



**THE EFFECT of FOREIGN DIRECT INVESTMENT**  
**on TAX REVENUE**  
**in EASTERN EUROPE and TRKİYE**

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**Tuğçe UYAR**

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**THE EFFECT of FOREIGN DIRECT INVESTMENT on TAX REVENUE  
in EASTERN EUROPE and TÜRKİYE**

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## JÜRİ VE ENSTİTÜ ONAYI

Tuğçe UYAR'ın "Doğrudan Yabancı Sermaye Yatırımlarının Doğru Avrupa ve Türkiye'deki Vergi Geliri Üzerindeki Etkisi " başlıklı tezi 07/05/2025 tarihinde aşağıdaki jüri tarafından değerlendirilerek "Anadolu Üniversitesi LisansüstüEğitim-Öğretim ve Sınav Yönetmeliği'nin ilgili maddeleri uyarınca, İktisat Ana Bilim/Ana Sanat dalında İngilizce İktisat Programında Yüksek Lisans tezi olarak kabul edilmiştir.

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## ÖZET

### DOĞRUDAN YABANCI YATIRIMLARIN DOĞU AVRUPA ÜLKELERİ VE TÜRKİYE’DEKİ VERGİ GELİRİ ÜZERİNDEKİ ETKİSİ

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Dünya genelinde ülkeler ve bölgeler bazında uygulanan vergi oranları ve bu kapsamda vergi gelirleri farklılık göstermektedir. Ülkeler bazında yer alan vergi otoriteleri kendi ekonomik gelişme stratejileri kapsamında vergi politikaları belirlemekte ve uygulamaktadır.

Bu çalışmada, Doğru Avrupa ülkeleri ve Türkiye’deki vergi politikaları incelenerek bu politika sonucunda elde edilen vergi geliri ile doğrudan yabancı sermaye yatırımlarının (DYSY) arasındaki ilişkinin incelenmesi amaçlanmaktadır. Söz konusu ilişkinin incelenmesi aşamasında ilgili ülkelerdeki diğer ekonomik göstergeler (enflasyon, ticari açık, iş gücü oranları, vergi oranları, gayrisafi yurtiçi hasıla vb.) diğer değişkenler de incelenerek söz konusu ilişkiye olası etkileri dikkate alınacaktır.

Çalışmada Türkiye ve Doğru Avrupa ülkelerine ilişkin veriler incelenecektir. Doğru Avrupa ülkelerinin seçilmesinin sebebi ilgili ülkelerin çeşitli ekonomik göstergeler bakımından Türkiye ile benzer koşullar göstermesidir. Bu sebeplere detaylı olarak çalışmada yer verilecek olup sonrasında ilgili analizler gerçekleştirilecektir. Bu sayede ülkemizde ve benzer ekonomik koşullar gösteren Doğru Avrupa ülkeleri arasındaki uygulamalarda ve sonuçlarda farklılıklar olup olmadığına ilişkin bir sonuca varılacaktır.

**Anahtar Sözcükler:** DYSY, DYSY’nin gelişimi, Vergi gelirleri, Panel regresyon

## ABSTRACT

### THE EFFECT OF FOREIGN DIRECT INVESTMENT ON TAX REVENUE IN EASTERN EUROPEAN COUNTRIES AND TÜRKİYE

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Tax rates and applying tax revenues vary globally across countries and regions. Tax authorities in each country determine and implement tax policies based on their economic development strategies. This study aims to examine the relationship between tax revenue resulting from tax policies in Eastern European countries and Türkiye and foreign direct investment (FDI). In the process of examining this relationship, other economic indicators in the relevant countries (such as inflation, trade deficit, labour rates, tax rates, gross domestic product, etc.) will also be analyzed to consider their potential effects on this relationship.

