchevska et al. (2019) have made a comparison of determinants between countries of South-East European (SEE) and Central and Eastern European (CEE). Results proved to be similar in the both sets of countries, with such factors as GDP annual growth, productivity, labour force with advanced education, general government final consumption expenditure positively impacting FDI and the inflation and labour taxes negatively.

The most recent research into this topic includes, among others, work by Ciesielska-Maciagowska and Koltuniak (2021), who studied outward foreign direct investments from the CEE region and concluded that institutional factors are influencing not only inward FDI to the region but also outward one. Pečarić et al (2021) studied sectorial difference in FDI determinants and deduced that "credit market and the purchasing power of residents lead to greater capital inflows into the services sector, while a higher GDP growth rate and a depreciated real exchange rate lead to higher inflows into the manufacturing sector" in 10 countries of CEE region.

Zarić (2022) used fixed individual and time effect model to conclude that skilled labour force, labour costs and quality of institutions positively impact on FDI in CEE region. Research by Liviu (2023) concluded that such indicators as imports, exports, their level of diversification, the balance of payments, the balance of trade, and measures of the degree of economic and monetary liberalization all had positive impact on FDI in 4 countries of CEE region: Czech Republic, Poland, Hungary, and Slovenia in the period 1995–2020.

Scientific research particularly concerning comparison of FDI in CEE region and Western Europe is very limited. The following studies can be highlighted. Work, written by Nur Özkan-Günay (2011) analyses FDI determinants in EU-14countries and as author called it, EU-12+2 countries, which comprises on 12 new member states and 2 candidate states to the EU. Research covers period from 1998 to 2008 and uses panel data approach with OLS and GLS estimates. Results show that for EU-14countries market size is insignificant, gross capital formation has positive impact and tax burden on labour cost has negative one. For EU-12+2 countries market size and the size of the domestic market are positive significant factors. Energy intensity has a negative influence on FDI inflows for both sets of countries and, unexpectedly, macroeconomic stability factors are not important for FDI in both groups.

Research by Mateev and Tsekov (2014) analysed determinants in EU countries with differentiation on Western (EU-15) and Central and Eastern European (CEE) countries over the 1994-2012 period using panel regressions with gravity model. Results were interpreted in such way that GDP, population, trade openness and infrastructure endowment have a significant impact on both parts of the Union. Growth in GDP, unemployment, tax rates and quality of institutions is significant only in the CEE countries.

Finally, Igošina (2015) researched FDI determinants in EU-14and NMS over years 2000-2008 also using panel data set with gravity based modelling. Results revealed that accumulated FDI stock, GDP of the investor, export all have positive effect on FDI inflows and labour costs have negative effect in both sets of countries. GDP growth has positive correlations in EU-14and negative in NMS, while GDP per capita is vice versa.

Based on theoretical grounds described in the first chapters of this work and taking into consideration previous research in the topic of FDI determinants, in the next section, research methodology would be constructed, making practical usage of all abovementioned information. Specific proxies for types of FDI would be chosen in line with previous research and FDI theories.

2. RESEARCH METHODOLOGY

The main purpose of this work is to answer the question „What are the difference between determinants and types of FDI of EU-14and CEE region countries?". In order to answer this question and back it with quantitate results, specific FDI determinants and model of their calculation and interpretation should be chosen. After that, we will find out how determinants influence FDI in EU-14and CEE countries. Final step would be to compare results and find out the types of FDI each group attracts.

2.1 Explanatory variables

Analysis of scientific literature on FDI, confirms that there is no definitive set of determinants that can be used for such research. Model and scope of research is highly influential for which determinants are chosen and which are not.

For this particular work, 6 determinants were chosen, which act as a proxies for various types FDI: market-seeking, efficiency-seeking, asset-seeking and resource-seeking following both macro- and microeconomic FDI theories (Table 2). The analysis is using secondary data from reliable sources such as OECD, Eurostat, World Bank and UNCTAD.

Table 2. *Dependant variables as proxies of different types of FDI*

Type of FDI	Proxy explanatory variables	Theoretical backing	Data source
Market-seeking FDI	GDP	Institutional FDI fitness (market fitness) New trade theory	World Bank
	POP (total population)	Institutional FDI fitness (market fitness)	World Bank
Resource-seeking FDI	NAT_RES (natural resources)	Comparative advantage	World Bank
Asset-seeking FDI	EDU (education)	Institutional FDI fitness (educational fitness)	Eurostat
Efficiency-seeking FDI	WAGE (annual aver. wage)	Heckscher–Ohlin model	OECD
	CPI (inflation)	Institutional FDI fitness (market fitness) New trade theory	World Bank

Source: prepared by author, based on Wilhelms and Witter, 1998; Assunção et al., 2011

These explanatory variables for FDI inflows are:

- GDP (Growth domestic product)

Annual real GDP of a given country is one of the most common and most researched determinants of the FDI. In this research it functions as a proxy to the market-seeking FDI as it usually does in other studies (Mateev and Tsekov, 2014; Ciobanu 2021). However GDP per capita records different result in different regions. While it is positive in EU-14 countries, CEE shown both negative (Igošina, 2015) and positive correlations (Ciobanu, 2021).

- POP (total population)

According to and Wilhelms and Witter (1998) – total population is, along with GDP, good proxy for the market size of a host country and therefore for market-induced FDI inflows. Mateev and Tsekov (2014) found population to have positive influence on FDI, while Dang et al. (2021) doing research on ASEAN countries found population growth to have negative influence on FDI inflows. I am expecting different result for CEE and EU-14 countries.

- NAT_RES (natural resources)

As a proxy for resource-seeking FDI, total natural resources rents (% of GDP) are used. Research is limited on this variable but shows significant positive result (Mohamed and Sidiropoulos, 2010; Ledyaeva; 2009) in MENA countries and Russia, however as this variable is very sensitive to country choice, I would expect it to be insignificant in my case.

- EDU (education)

As was discussed previously, asset-seeking FDI are driven mostly by the availability of skilled labour in the country represented participation rate in education and training (all sexes; from 25 to 64 years). Research done by Bruno et al. (2012) on the effects of inward FDI on relative skilled labour demand in Poland, Hungary, and Czechia showed „significant heterogeneity in the FDI effect", so I would expect the same effect in my research.

- WAGE (annual average wage)

Efficiency-driven FDI inflows can use different proxies but generally it is believed that annual average wage levels influence FDI negatively, especially in the labour-abundant countries (Mateev and Tsekov, 2014). I also expect such result, mainly, for CEE countries.

- CPI (inflation)

Another proxy of efficiency-driven FDI is inflation represented as annual variation of Consumer Price Index (CPI), used among others by Botrić and Škuflić (2006). A number of works concerning CEE region (Toshevska-Trpchevska et al., 2019; Seržantė and Karalius, 2022) found negative relationship between FDI and inflation, while Mason and Vracheva (2017) concluded that countries employing inflation targeting enjoyed positive impact on FDI. Research by Agudze and Ibhagui (2021) found that impact on FDI inflows to industrialized economies (which included Western Europe) is rather low, and impact on non-industrialized countries (which included CEE region) was not significant.

Following abovementioned 8 hypothesis are going to be tested in the span of this work:

- H1: Market-seeking determinants positively influence FDI in CEE region
- H2: Resource-seeking determinants do not influence FDI in CEE region
- H3: Asset-seeking determinants positively influence FDI in CEE region
- H4: Efficiency-seeking determinants negatively influence FDI in CEE region
- H5: Market-seeking determinants positively influence FDI in EU-14 region
- H6: Resource-seeking determinants do not influence FDI in EU-14 region
- H7: Asset-seeking determinants positively influence FDI in EU-14 region
- H8: Efficiency-seeking determinants do not influence FDI in EU-14 region

2.2 **Research model**

When it comes to the analysis of FDI determinants there is no definitive econometric model to be used for each research, however most suitable for analysis and interpretation of data for n different variables observed at T different time periods is panel data model represented as this:

$$(X_{it} Y_{it}), i = 1,\ldots n \text{ and } t = 1,\ldots T \tag{1}$$

This method was used by multiple previous studies in this topic (Igošina, 2015; Nur Özkan-Günay, 2011; Zarić, 2022) and has multiple advantages as dealing with multicollinearity issue among explanatory variables, decreasing variable bias effect, creating more complex analysis, having greater flexibility etc. (Göstas Escobar and Fanbasten, 2016). Model also has its disadvantages because of selectivity bias, possible cross-sectional dependence, imprecise interpretations etc. (Hill et al., 2020) However, advantages of the

model for my research outweigh minuses. Moreover, most of the similar research is done, using this exact method.

Fixed and random effects panel data models are going to be used in this work, therefore research model can be depicted as following for fixed effects model

$$FDI_{jt-2} = \beta_{1j} + \beta_2\ GDP_{jt} + \beta_3\ POP_{jt} + \beta_4\ NAT\_RES_{\ jt} + \beta_5\ EDU_{jt} + \beta_6\ WAGE_{\ jt} + \beta_7 \bullet CPI_{jt} + \varepsilon_{jt} \qquad (2)$$

and following for random effects model:

$$FDI_{jt-2} = \beta_{1j} + \beta_2\ GDP_{jt} + \beta_3\ POP_{jt} + \beta_4\ NAT\_RES_{jt} + \beta_5\ EDU_{jt} + \beta_6\ WAGE_{\ jt} + \beta_7 \bullet CPI_{jt} + \omega_{jt} \qquad (3)$$

where: FDI_{jt} is the Foreign Direct Investment in net inflows US\$ as % of GDP for country j at time period t, α is a constant, FDI is two years lagged to address path-dependent nature of FDI flows. GDP is the Gross Domestic Product in current US\$ for country j at time period t, POP is the total population for country j at time period t, NAT_RES is the total natural resources rents (% of GDP) for country j at time period t, EDU is participation rate in education and training (all sexes; from 25 to 64 years) for country j at time period t, WAGE is the annual hourly wage for country j at time period t, CPI is the inflation rate for country j at time period t and $\omega_{jt} = \varepsilon_{jt} + u_j$, u_j is a cross-sectional time-invariant country-specific effect, ε_{jt} is a combined time-series and cross-sectional error component.

Analysis would be held for the 8 countries of Central and Eastern Europe (the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia) and EU-14 countries (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain and Sweden) for the span of 21 years from 2000 to 2021.

3. PANEL ANALYSIS OF FDI INFLOWS

Before I conduct the estimations with panel data analysis, descriptive statistics and correlation analysis should be checked out in order to assess data normality and adequacy through the observation of various statistics. The outcomes of descriptive statistics and correlation analysis are tabled in Annex 1 and 2 respectively.

High standard deviation values of some of the indicators represent big range of fluctuations in the respective indicators. Results of Jarque–Bera test, based on kurtosis and skewness, are significant and positive that confirm adequate nature of the data, the normal distribution and its suitability for the next stage of analysis in the present form.

Correlation matrix indicates low correlation between all variables except for GDP per capita and WAGE. The presence of strong correlation among the independent variables can result in the issue of multicollinearity during estimation. Nevertheless, we include these variables due to the statistical framework of panel data estimation, which addresses collinearity concerns (Ranjan and Agrawal, 2011). Each variable exhibited a correlation coefficient of 1 with itself, signifying perfect correlation, while its correlation with other variables remained below its own correlation value. This confirms the discriminant validity of the variables.

Figure 3. *FDI flows in the EU*
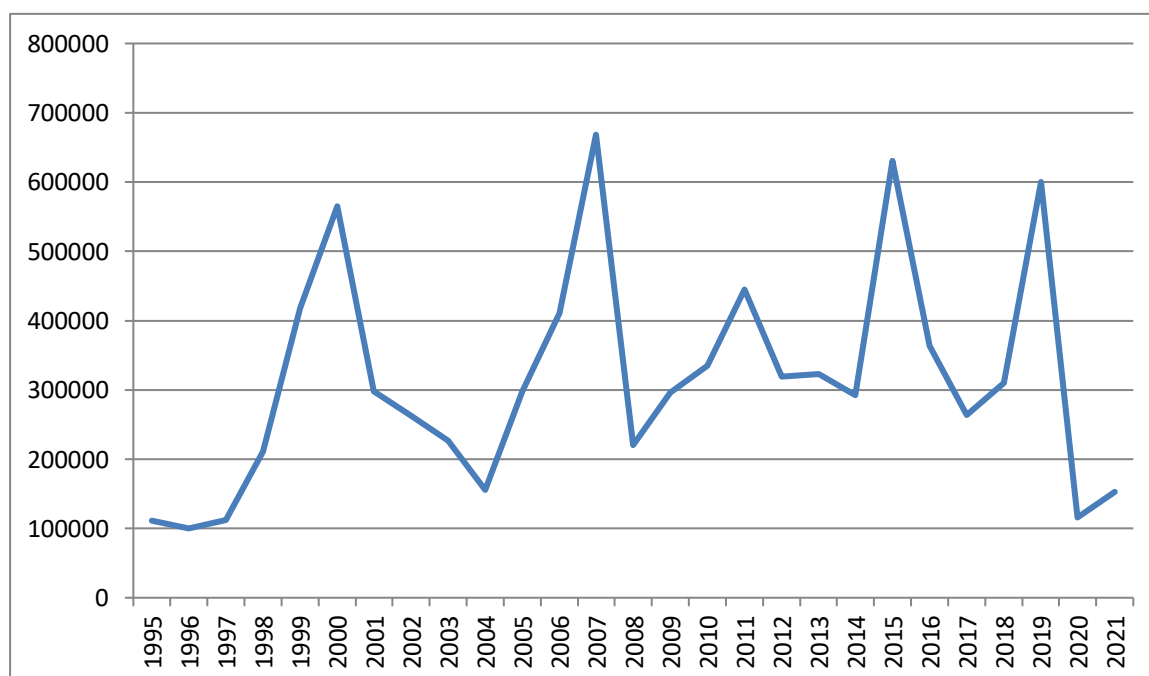
Source: UNCTAD

The results of the panel data regression models using fixed and random effects are presented in the table 3.

Table 3 shows the results for the total dataset of 22 EU countries (EU-14 and 8 CEE countries). The first column in table displays the estimation results for the CEE countries, second column for the EU-14 countries, while third one presents results for the combined data from both regions to get the overall picture of the influences on FDI in most of the EU countries.

By taking different approach then in most of the studies on the FDI flows and dividing the whole sample of European countries is into two distinct groups and analyzing them separately, I am able to find difference in the performance of sub-groups.

From Table, it is evident that the results of the F-test are significant at a 1% level of significance for the EU-14 countries and combined model of CEE and EU-14 countries. For the CEE countries panel data model significance is at a 10%. Therefore, we can reject the null hypothesis that the explanatory variables do not explain as a whole FDI inflows as % of GDP and hence, conclude that the determinants selected in this research can be seen as enough of an explanation of the FDI inflows. Although, we should bear in mind that significance level is more considerable in the EU-14 and combined models and therefore more trusted.

Next important issue to consider is Hausman test. It's specification allows us to examine the hypothesis concerning the lack of correlation between unobservable specific effects and explanatory variables. Consequently, we can assess whether the individual effects should be treated in a random or fixed model. The null hypothesis for the Hausman test posits that the disparity in coefficients between fixed effects and random effects specifications lacks systematicity. Therefore, a relatively high p-value (>0.05) indicates the acceptance of the random effects model for all there of our specifications.

Table 3. *Results of panel data models*

Panel data Models: Dependent variable FDI inflows as % of GDP			
Independent variables	**CEE**	**EU-14**	**Combined (EU as a whole)**
GDP	0.000250 (0.2121)	0.000162* (0.1083)	0.000199*** (0.0064)
POP	4.06E-09 (0.9595)	-1.43E-07** (0.0320)	-1.35E-07*** (0.0029)
NAT_RES	-0.080253 (0.9351)	1.950474 (0.7068)	1.656204 (0.2602)
EDU	-0.082843 (0.7496)	-0.581242** (0.0313)	-0.549230*** (0.0006)
WAGE	-0.000267* (0.0931)	0.000349* (0.0713)	0.000201* (0.1050)
CPI	0.529577* (0.0568)	0.594462 (0.5590)	0.629879 (0.1480)
Model summary			
F- test	1.472452*	4.525181***	7.437268***
Hausman test	0.0781	0.9974	0.7918
Durbin–Watson test	1.952611	1.862774	1.852594
Cross-sections included	8	13	21
Total panel observations	168	277	445

Notes: All variables (except WAGE and POP) are taken as ratios or in percent.

*, **, and *** represent significance at 10, 5, and 1 percent, respectively. P-values are shown in brackets. The null hypothesis for the Hausman test is that the difference in coefficients between fixed effects and random effects specifications is not systematic. Thus a big p-value (>0.05) suggests the rejection of the fixed effects specification

Source: Authors' calculation

GDP per capita, being one the most studied determinant of FDI is the first explanatory variable that is used as one of the proxies for market-seeking FDI per OLI model as a representative of market fitness.

GDP shows expected positive correlation with FDI inflows in the combined dataset of two regions together.

However, already here we can notice differences between EU-14 and CEE datasets. While alone for EU-14 countries, this factor is on the verge of positive significance, result for CEE region shows insignificance of this determinant. Such result reflects findings by Igošina (2015) that for the EU-14 the factor influencing per capita income holds significant weight and accounts for a considerable portion of FDI inflows. A higher income among the population of the host country signifies increased purchasing power and the potential for heightened demand. As EU-14 predominantly attracts FDI into the service sector, particularly in financial and real estate business services, increased GDP per capita is positive sign for these countries in the light of FDI inflows.

Indeed, when GDP per capita is tested in CEE countries specifically in service sector, as was shown by the Pečarić et al. (2021), correlation is positive and significant. Although, GDP per capita has been rapidly increasing in the CEE region, it has still not reached levels of the Western Europe (see figure 4), therefore we see clear discrepancies in this factor.