The study will focus on data from Türkiye and Eastern European countries. Eastern European countries have been selected because they exhibit similar conditions to Turkey in terms of various economic indicators. These reasons will be detailed in the study, followed by the relevant analyses. This approach will help determine whether there are differences in the implementations and outcomes between our country and Eastern European countries that exhibit similar economic conditions.

**Keywords:** Foreign direct investment (FDI), Development of FDI, Tax revenues, Panel regression

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## ETİK İLKE VE KURALLARA UYGUNLUK BEYANNAMESİ

Bu tezin bana ait, özgün bir çalışma olduğunu; çalışmamın hazırlık, veri toplama, analiz ve bilgilerin sunumu olmak üzere tüm aşamalarında bilimsel etik ilke ve kurallara uygun davrandığımı; bu çalışma kapsamında elde edilen tüm veri ve bilgiler için kaynak gösterdiğimi ve bu kaynaklara kaynakçada yer verdiğimi; bu çalışmanın Anadolu Üniversitesi tarafından kullanılan “Bilimsel İntihal Tespit” programıyla tarandığını ve hiçbir şekilde “intihal içermediğini” beyan ederim. Herhangi bir zamanda, çalışmamla ilgili yaptığım bu beyana aykırı bir durumun saptanması durumunda, ortaya çıkacak tüm ahlaki ve hukuki sonuçları kabul ettiğimi bildiririm.

Tuğçe UYAR  
Mayıs, 2025

## **STATEMENT OF COMPLIANCE WITH ETHICAL PRINCIPLES AND RULES**

I hereby truthfully declare that this thesis/dissertation is an original work prepared by me; that I have behaved in accordance with the scientific ethical principles and rules throughout the stages of preparation, data collection, analysis and presentation of my work; that I have cited the sources of all the data and information that could be obtained within the scope of this study, and included these sources in the references section; and that this study has been scanned for plagiarism with “Scientific Plagiarism Detection Program” used by Anadolu University, and that “it does not have any plagiarism” whatsoever. I also declare that, if a case contrary to my declaration is detected in my work at any time, I hereby express my consent to all the ethical and legal consequences that are involved.

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Herhangi bir zamanda, çalışmamla ilgili yaptığım bu beyana aykırı bir durumun saptanması durumunda, ortaya çıkacak tüm ahlaki ve hukuki sonuçları kabul ettiğimi bildiririm.

Tuğçe UYAR

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## **LIST of ABBREVIATONS**

AIC: Akaike Information Criterion

BIC: Bayesian Information Criterion

CBRT: Central bank policy rates

CPI: Annual inflation rates

CPI: Consumer price index

DCs: Developing countries

EU: European union

FDI: Foreign direct investment

GDP: Gross domestic product

IMF: International Monetary Fund

M&A: Mergers and Acquisitions

MD: Moldova

MG: Mean Group

MNCs: Multi-National companies

OECD: Organisation for Economic Co-operation and Development

PMG: Pooled Mean Group

SDGs: Sustainable development goals

UNCTAD: UN Trade and Development

## INTRODUCTION

Foreign direct investment (FDI), which has emerged as a result of globalization in the last twenty-five years, has a major role in the economic development of countries and is one of the international capital movements, has been one of the issues specifically examined by international organizations such as UNCTAD, IMF and the World Bank.

This study aims to measure the relationship between FDI and tax revenues in the period 1980-2023 for Eastern European countries (Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Kosovo, Latvia, Lithuania, Moldova, Republic of (MD), Montenegro, North Macedonia, Poland, Romania, Serbia, Slovakia, Slovenia) and Türkiye. The reason for including the Eastern European countries in the study is that the relevant countries have similar economic conditions to Türkiye. These similarities are included in the study. This study aims to contribute to the relevant literature by determining a date range covering the recent period (1980-2023) and selecting the Eastern European and Turkish country set in terms of their economic characteristics and examining the short and long-term causality relationship between the variables with the panel data method. For this purpose, the relationship between tax revenues and FDI was examined using panel data analysis. The study consists of five sections; the introduction is included in the first section. Then, the theoretical framework regarding the FDI-tax revenue relationship is examined in the second section. In the third section, the literature review of the relationships between FDI, economic growth and tax revenues is presented under four different headings, and in the fourth section, data, methodology and empirical findings are explained. In the last section, the empirical results obtained as a result of the analyses are evaluated and the study is completed with the conclusion section.