Figure 4. *GDP per capita in selected European countries*
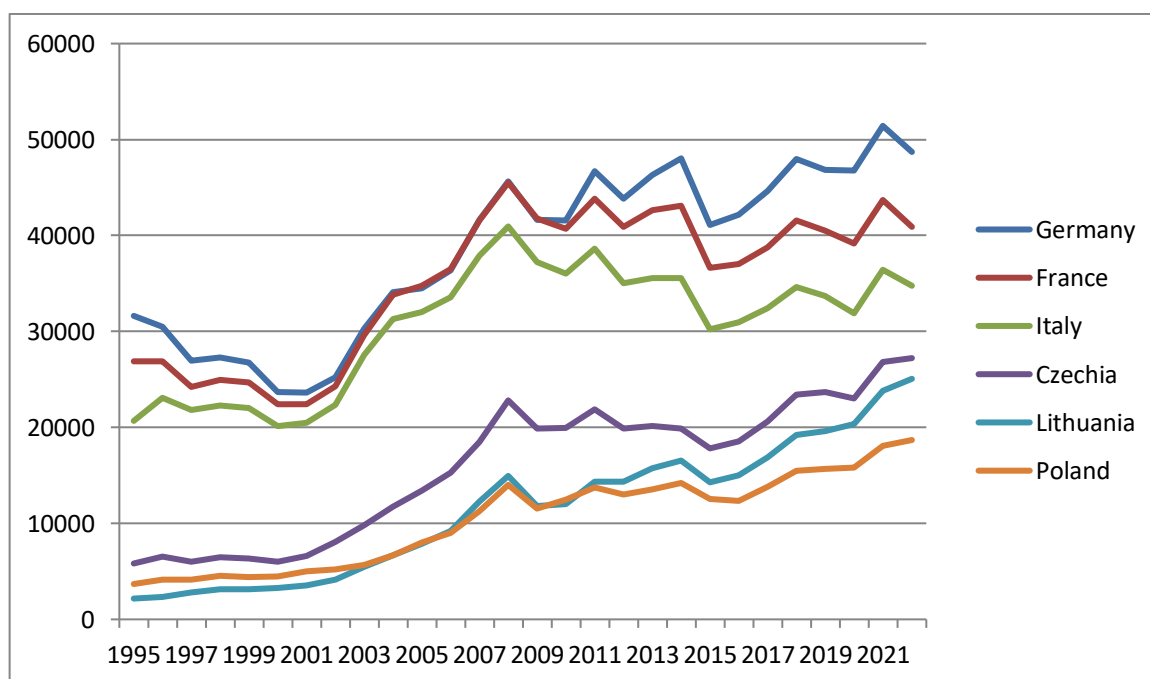
Source: World Bank, 2024

Still a significant portion of FDI inflows in the CEE countries is channelled into the manufacturing sector, although over last couple of years there is tendency of FDI increasing into services (Magdalena, 2021). Dominance of manufacturing would be again confirmed later in the discussion of the wage as a FDI determinant. Such sectorial division confirms indifference of FDI inflows to the GDP per capita determinant. However, comparing with results by Igošina (2015), where GDP per capita recorded significant negative correlation with FDI inflows, we see how situation is changing over the last decade.

Although, reservation should be made that GDP per capita, used as a proxy for market scope „could produce less robust results", comparing to the nominal GDP (Ciobanu, 2021), still conclusion could be made from results of regression that GDP per capita as one of the proxies for market-seeking FDI is generally important across dataset for the whole EU, showing strong positive correlation and EU-14 being on the verge of positive significance. As purchasing power parity in the CEE region is only growing, I can conclude that, although there have been vast improvements in GDP per capita in the region, it is still does not act as a significant determinant.

Total population is the next proxy for market-seeking FDI. Although results from previous proxy were expected, influence of total population on FDI inflows is somewhat surprising. Similar research done by Mateev and Tsekov (2014) found positive correlation between population and FDI inflows in European countries, study by Bhasin and Garg (2020) showed positive correlation between these factors in 23 countries with emerging markets and other various studies on Brazil and Caribbean region and etc. record the same result. The usual explanation for such correlation is that as number of people living in the country gets bigger, there is larger pool of cheap labour force to be used for production and therefore there this attracts FDI inflows.

However number of studies, such as Dutta et al. (2017) on the determinants of FDI in 107 countries for the period 1984–2009 and Dang et al. (2021) on attracting inflows of FDI in ASEAN-7 countries, concluded that population growth is negatively associated with FDI inflows.

Findings of my research are mostly in line with the latter group of the studies. Population is found to have strong negative correlation with the FDI inflows in the combined dataset of CEE and EU-14 countries at 1% of significance, negative correlation with FDI in the EU-14 countries at 5% of significance and not being significant in CEE region.

I would argue that, although my findings do not represent majority of the research on this topic, there is explanation of results being different. Previous studies that included the European countries were conducted some time ago and do not represent the events and crisis of

the last decade. Although on the first glance population in the EU is rising, at the same time whole continent is suffering from demographic aging with projection that people with 65+ years old will hold 30% of EU population by 2050 (Marois et al., 2020). Mitra and Abedin (2021) confirmed in their study that „a decline in the working-age population (% of total population) is found to be associated with a significant decline in net FDI inflows (% of GDP)". The negative natural change (more deaths than births) was changed only by the positive net migration (see figure 5).

Figure 5. *The composition in population change of the EU*
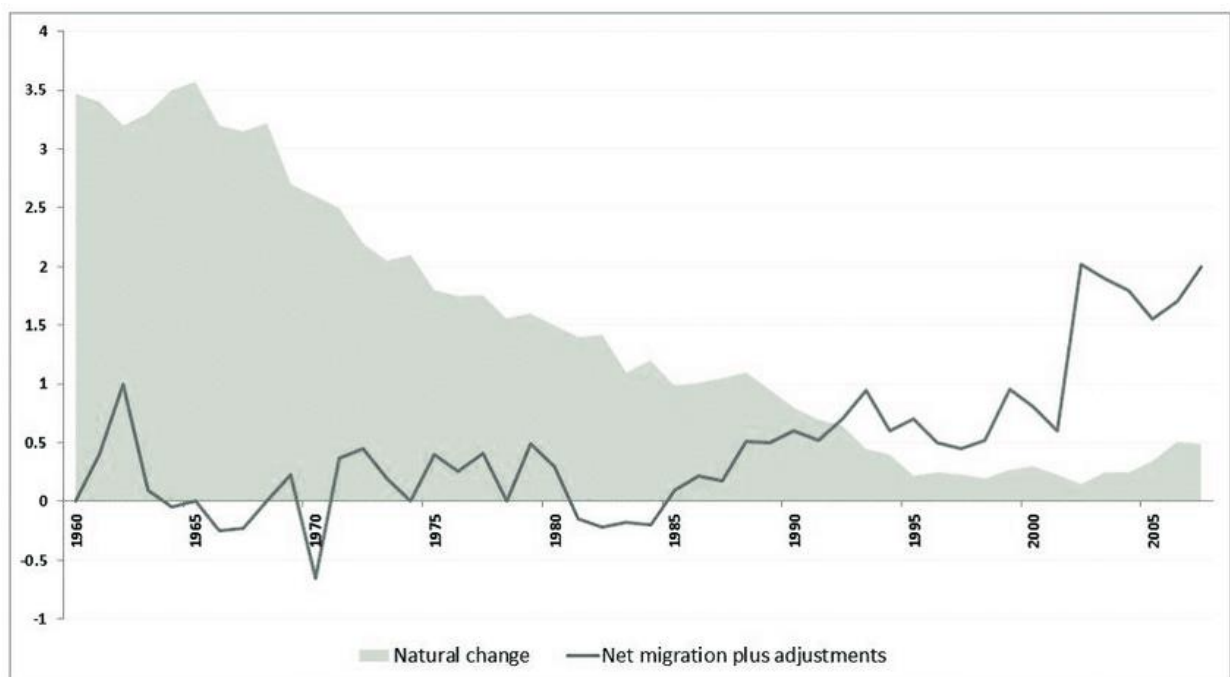
Source: Prokurat and Fabisiak, 2019

Migration issues have been hot political topic in Europe, especially for the last 10 years. Since 2015, continent was hit with high number of refugees and migrants from Syria, Afghanistan and several African countries. Since the start of Russo-Ukrainian war in 2022 - Ukrainian refugees have flooded Europe. Although such movements nominally increase population of the countries, in many instances migrants happen to be poorly qualified and economically integrated, which does not improve labour force and, moreover, increases political instability in these countries (Dang et al., 2021; Marois et al., 2020). Effect of migration on the FDI is understudied, however one of the few studies on this topic conducted on 22 countries for inward FDI and 27 countries for outward FDI during the period 2001–2007, suggests that "presence of migrants with a higher education has a strong and positive effect on FDI investment in both directions", simply suggesting that "education matters". (Gheasi et al., 2013)

This could be one of the explanations of negative correlation between population growth in EU-14, since most of the migration crisis of 2015, hit mostly Western European states, while CEE countries stayed out of it and recorded positive albeit insignificant correlation with FDI inflows.

Another reasoning and issue that should be noted is following. While most of the studies explain positive correlation of population growth and FDI inflows with argument that more cheap labour force can be used for production, this explanation can be contested for EU-14 countries. Relying onto Heckscher-Ohlin theory that divides countries into capital-abundant and labour-abundant ones, EU-14 countries fall into former category but not the latter. Therefore increased amount of cheap labour force is not crucial for them in terms of FDI attraction.

Having overviewed all proxy variables for the market-seeking FDI, I can conclude that in regards to the purely CEE countries, inverstors still do not see this region as a purely base for market expansion, based on the demand and market size. As GDP per capita and population have shown insignificant results, I should reject hypothesis №1: Market-seeking determinants positively influence FDI in CEE region.

EU-14 countries have been traditional destinations for the market expantions. Results have shown on a verge significant positive result for the GDP per capita and significant negative correlation with population. Because result for the correlation with population shown less conventional result that might have been influenced by other factors and GDP per capita being more reliable factor, I will confirm hypothesis №5: Market-seeking determinants positively influence FDI in EU-14 region.

Influence of natural resources on the FDI in the Europe has very limited research to present as this factor tends to be very country-specific. Of course, countries that are traditionally associated with vast disposition of natural resources such as MENA region or Russia have positive and significant correlation with FDI inflows (Mohamed and Sidiropoulos, 2010; Ledyaeva; 2009).

As to CEE countries, Popovici and Călin (2019) in their conference paper, made remark that „developed countries investing in the CEE region are not interested in the natural resources these countries could provide (they are either limited, either expensive or other countries have them)". It would be wrong however, to suggest that FDI in natural-resources is completely absent in CEE region. One of the most famous and successful examples of such investment is acquisition of Mazeikiu Nafta in Lithuania by Polish company PKN Orlen in 2009. This transaction alone has put Lithuania as a top outward destination of Poland that year (Radlo,

2012). Therefore in order to fully implement OLI model in this paper, it is important to test for natural-resource seeking FDI as well.

Results of the panel data model for the indicator of natural resources shows us insignificant result in CEE countries, EU-14 countries and combined dataset of the both regions together. Such result is expected and therefore I can confirm hypothesis №2: Resource-seeking determinants do not influence FDI in CEE region and hypothesis №6: Resource-seeking determinants do not influence FDI in EU-14 region.

Continuing the discussion on this matter and citing research done by Hayat and Tahir (2021), which included data on 83 different countries in the period 1996–2016 aimed to investigate the FDI–growth relationship and natural resources availability, such disinterest in FDI in natural resources, can also have positive influence. Researchers found that „countries with natural resources exports above the estimated threshold receive a positive statistically significant; however, smaller FDI-induced economic growth than the country with the natural resources' exports below the threshold.", therefore confirming so-called resource curse. Study also summarizes that "larger natural resource sectors tend to receive FDI into the natural resources sector at the cost of FDI in the non-natural resources sectors" (Hayat and Tahir, 2021). Therefore CEE and EU-14 regions have more possibilities to attract other types of investments.

Education is the next explanatory variable that is a single proxy for asset-seeking FDI. Throughout the years of the research done to test the influence of education on the FDI, showed completely different results. Study done by Akin and Vlad (2011) found that "FDI level is significantly higher in countries with high education" especially in middle-income countries using data from large sample of countries from 1980 to 1999. Strat (2015) concluded that there are casual relationships between school enrolment and FDI inflows in some of the countries of CEE region.

Research concluded by Mateev and Tsekov (2014) and Igošina (2015) on different comparative aspects of FDI between CEE and Western Europe, found education represented as secondary education enrolment rate and tertiary enrolment in % on total gross enrolment of EU population respectively to be insignificant in all models tested.

Finally, Toshevska-Trpchevska (2019) found that labor force with higher level of education have statistical and negative correlation with FDI in CEE region, while Wijeweera (2010) doing research on 45 countries in the period of 1997 – 2004 finds that „the coefficient of the interaction term of FDI and education is negative and significant".

Such inconsistent results are confirmed through statistical heterogeneity in relation of skilled labour and FDI inflows (Bruno et al., 2012). It makes assessment and interpretation of the

results a challenging task. One more thing to consider is the difference in indicators that represent variable for education. Arguably, all such indicators are arbitrary as they do not represent quality of education but only certain statistics. This is one of the biggest limitations of such research papers. In my research I decided not to use school enrolment rate as it is heavily influenced by government policies but instead assess participation rate in trainings and education of grown-ups from 25 to 64 years of age that is done voluntarily.

The results of panel regressions show that this education variable has insignificant correlation with FDI inflows in CEE region but negative significant correlation with EU-14 and combined datasets of two regions. Such result in CEE countries represent previous findings by Mateev and Tsekov (2014) and Igošina (2015), but such strong negative correlation in EU-14 and combined datasets is unexpected.

Such results can be explained by the issues of migration and human capital accumulation. Comprehensive study done by Berrill et al. (2020) on the role of education in the relationship between FDI and entrepreneurial activity found that there is "the strong negative association between a country's education and development levels on the one hand, and the rate of entrepreneurship on the other". Discussion paper by Checchi et al. (2007) covering many types of education, on the other hand, suggests that „FDI discourages secondary enrolment while favouring tertiary enrolment, but the overall effect is negative". They also discovered a particular disincentive effect when a lot of people with advanced education migrate; it reduces the interest in higher education.

Based on the empirical results, I should reject hypothesis №3: Asset-seeking determinants positively influence FDI in CEE region as well as hypothesis №7: Asset-seeking determinants positively influence FDI in EU-14 region.

Relationship between labour costs and FDI has been explored for the decades of research into determinants of FDI. According to the OLI theory and its location part, there are some factors of production that are deemed to be immobile. Therefore as territories develop dissimilarities in some of the factors, different levels of wages is taken into account by investors in their FDI, also taking into account the labour productivity.

Theory also tells us that vertical FDI type, which is characterized by partial relocation of usually non-valuable production is usually associated with investment in low-wage countries, while FDI inflows to developed countries are usually driven by market-seeking incentives, as we already proved in this section and require high valued jobs to perform more complicated tasks (Botrić and Škuflić, 2006).

Figure 6. *Change in wages in years 1995-2022 for selected EU-14 and CEE countries*
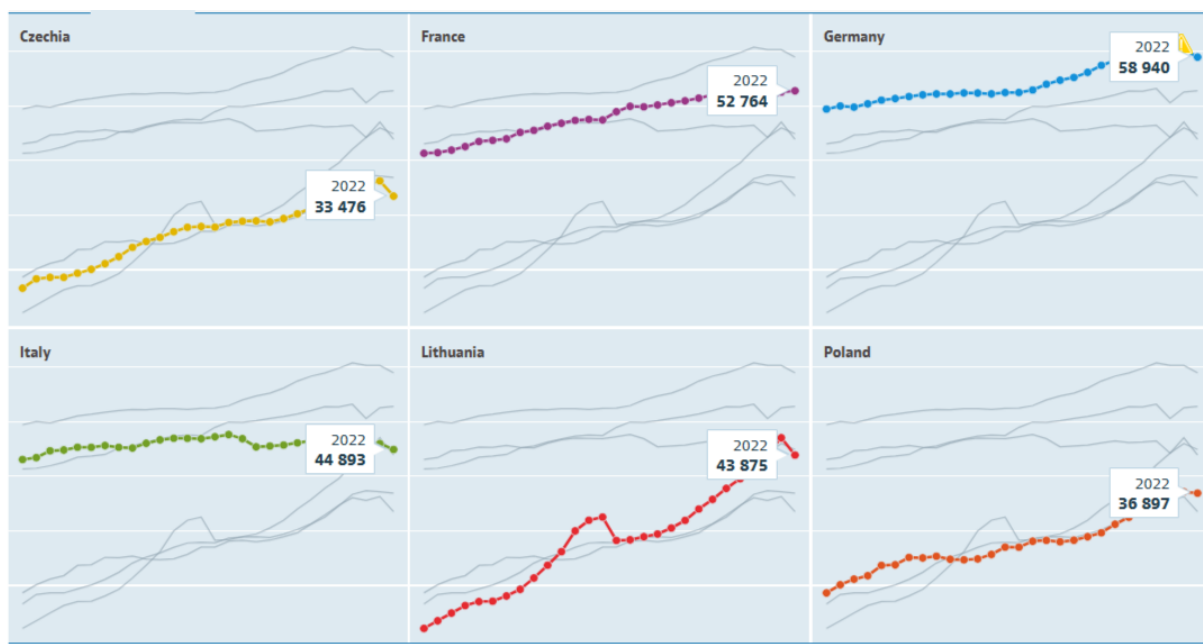
Source: OECD, 2024

Such theoretical background is also supported by numerous studies. For example, study by Kok and Acikgoz Ersoy (2009) on 24 developing countries over 30 years found significant negative correlation with FDI. Botrić and Škuflić (2006) did a research on South East European countries and found the same effect. However, Mateev and Tsekov (2014) testing unit labour cost found insignificant impact on FDI flows into the group of CEE countries, which they called "surprising" and "inconsistent with previous empirical studies". Hou et al. (2021) in the study on wages, labor quality, and FDI inflows in China provides explanation of such phenomena, arguing that „as labor quality increases, the negative cost effect of the high wage on FDI kicks in. When labor quality exceeds a threshold value, the wage effect on FDI becomes significantly negative; this negative effect is intensified as labor quality increases." (Hou et al., 2021)

It should be noted however, that research is not unilateral in their results. Bacovic et al. (2020), who produced study specifically on labour costs and productivity in Balkan region found influence of wages to the completely opposite from conventional results: they concluded that „in EU countries, growth in gross wages has a negative impact on FDI inflows, while in Balkan countries, increased wages actually have a positive impact on FDI inflows".

Results of panel data model of this research show that wages in CEE countries have significant negative correlation with FDI inflows, while EU-14 countries have significant positive correlation between wages and FDI inflows. Combined dataset of both sets show positive result on the verge of significance. Firstly, such results are expected and in line with most of the other research in labour costs and FDI. Secondly, these results reveal the biggest

difference between FDI determinants in EU-14 and CEE regions. I can conclude that wages that have been rising in the CEE region for the last 20 years exhibit developments in standard of living but as these countries were mainly used as a source of cheap labour (see figure 6), FDI is being deterred from the region by higher wages. EU-14, on the other hand, specializing in high-value production and services, need more skilled and therefore highly paid workers.

The second of efficiency-seeking determinants is inflation, expressed as consumer price index. This indicator, however is one of the most hotly debated ones as previous research shows different results.

Studies by Su et al. (2018) on Visegrad countries, Seržantė and Karalius (2022) on Lithuania, Toshevska-Trpchevska et al. (2019) on CEE and South East Europe countries found significant negative relationship between inflation and FDI. The usual explanation of such relationship is that high inflation distiortes economic activities, deters inflow of the capital into the countries, produces macroeconomic instability and keeps unpredictability in the economic environment.

Studies by Botrić and Škuflić (2006) on South East Europe, Özkan-Günay (2011) on enlarged EU and candidate countries and Sabir et al. (2019) on developing countries all found inflation to be insignificant determinant of FDI.

However, studies by Asiedu (2006) on African countries and Mason and Vracheva (2017) found evidence that inflation has positive influence on FDI inflows. The explanation of such relationship is that increase in price levels ensures investors receive sufficient returns on their investment. In order to explore such inconsistencies research was launched to find more distinct patterns in the FDI-inflation relationship.