## **CHAPTER ONE**

### **1. FOREIGN DIRECT INVESTMENT AND TAX REVENUES**

This chapter explores the intricate relationship between foreign direct investment (FDI) and tax revenues, focusing specifically on Eastern Europe and Türkiye. It begins by defining FDI and its various forms, followed by an examination of its economic impacts and the policy frameworks that shape its flow. The chapter culminates in a framework that analyzes how FDI influences tax revenues in the specified regions.

#### **1.1. Foreign Direct Investment (FDI)**

When capital or profit is transferred from one country to another, whether directly or internationally, it is considered foreign investment regardless of the source. Such direct foreign investments are mostly made by multinational group companies. There are different methods of these investments such as establishing new businesses, making acquisitions or forming partnerships (Ayaz, 2018).

FDI are essentially a part of the globalizing world and trade, and in this way, they support technological change, employment growth, and economic growth and development. There are basically three different implementation methods of FDI and these are given below with brief explanations (Word Investment Report, 2024, 22-23).

- Greenfield Investment: Building new facilities from scratch in a foreign country.
- Mergers and Acquisitions (M&A): Acquiring or merging with local companies.
- Joint Ventures: Partnering with local firms to form new business entities.

All of the above methods are preferred by various countries because they provide positive benefits such as technological transformation, development, employment and cash flow for the country invested in through foreign investments. In this context, governments provide various supports by taking into account their own perspectives on this issue for political and economic reasons. In particular, there are important investment incentives provided by states in this context (Word Investment Report, 2024, 4-10).

##### **1.1.1. Definition and Scope of FDI**

Foreign Direct Investment (FDI) refers to an investment method in another country where the investor on any platform has a shareholding rate of at least 10% or more. Through

FDI, investors provide international economic incentives for host countries by providing contributions such as technological transformation, trade promotion and economic development through the communication between companies they establish (OECD 2019b: 2, UNCTAD 2007: 245)

In a globalizing world, the deepening of free trade and market integration requires countries to create new economic opportunities and develop higher value-added activities. Countries that can renew their production processes accordingly and offer competitive products and services in open markets can more easily achieve sustainable growth objectives. FDI plays a critical role in this process as a complementary element to the development efforts of national firms and countries. The capital flows provided by FDI not only contribute to the development of production and trade but also allow for an increase in tax revenues in local economies. As noted in UNCTAD's (1999) report, the effects of FDI on host countries are not limited to financial contributions but also manifest in areas such as technology transfer, knowledge accumulation, job creation, and access to international markets (UNCTAD, 1999: 235). Furthermore, corporate taxes derived from the activities of local and international companies become an important source for financing public expenditures in host countries. These effects transform the economic structures of host countries, making them more competitive and contributing to the achievement of sustainable development goals. Some possible effects of FDI on host countries are detailed in the table below (UNCTAD, 1999, p:235)

**Table 1**

*Some possible effects of FDI<sup>1</sup>*

| <b>Subject</b>                 | <b>Positive Contribution</b>                                                                                                  | <b>Negative Contribution</b>                                                                                                                                                                               |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><i>Sources</i></b>          | By providing additional resources and capabilities, it develops capital, technology management skills, and access to markets. | It may provide very few or the wrong type of resources and assets, hinder foreign markets compared to the markets served by domestic firms, and fail to adapt to the skills and needs of the host country. |
| <b><i>Entrepreneurship</i></b> | By injecting new entrepreneurship, management styles, and work cultures, it                                                   | The inability of foreign entrepreneurship, management styles, and work practices to                                                                                                                        |