Figure 7. *Inflation rate in CEE region and average EU in years 1995- 2022*
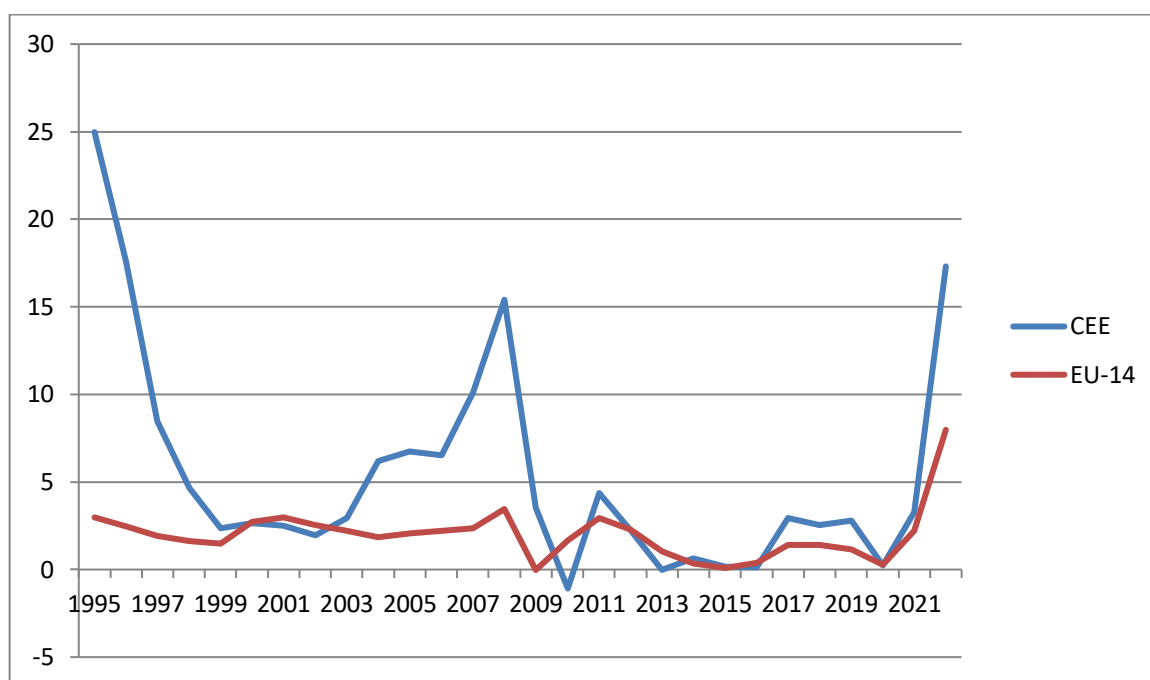
Source: World Bank, 2024

The study by Agudze and Ibhagui (2021) concluded that such relationship „is nonlinear in advanced economies versus developing economies" adding that there are potential threshold effects to consider. Their findings confirm that „the crucial issue concerning the potential nonlinearity in the inflation-FDI nexus, whereby the impact of inflation on FDI may switch from positive to negative after a certain threshold of inflation", identifying threshold for industrialized economies at 1.35% and 6.63% for non-industrialized countries.

My data panel model reveals interesting results in relation to the inflation rate. Inflation in the CEE countries has significant and positive influence on FDI inflows at approximately 5% significance, while in EU-14 countries as well as combined dataset of EU-14 and CEE region it is insignificant.

Such result could be interpreted following way. Average inflation rate in the CEE countries over last 30 years was higher than in EU-14 region, reacting sensitively to transition to market economies, financial crisis of 2007-2008 and Euro crisis of 2010. However, being much less industrialized then EU-14 countries, it even helped CEE region with initial boom of investments, while not crossing certain threshold that was discovered by Agudze and Ibhagui (2021). EU-14 countries, on the other hand, while overall much stable and with higher levels of industrialization, kept their inflation level on such level where it had no effect on FDI flows.

Although such explanation is possible, other factors and research with different results should be kept in mind as mixed conclusions made inflation one of the most controversial issues in FDI research.

Following the overview of two variables that represent efficiency-seeking FDI, I can make following conclusion. Indicators of wage and inflation have shown opposite results in the dataset of CEE countries. It makes situation difficult to get straightforward conclusion in the terms of expressed theoretical background. However, as in my opinion wage represents efficiency-seeking FDI in more sophisticated way and inflation variable having controversial connotations, I would confirm hypothesis №4: efficiency-seeking determinants negatively influence FDI in CEE region.

In regards to the EU-4 region, I have found out that wage has positive influence on the FDI inflows, while inflation is insignificant. Following the same reasoning as above I would reject the hypothesis №8: efficiency-seeking determinants do not influence FDI in EU-14 region.

Summarizing this chapter, I can conclude that CEE region became important destination for the FDI in the EU, however it is important to understand similarities and differences in determinants in order to correctly build government policies and design incentives. My research has shown that FDI in EU-14 countries is still being largely influenced by GDP per capita, which means that market-seeking FDI is predominant type of the FDI there. CEE region on the other hand, having lower rates of GDP per capita does not show significance in this indicator and therefore market-seeking FDI is not in priority for companies there.

In regards to the population metrics, I would recommend countries in EU-14 countries to attract skilled migrants in order to raise the levels of the FDI inflows. Results of this indicator prove that over the last 10 years there have been substantial changes in the population composition of the EU.

Natural resource do not play substantial role in FDI attraction across whole region, which was expected. I would recommend focusing on the other types of FDI for the EU, but not natural resources seeking one.

Education was found to have no significant influence on FDI in CEE countries and negative significant in EU-14 region. As the latter result was unexpected, I would recommend continuing research into this area as it is severely understudied but also keep in mind issues if human capital and migration when it comes to the asset-seeking FDI type.

Wage level has shown negative relationship with FDI inflows in CEE region and positive in EU-14 countries. This clearly shows startling difference between these two regions. Therefore I concluded that efficiency-seeking FDI still holds very important role in CEE regions

and rising wages do not help attracting this type of FDI in these countries. I recommend setting priorities onto which type of FDI to focus on.

In regards to the inflation, I would recommend defining the concrete inflation threshold for countries that do not harm attraction of the FDI inflows.

CONCLUSIONS AND RECOMMENDATIONS

This first part of Master thesis is focusing on the theoretical overview of FDI as a concept together with display of previous research in the topic of FDI determinants in the European Union and its different parts. The main conclusions are as follows:

1. Concept of FDI can be explained using variety of theories. Starting from classical comparative advantage of Ricardo and Heckscher-Ohlin model, I established possibility of comparative advantage existence in the two distinct groups of EU members: EU-14 and CEE countries. Then, by using microeconomic theories of Hymer, internationalization theories and OLI paradigm of Dunning, different types FDI reasoning were established. The aim of the research was to define types of FDI in 2 different parts of the EU: CEE region and EU-14 countries. By employing PLC and IPD theories and using macroeconomic theories of modernisation and FDI institutional fitness, reasoning was put for usage of explanatory variables such as GDP per capita, wage levels, inflation, education and natural resources rents as proxies for different types of FDI.

2. After the analysis of existing literature on FDI determinants, several variables were chosen for the empirical part of the research. To represent market-seeking FDI, variables of GDP per capita and population were chosen, total natural resources rents – to be a proxy for natural resources seeking FDI, for asset-seeking FDI – education as a participation rate in education and training, for efficiency-seeking FDI – wage and inflation levels. Some of the indicators as GDP per capita or inflation rate, chosen for the research were amongst the most commonly used ones for such type of research. The other ones like total resource rents and participation rate in education and training provided novelty for this study.

3. The most suitable research model for this work, based on previous research of this kind and objective factors was chosen being fixed and random effects panel data model. However novelty for this work was introduced by usage of larger sample of countries and years for the analysis that allowed making more accurate conclusions. Data used spanned across 21 years: from 2000 until 2021. Research was done on following countries. For CEE region: the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia and for EU-14 countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain and Sweden.

4. After correlation analysis was conducted and descriptive statistics was analysed, data model regressions were done to produce empirical results of the research. After having analysed relationship between dependant variable – FDI inflows as a percent of GDP and abovementioned explanatory variable, conclusions were made regarding the types of FDI that were present in two distinctive regions of the EU: CEE region and EU-14 countries but as well the combined dataset of two parts of EU.

5. EU-14 countries were found to specialize in market-seeking FDI. This result solidifies the original member states of the EU as a base for market expansions for the companies. However significant positive influence of wages on FDI inflows in this region, additionally confirms large pool of high-skilled workers in these countries, who attract FDI as well. Results of empirical analysis showed that CEE region specializes in efficiency-seeking FDI. Insignificance of market-seeking FDI proxies, combined with significant negative influence of rising wages means that CEE region still is viewed as a place of investment with less costly labor than EU-14 region used for improved efficiency for companies rather than place with large customer base.

6. Natural resource seeking FDI was not found to have influence in any part of the EU. Such result was expected and reflects in traditional lack of several key traditional natural resources in European countries. Asset-seeking FDI as well was not found to have influence in any part of the EU. Largely explained by the issues of migration and human capital, it reveals underlying problems in the EU, connected to this. Results of combined dataset of two regions fall closely to the EU-14 results, which means that countries of Western Europe have more influence on the investment climate overall in the EU.

Recommendations as a reflection on the empirical results of the study are following.

1. The model chosen for this work can be further improved by adding more countries that were left out of the research due to lack of data and further development of the explanatory variables array.

2. Recommendations regarding policies are following. As for EU-14 countries, GDP per capita was recorded as one of the most important determinants of FDI; government economic policies should reflect that general welfare of the people is the main factor in increasing FDI. For CEE countries, clear targeting of one of the FDI types should be designed. As efficiency-seeking FDI proved to be the most important type,

government policies that encourage raising wages, are discouraging this type of FDI. However, if switch to market-seeking FDI is targeted, policies that increase GDP per capita should be continued. Inflation threshold should be maintained at a certain level not to deter FDI for both sets of countries.

The study has potential limitations. The composition of explanatory variables, although reflects previous research on the topic, may not be ideal and explain FDI inflows to the maximum extend. Chosen proxies for the different types of FDI also may also be subject to further scrutiny. Model could be also improved by adding data from more countries and wider periods of time. Lack of substantial previous research in such variables as education and natural resources makes it different to compare results. Therefore, I also recommend that research into asset-seeking FDI and relationship between education and FDI should be continued.

LIST OF REFERENCES

Agudze K. & Ibhagui O. (2021) *Inflation and FDI in industrialized and developing economies*, International Review of Applied Economics, 35:5, 749-764, DOI: 10.1080/02692171.2020.1853683

Akin, M.S., Vlad, V. (2011) *The Relationship between Education and Foreign Direct Investment: Testing the Inverse U Shape* European Journal of Economic and Political Studies, 4 (1), 27 – 47

Asiedu, E. (2006), *Foreign direct investment in Africa: The role of natural resources, market size, government policy, institutions and political instability*, World Economy, 29 (1), 63-77.

Assunção S. and Forte R. and Teixeira A. (2011). *Location Determinants Of FDI: A Literature Review*. FEP Working Papers 433, Universidade do Porto, Faculdade de Economia do Porto.

Bailey N., (2018) *Exploring the relationship between institutional factors and FDI attractiveness: A meta-analytic review*, International Business Review, Volume 27, Issue 1, pp. 139-148, ISSN 0969-5931, https://doi.org/10.1016/j.ibusrev.2017.05.012.

Bacovic, M., Jacimovic, D., Lipovina Bozovic, M., & Ivanovic, M. (2021). *The Balkan Paradox: Are Wages and Labour Productivity Significant Determinants of FDI Inflows?* Journal of Balkan and Near Eastern Studies, 23(1), 144–162. https://doi.org/10.1080/19448953.2020.1818039

Behrman, J. R. (1972), *The Role of International Companies in Latin America: Autos and Petrochemicals*. Lexington MA: Lexington Books.

Berrill, J., O'Hagan-Luff, M. & van Stel, A. (2020) *The moderating role of education in the relationship between FDI and entrepreneurial activity*. Small Bus Econ 54, 1041–1059. https://doi.org/10.1007/s11187-018-0121-6

Bevan, A. and Estrin, S. (2004). *The Determinants of Foreign Direct Investment into European Transition Economies*. Journal of Comparative Economics, 32, 775-787. https://doi.org/10.1016/j.jce.2004.08.006

Bhasin N., & Garg S. (2020). *Impact of Institutional Environment on Inward FDI: A Case of Select Emerging Market Economies*. Global Business Review, 21(5), 1279–1301. 10.1177/0972150919856989

Bilas, V. (2020). *FDI and Economic Growth in EU13 Countries: Cointegration and Causality Tests*. Journal of Competitiveness. 12. 47-63. http://dx.doi.org/10.7441/joc.2020.03.03.

Bilewicz, E. (2019). *External financing in Central and Eastern European countries after the global financial crisis*. Journal of Management and Financial Sciences Volume XII Issue 38 (September 2019), 9–18. https://econjournals.sgh.waw.pl/JMFS/article/view/1849

Botrić, V., Škuflić, L. (2006) *Main Determinants of Foreign Direct Investment in the Southeast European Countries*. Transition Stud Rev 13, 359–377. https://doi.org/10.1007/s11300-006-0110-3

Bruno, G.S.F., Crinò, R. and Falzoni, A.M. (2012), *FDI, Trade, and Skilled Labour Demand in Eastern Europe*. Labour, 26: 492-513. https://doi.org/10.1111/labr.12001

Caetano, J. and Galego, A. (2009). *FDI in the European Union and Mena Countries: Institutional and Economic Determinants*. Universidade de Évora, and CEFAGE-UE.

Christiansen, B. and Branch, J. D. (Eds.). (2023). *Analyzing International Business Operations in the Post-Pandemic Era*. IGI Global. https://doi.org/10.4018/978-1-6684-3749-0

Checchi, D., De Simone, G., Faini R. (2007) *Skilled Migration, FDI and Human Capital Investment*. IZA Discussion Paper No. 2795, Centro Studi Luca d'Agliano Development Studies Working Paper No. 235, http://dx.doi.org/10.2139/ssrn.987857

Ciesielska-Maciagowska, D., and Koltuniak, M. (2021). *Foreign direct investments and home country's institutions: the case of CEE countries*. European Research Studies Journal, 24(1), 335-353.

Ciobanu, A.M. (2021) *DETERMINANTS OF FDI IN CEE COUNTRIES: A PANEL DATA ANALYSIS*. International Journal of Innovation Scientific Research and Review Vol. 03, Issue, 02, pp.852-859, February, 2021

Dang, V. C., Nguyen, Q. K., & Borz, G. (2021). *Determinants of FDI attractiveness: Evidence from ASEAN-7 countries*. Cogent Social Sciences, 7(1). https://doi.org/10.1080/23311886.2021.2004676

Dellis K., Sondermann D., Vansteenkiste, I. (2020). *Drivers of genuine FDI inflows in advanced economies*. The Quarterly Review of Economics and Finance 84 pp. 407–419 https://doi.org/10.1016/j.qref.2020.09.004

Denisia, V. (2010). *Foreign Direct Investment Theories: An Overview of the Main FDI Theories*. European Journal of Interdisciplinary Studies, No. 3. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1804514

Djokoto, J.G. (2021) *The investment development path theory and small states*. Research in Globalization Vol. 3 December 2021, https://doi.org/10.1016/j.resglo.2021.100048

Dorakh, A. (2020). *A Gravity Model Analysis of FDI across EU Member States*. Journal of Economic Integration. 35. 426-456. 10.11130/jei.2020.35.3.426.

Dutta N., Kar S., & Saha S. (2017). *Human capital and FDI: How does corruption affect the relationship?* Economic Analysis and Policy, 56, 126–134. 10.1016/j.eap.2017.08.007

Dunning, J. H. (2002). *Determinants of foreign direct investment: globalization-induced changes and the role of FDI policies*. Proceedings of the 5th Annual World Bank Conference on Development Economics – Europe, Paris, France, May 15-16.

Dunning, J. H. and Rugman, A. M. (1985), *The Influence of Hymer's Dissertation on the Theory of Foreign Direct Investment*, The American Economic Review, 75 (2): 228-232. https://www.jstor.org/stable/1805601

Fonseca, M.A., and Mendonça, A. (2016). *The paradigm of the investment development path : does it holds for Portugal? Evidence for the period 1990-2011*. Working Paper CEsA CSG 139

Gheasi M, Nijkamp P., Rietveld P. (2013) *Migration and foreign direct investment: education matters*. The Annals of Regional Science 51:73–87

Goorha, P. (2010). *Modernization Theory*. Published in the Oxford Research Encyclopedia, International Relations, 2010, DOI: 10.1093/acrefore/9780190846626.013.266, Available at SSRN: https://ssrn.com/abstract=3412147

Grosse, R., and Trevino, L. J. (2005). *New Institutional Economics and FDI Location in Central and Eastern Europe*. MIR: Management International Review, 45(2), 123–145. http://www.jstor.org/stable/40836044

Göstas Escobar, A., and Fanbasten, N. (2016). *Determinants of Foreign Direct Investment: A panel data analysis of the MINT countries* (Dissertation). Retrieved from http://urn.kb.se/resolve?urn=urn:nbn:se:uu:diva-296664

Hayat, A. and Tahir, M. (2021). *Foreign direct investment, natural resources and economic growth: a threshold model approach*, Journal of Economic Studies, Vol. 48 No. 5, pp. 929-944. https://doi.org/10.1108/JES-03-2020-0127

Hennart J.F. (1982). *A theory of multinational enterprise*, University of Michigan Press.

Hennart, J. F. (2015). *Commentary: Why and how can Multinational Enterprises be value-creating organizations?*. Journal of World Business, 50(4), 623-626

Hill, T. D., Davis, A. P., Roos, J. M., & French, M. T. (2020*). Limitations of Fixed-Effects Models for Panel Data*. Sociological Perspectives, 63(3), 357-369. https://doi.org/10.1177/0731121419863785

Holland, D. and Pain, N. (1998). *The Diffusion of Innovations in Central and Eastern Europe: A Study of the Determinants and Impact of Foreign Direct Investment*.

Hou, L., Li, Q.,Wang, Y., Yang, X. (2021). *Wages, labor quality, and FDI inflows: A new non-linear approach*, Economic Modelling, Elsevier, vol. 102(C).

Hubbell, L. (2008). *RETHINKING DEPENDENCY THEORY: THE CASE OF DOMINICA, THE RASCAL STATE*. Journal of Third World Studies, 25(1), 95–109. http://www.jstor.org/stable/45194439

Hufbauer, G. C. and Adler, M. B. (2008). *Policy Liberalization and FDI Growth, 1982 to 2006*. Peterson Institute for International Economics Working Paper No. 08-7, http://dx.doi.org/10.2139/ssrn.1207782

Hunady, J and Orviska, M (2014), *Determinant of FDI in EU countries- Do Coporate Taxes Really Matter?*, Procedia Economics and Finance 12(2014) 243-250. https://doi.org/10.1016/S2212-5671(14)00341-4

Hymer, S.H. (1976). *The international operations of national firms: A study of direct foreign investment*, MIT press Cambridge, MA http://hdl.handle.net/1721.1/27375

Igošina, V. (2015). *FDI to EU15 and New Member States: Comparative Analysis of Inflow Determinants*. Prague Economic Papers, 24(3), 260-273. http://dx.doi.org/10.18267/j.pep.518

Iwasaki, I. and Tokunaga, M. (2019). *The Determinants and Macroeconomic Impacts of Foreign Direct Investment in Transition Economies*, CEI Working Paper Series 2019-8, Center for Economic Institutions, Institute of Economic Research, Hitotsubashi University.