<sup>1</sup> Source: UNCTAD (1999), World investment report 1999, Foreign Direct Investment and The Challenge of Development: s. 235.

| Subject                | Positive Contribution                                                                                                                                                                                                                                                                                                      | Negative Contribution                                                                                                                                                                                                                                                                                                             |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        | provides more dynamic competitive practices.                                                                                                                                                                                                                                                                               | adapt to local business cultures or to be modified when necessary. The implementation of foreign industrial procedures can lead to industrial disruption, resulting in market saturation where anti-competitive practices are present.                                                                                            |
| <i>Activities</i>      | By providing competitive incentives and spillover effects on suppliers and/or customers through more efficient resource allocation. FDI helps enhance the efficiency of local resources and talents as well as domestic firms, and it develops the clustering of related activities to the benefit of participating firms. | By allocating local production to low value-added activities and importing a large portion of high value-added intermediate goods, it limits the development of local resources and capacities. By restricting connections to foreign suppliers and industrial customers, it reduces opportunities for local clustered economies. |
| <i>Tax Revenue</i>     | By contributing a 1-3 percentage point increase to the host country's gross domestic product (GDP), it provides additional tax revenue to governments.                                                                                                                                                                     | By paying lower taxes to host governments through transfer pricing or other means, this situation reduces the tax revenues of the host country.                                                                                                                                                                                   |
| <i>Payment Balance</i> | By providing a positive impact on the balance of payments through efficient and export-generating investments with the effect of import substitution.                                                                                                                                                                      | By restricting exports and encouraging imports, it has a disruptive effect on the balance of payments.                                                                                                                                                                                                                            |

According to OECD (2019), FDI is an important milestone for the development and growth of host countries. The investment desires of parent companies in other countries result in various methods such as acquisition, merger or establishment of new companies. These investments create significant effects in the respective host countries. These following effects include very comprehensive areas such as economic growth, policy formations, geopolitical options and regional effects (Pratomo, 2019: 1-20).

- **FDI and Economic Growth:** Foreign direct investment stimulates economic growth by increasing capital accumulation, facilitating technology transfer and creating jobs, thereby creating an impact by broadening the tax base.
- **Policy Frameworks:** Effective policy structures such as investment incentives and reducing political bias can increase the effectiveness of foreign direct investment and attract more investment, leading to increased tax revenues.

- **Geopolitical and Economic Conditions:** Economic uncertainties and geopolitical changes affect foreign direct investment flows, affecting the stability and predictability of tax revenues from these investments. The post-pandemic recovery process, in particular, has played an important role in shaping these dynamics.
- **Regional Analyses:** Affordable labor costs, market size, and strategic location in the regions attract foreign direct investment. These regional factors significantly shape investment strategies and the resulting tax revenue impacts.

FDI is regarded as one of the key economic concepts influencing a country's development within a market economy framework. Numerous studies emphasize its role as a critical factor for economic growth and technological advancement due to its ability to facilitate the swift and effective transfer of best practices across borders. The primary determinants of FDI include economic factors, infrastructure, technology, institutional and political conditions, specific risks, human resources, legal aspects, geographic characteristics, entrepreneurship-related factors, and cultural influences (Tocar, 2018: 167). Among these, economic factors such as market size, labor costs, GDP, inflation, productivity levels, economic freedom, interest rates, and capital considerations are seen as more influential than other factors (Tocar, 2018: 187-188).

Tax policies are also a significant factor influencing FDI. They can support FDI by facilitating effective access to foreign markets and economies of scale, leading to an increase in net domestic income. Given these potential benefits, policymakers regularly review and adjust tax regulations to ensure they remain attractive to incoming investments. At the same time, governments strive to balance the desire to offer a competitive tax environment for foreign capital with the need to collect an appropriate share of domestic taxes from foreign companies. While tax is an important factor in investment location decisions, it is not the primary determinant. FDI is more significantly influenced by countries that provide access to markets and profit opportunities, a predictable and non-discriminatory legal and regulatory framework, macroeconomic stability, skilled and responsive labor markets, and well-developed infrastructure (OECD, 2008: 1).