Kindleberger, C.P. (1969), *American business abroad*. The Int. Exec., 11: 11-12. https://doi.org/10.1002/tie.5060110207

Knickerbocker, F.T. (1973). *Oligopolistic reaction and multinational enterprise*, The International Executive, vol. 15, no. 2, pp. 7-9.

Kordalska, A., and Olczyk, M. (2021). *New patterns in the position of CEE countries in global value chains: functional specialisation approach*. Oeconomia Copernicana, 12(1), 35–52. https://doi.org/10.24136/oc.2021.002

Kok, R. and Acikgoz Ersoy, B. (2009). *Analyses of FDI determinants in developing countries*, International Journal of Social Economics, Vol. 36 No. 1/2, pp. 105-123. https://doi.org/10.1108/03068290910921226

Lansbury, M., Pain, N., and Smidkova, K. (1996). *Foreign Direct Investment in Central Europe Since 1990: An Econometric Study*. National Institute Economic Review, 156, 104–114. http://www.jstor.org/stable/23871054

Ledyaeva, S. (2009). *Spatial econometric analysis of foreign direct investment determinants in Russian regions*, World Economy, 32 (4), 643-666.

Liviu, P., Simina, B., Catalina, S., and Laura, V. (2023). *Determinants of FDI Stock in Some Central European Countries*. Journal of Risk and Financial Management, 16(3), 164. https://doi.org/10.3390/jrfm16030164

Magdalena R., Gabriela C.C., Aron B.L. (2021) *FDIs and Commercial Balance in CEE Countries - Special Focus on the Manufacturing Economic Sectors. A VAR Analysis*. International Journal of Business and Economic Sciences Applied Research DOI: 10.25103/ijbesar.132.01

Makoni, P. (2015). *An extensive exploration of theories of foreign direct investment*. Journal of Risk Governance and Control:Financial Markets and Institutions. 5. 77-83. http://dx.doi.org/10.22495/rgcv5i2c1art1.

Mateev, M and Tsekov, I. (2014). *Are there any top FDI performers among EU-14and CEE countries? A comparative panel data analysis*. Financial Theory and Practice. 38. 337-374. http://dx.doi.org/10.3326/fintp.38.3.4.

Mason, R. L., Vracheva, V. (2017). *The Impact of Inflation Targeting on Attracting Foreign Direct Investment*. Journal of Applied Business and Economics, 19(4), 79-94.

Marois G., Bélanger A., and Lutz W. (2020) *Population aging, migration, and productivity in Europe*. PNAS 117 (14) 7690-7695

Meinhart, B. (2023). *How EU membership affects foreign direct investment: Differences between EU15 and CEE countries*. The World Economy, 00, 1–25. https://doi.org/10.1111/twec.13541

Mitra, R., & Abedin, M. T. (2022). Does a shrinking labor force reduce FDI inflows in OECD countries? Applied Economics Letters, 29(17), 1654–1658. https://doi.org/10.1080/13504851.2022.2025996

Mihaylova, S. (2015). *Foreign direct investment and income inequality in Central and Eastern Europe*. Theoretical and Applied Economics. XXII (2015). pp. 23-42.

Mohamed S.E. and Sidiropoulos M. (2010). *Another Look At The Determinants Of Foreign Direct Investment In Mena Countries: An Empirical Investigation*. Journal of Economic Development, vol. 35, issue 2, 75-95

Murdock, C. W. (2020). *Why Ricardo's Theory of Comparative Advantage Regarding Foreign Trade Doesn't Work in Today's Global Economy*. University of Bologna Law Review, 5(1), 59–130. https://doi.org/10.6092/issn.2531-6133/10881

Musabeh, A. (2018). *Main Theories Of Foreign Direct Investment*. http://dx.doi.org/10.13140/RG.2.2.17555.50729

OECD (2002), Foreign Direct Investment for Development: Maximising benefits, minimising costs, OECD Publishing, Paris, https://doi.org/10.1787/9789264199286-en.

OECD (2022), *FDI Qualities Policy Toolkit*, OECD Publishing, Paris, https://doi.org/10.1787/7ba74100-en.

OECD (2024), Average wages (indicator). doi: 10.1787/cc3e1387-en (Accessed on 30 April 2024)

Ohlin, B. (1933). *Interregional and International Trade*. Harvard economic studies, vol. 39. Cambridge: Harvard University Press

Özkan-Günay, E. N. (2011). *Determinants of FDI Inflows and Policy Implications: A Comparative Study for the Enlarged EU and Candidate Countries*. Emerging Markets Finance and Trade, 47, 71–85. http://www.jstor.org/stable/41343434

Pečarić, M., Kusanović, T., & Jakovac, P. (2021). *The Determinants of FDI Sectoral Structure in the Central and East European EU Countries*. Economies, 9(2), 66. https://doi.org/10.3390/economies9020066

Popovici, O. and Călin, A. (2014). *FDI theories. A location-based approach*. The Romanian Economic Journal. XVII. https://www.researchgate.net/publication/277669784_FDI_theories_A_location-based_approach

Popovici, O.C., Călin, A.C. (2019). *FDI Motivations in CEE Countries. The Role of Governance Ethics*. In: Văduva, S., Fotea, I., Văduva, L., Wilt, R. (eds) Applied Ethics for Entrepreneurial Success: Recommendations for the Developing World. GSMAC 2018. Springer Proceedings in Business and Economics. Springer, Cham. https://doi.org/10.1007/978-3-030-17215-2_7

Pournarakis, M. and Varsakelis, N. (2004). *Institutions, internationalization and FDI: The case of economies in transition*. Transnational Corporations. Vol. 13, No. 2 (August 2004)

Prokurat, S., Fabisiak, J.. (2019). *Current Demographic Trends Induced by Changing Fertility Patterns in Europe and the United States*. Studia Prawno-Ekonomiczne. 2018. 295–317. 10.26485/SPE/2018/106/18.

Radlo, M. J. (2012). *Emerging Multinationals and Outward FDI Development: The Case of Poland*. Eastern European Economics, 50(2), 59–84. https://doi.org/10.2753/EEE0012-8775500204

Ranjan V, Agrawal G. (2011) *FDI Inflow Determinants in BRIC countries: A Panel Data Analysis* International Business Research Vol. 4, No. 4; October 2011 doi:10.5539/ibr.v4n4p255

Resmini, L. (2000), *The Determinants of Foreign Direct Investment in the CEECs: New evidence from sectoral patterns*. Economics of Transition, 8: 665-689. https://doi.org/10.1111/1468-0351.00060

Ricardo D. (1817). *On the principles of political economy and taxation*, John Murray, London.

Rugman, A. (1981). *Inside the multinational: The economics of internal markets*. New York: Columbia University Press.

Sabir, S., Rafique, A. and Abbas, K. (2019) *Institutions and FDI: evidence from developed and developing countries*. Financ Innov 5, 8 (2019). https://doi.org/10.1186/s40854-019-0123-7

Seržantė M., Karalius B. (2022) *Analysis of the Economic Factors Determining the Foreign Direct Investment Inflows of Lithuania*. Trendy ekonomiky a managementu. 39(1): 35–46 http://dx.doi.org/10.13164/trends.2022.39.35

Strat, V. A. (2015). *The relationship between the education system and the inflows of FDI for the Central and East European EU new member states*. Romanian Journal of Economics, Institute of National Economy, vol. 41(2(50)), pages 76-92.

Smith, A. (1776). *An inquiry into the nature andcauses of the wealth of nations*, London: George Routledge and Sons

Su, W., Zhang, D., Zhang, C., Abrhám, J., Simionescu, M., Yaroshevich, N., and Guseva, V. (2018). *Determinants of foreign direct investment in the Visegrad group countries after the EU enlargement*. Technological and Economic Development of Economy, 24(5), 1955-1978. https://doi.org/10.3846/tede.2018.5487

Sujit KS, Kumar BR, Oberoi SS. (2020) *Impact of Macroeconomic, Governance and Risk Factors on FDI Intensity—An Empirical Analysis*. Journal of Risk and Financial Management; 13(12):304. https://doi.org/10.3390/jrfm13120304

Tintin, C. (2013). *The determinants of foreign direct investment inflows in the Central and Eastern European Countries: The importance of institutions*. Communist and Post-Communist Studies, 46(2), 287–298. https://www.jstor.org/stable/48609748

Toshevska-Trpchevska, K., Kikerkova, I., Makrevska Disoska, E., and Naumovska, E. (2019). *Analysis of the impact of economic factors upon the FDI inflow in SEE and CEE countries*. Optimum. Economic Studies, (4(98)), 3-15. http://dx.doi.org/10.15290/oes.2019.04.98.01

Vernon, R. (1966). *International investment and international trade in the product cycle*, The Quarterly Journal of Economics, pp. 190-207.

Vujanović, N., Radošević, S., Stojčić, N., Hisarciklilar, M., & Hashi, I. (2022). *FDI spillover effects on innovation activities of knowledge using and knowledge creating firms: Evidence from an emerging economy*. Technovation, 118, 102512.

Weiss, O. (2015) *Dependency theory and Eastern bloc trade: reformulating a forgotten paradigm*. Doctoral thesis (PhD), University of Sussex.

Welfens, P. J. J. (1992). *Foreign Investment in the East European Transition*. MIR: Management International Review, 32(3), 199–218. http://www.jstor.org/stable/40228104

Wijeweera, A., Villano, R., & Dollery, B. (2010). *Economic Growth and FDI Inflows: A Stochastic Frontier Analysis*. The Journal of Developing Areas, 43(2), 143–158. http://www.jstor.org/stable/40376254

Wilhelms, S.K. and Witter, M.S.D. (1998) *Foreign Direct Investment and Its Determinants in Emerging Economies*. United States Agency for International Development, Bureau for Africa, Office of Sustainable Development.

World Bank, *World Development Indicators* (2023). Foreign direct investment, net inflows (BoP, current US$). Retrieved from https://data.worldbank.org/indicator/BX.KLT.DINV.CD.WD

Zarić, S. (2022). *Determinants of foreign direct investment in Central and Eastern Europe: Panel data analysis results*. Anali Ekonomskog fakulteta u Subotici. 2022. 35-49. 10.5937/AnEkSub2248035Z.

ANNEXES

Annex 1. Descriptive Statistics

CEE countries

	CPI	EDU	FDI	NAT_RES	POP	REAL_GDP	WAGE
Mean	5.263271	7.390341	5.441268	0.939345	9083242.	13442.91	26327.59
Median	3.356528	6.000000	3.841159	0.594273	4495551.	13800.98	25139.50
Maximum	39.64763	22.30000	106.5735	5.714163	38663481	29331.06	50466.69
Minimum	-1.134309	2.700000	-40.08635	0.131330	1314545.	2167.793	10186.00
Std. Dev.	6.105536	4.184812	10.69845	0.874047	11495650	6961.602	8706.164
Skewness	2.360712	1.368205	5.072722	1.968293	1.914543	0.136300	0.459333
Kurtosis	9.923174	4.408057	45.11560	8.008036	5.214671	2.069266	2.783170
Jarque-Bera	655.4071	69.45078	17515.43	365.1941	182.6222	8.778710	8.315638
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.012409	0.015642
Sum	1178.973	1300.700	1218.844	202.8985	2.03E+09	3011211.	5897380.
Sum Sq. Dev.	8312.898	3064.714	25523.88	164.2511	2.95E+16	1.08E+10	1.69E+10
Observations	224	176	224	216	224	224	224

EU-14 countries

	CPI	EDU	FDI	NAT_RES	POP	REAL_GDP	WAGE
Mean	2.002807	12.77819	5.398124	0.251082	23671059	40966.12	50286.49
Median	1.820435	9.700000	2.500931	0.114294	10458058	36975.88	50119.50
Maximum	10.00121	36.20000	234.2487	2.107733	83797985	133711.8	79018.90
Minimum	-4.478103	1.000000	-394.4716	0.004751	408625.0	11526.37	22800.00
Std. Dev.	1.769788	8.510910	27.72697	0.341781	25799498	21699.06	12066.40
Skewness	1.584331	0.826473	-6.312316	2.589452	1.144818	1.761914	-0.138857
Kurtosis	8.039602	2.606025	126.9095	10.23873	2.754231	7.066771	2.289214
Jarque-Bera	578.8209	35.85245	248853.3	1247.718	86.61295	472.9478	9.511581
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.008602
Sum	785.1003	3807.900	2078.278	94.90915	9.28E+09	16058717	19712304
Sum Sq. Dev.	1224.670	21513.37	295213.4	44.03885	2.60E+17	1.84E+11	5.69E+10
Observations	392	298	385	378	392	392	392

Combined CEE and EU-14

	CPI	EDU	FDI	NAT_RES	POP	REAL_GDP	WAGE
Mean	3.188430	10.77764	5.413993	0.501360	18366398	30957.68	41574.16
Median	2.118784	7.800000	3.148834	0.262408	9828526.	25521.16	42938.90
Maximum	39.64763	36.20000	234.2487	5.714163	83797985	133711.8	79018.90
Minimum	-4.478103	1.000000	-394.4716	0.004751	408625.0	2167.793	10186.00
Std. Dev.	4.239366	7.665044	22.96800	0.679007	22812736	22192.49	15909.13
Skewness	3.667596	1.231686	-6.824316	2.780900	1.579669	1.665925	0.061565
Kurtosis	21.67155	3.688705	170.8652	13.68965	4.186128	7.039036	2.006159
Jarque-Bera	10329.09	129.2146	719762.5	3593.754	292.3000	703.6526	25.74063
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000003
Sum	1964.073	5108.600	3297.122	297.8077	1.13E+10	19069928	25609684
Sum Sq. Dev.	11052.92	27790.12	320737.6	273.4029	3.20E+17	3.03E+11	1.56E+11
Observations	616	474	609	594	616	616	616

Annex 2. Correlation analysis

CEE countries

	CPI	EDU	NAT_RES	POP	REAL_GDP	WAGE
FDI	0.133645	-0.046070	-0.026292	-0.025524	-0.036495	-0.091648
CPI	1.000000	-0.088060	0.028886	-0.069693	-0.164184	-0.184927
EDU	-0.088060	1.000000	-0.004038	-0.359704	0.585700	0.547355
NAT_RES	0.028886	-0.004038	1.000000	0.382389	-0.247510	-0.262927
POP	-0.069693	-0.359704	0.382389	1.000000	-0.235433	-0.023746
REAL_GDP	-0.164184	0.585700	-0.247510	-0.235433	1.000000	0.756029
WAGE	-0.184927	0.547355	-0.262927	-0.023746	0.756029	1.000000

EU-14 countries

	CPI	EDU	NAT_RES	POP	REAL_GDP	WAGE
CPI	1.000000	-0.166366	0.065616	-0.054209	-0.075094	-0.050776
EDU	-0.166366	1.000000	0.697562	-0.347839	0.394001	0.365876
NAT_RES	0.065616	0.697562	1.000000	-0.312402	0.113835	0.131742
POP	-0.054209	-0.347839	-0.312402	1.000000	-0.311915	-0.085910
REAL_GDP	-0.075094	0.394001	0.113835	-0.311915	1.000000	0.722216
WAGE	-0.050776	0.365876	0.131742	-0.085910	0.722216	1.000000

Combined CEE and EU-14

	CPI	EDU	NAT_RES	POP	REAL_GDP	WAGE
CPI	1.000000	-0.205324	0.168221	-0.143674	-0.232677	-0.277321
EDU	-0.205324	1.000000	0.115718	-0.191385	0.509973	0.504395
NAT_RES	0.168221	0.115718	1.000000	-0.186428	-0.258729	-0.345341
POP	-0.143674	-0.191385	-0.186428	1.000000	-0.027825	0.188932
REAL_GDP	-0.232677	0.509973	-0.258729	-0.027825	1.000000	0.820464
WAGE	-0.277321	0.504395	-0.345341	0.188932	0.820464	1.000000

TUI TIPŲ LYGINAMASIS VERTINIMAS ES-14 IR VIDURIO BEI RYTŲ EUROPOS ŠALYSE

Valentyn NEFEDOV

Magistro darbas

Ekonomikos ir verslo administravimo fakultetas, Vilniuas Universitetas

Darbo vadovė: Doc. Dr. Jolanta Droždz, Vilnius, 2024

SANTRAUKA

57 puslapių, 3 lentelių, 7 paveikslų, 92 šaltiniai

Magistro darbo tikslas – nustatyti tiesioginių užsienio investicijų (TUI) rūšis ir jų determinantus dviejose skirtingose Europos Sąjungos (ES) regionuose: 14 šalių, kurios 1995 m. buvo sąjungos narėmis (ES-14) ir 8 naujose šalyse Vidurio ir Rytų Europos (VRE) regiono valstybės narės, įstojusios į ES 2004 m. Magistro darbą sudaro trys dalys: išsami literatūros analizė, empirinio tyrimo metodologija ir jo rezultatai, išvados ir rekomendacijos. Literatūros analizės dalyje sutelktas dėmesys į teorijų, lėmusių TUI plėtrą, analizę, skirtingų teorijų pritaikymą empiriniame tyrime, taip pat išskirti pagrindiniai TUI veiksniai, lemiantys sėkmingą TUI plėtrą pasirinktuose regionuose. Apibrėžti kintamieji, tokie kaip BVP, infliacija, darbo užmokesčio lygis, išsilavinimas ir gamtos išteklių prieinamumas, kurie veikė kaip tam tikrų rūšių TUI determinantai.

Empirinis TUI determinantų tyrimas dviejuose pasirinktuose regionuose paremtas apibrėžtų panelinių duomenų modeliu. Atlikus lyginamąjį vertinimą, nustatyta, kad TUI ES-14 šalyse daugiausiai teigiamos įtakos turi BVP vienam gyventojui lygis, o VRE regione darbo užmokesčio augimas turi neigiamos įtakos TUI plėtrai, tuo tarpu infliacijos lygis – teigiamą įtaką. Atlikus lyginamąjį vertinimą nustatyta, kad ES, nors ir veikia kaip bendra ekonominė sąjunga, nėra vienalytė pritraukiant TUI. ES-14 regiono šalys pasižymėjo specializacija į rinkos plėtrą orientuotas TUI, o VRE regionas – į efektyvumo ir darbo našumo siekimo TUI tipą. Prieigos prie gamtos išteklių ieškančios TUI neturi statistinio reikšmingumo nė viename iš analizuotų regionų, o TUI orientuotos į nekilnojamojo turto plėtrą reikalauja tolesnių detalesnių tyrimų.

Tyrimo rezultatai gali būti naudingi siekiant tiksliau apibrėžti vyriausybės veiksmus dėl TUI pritraukimo politikos. Šio darbo metu buvo rasta keletas tyrimų spragų, daugiausia švietimo lygio ir TUI sąsajų, kurias autorius rekomenduoja nagrinėti detaliau.