A wide range of papers have investigated the relationship between taxes and FDI and found a negative relationship between them (Razin et al., 2005; Beck & Chaves, 2011;

Varol et al., 2015). However, relatively few studies have investigated the impact of FDI inflows on tax revenues and found a positive effect (Gropp & Kostial, 2000; Sarisoy & Koç, 2010; Mahmood & Chaudhary, 2013; Okey, 2013; Bunescu & Comaniciu, 2014; Odabas, 2016.)

### **1.1.2. Types of FDI (Greenfield, Merger & Acquisition, Joint Venture)**

Foreign Direct Investment (FDI) can take various forms depending on the entry strategy chosen by multinational enterprises. The most common types include Greenfield investments, mergers and acquisitions (M&A), and joint ventures, each offering distinct advantages and strategic implications for both investors and host countries

#### **1.1.2.1.Greenfield Investment**

When job opportunities are created in the countries where the investment is made, it is possible to define such investments as “green field investments” (UNCTAD, 1995: 145).

Some characteristics of green field investments are given below. This type of investment has the following characteristics (World Investment Report 2024, 22-30).

- It is not volatile like hot money and is permanent,
- It brings foreign exchange to the country,
- It brings technology,
- It creates job opportunities by establishing new factories,
- It increases the capital stock and production capacity.

Such investments are more concentrated in developing countries (DCs) in regions where cheap labour is available (World Investment Report 2024, 22-30). Within the scope of sustainable development plans, countries in the European Union (EU) have adopted the Green Deal policy, which aims to decarbonize economic growth by 2050. Thus, it is aimed for these regions to be the first regions with carbon-free economic development. However, although countries in the EU provide consistent policies, there are inequalities and gaps in the EU's ability to reduce carbon emissions and thus achieve sustainable development goals (SDGs) (World Investment Report 2024, 22-30).

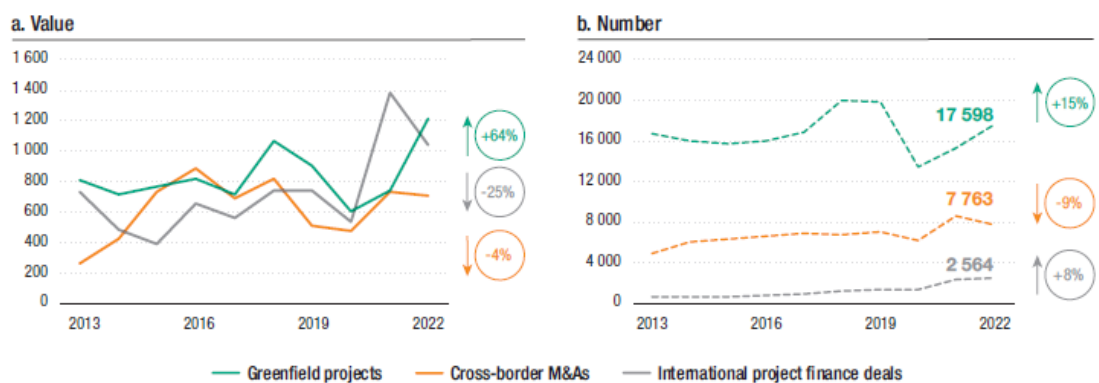
The concept of "green economic growth" is directly linked to sustainable development efforts and reflects economic growth by considering the rational use of natural capital, preventing and reducing pollution, and providing a carbon-neutral economy, thus

developing opportunities to improve social well-being. The concept of "greenfield investment" has broader and more complex definitions, and can be defined as investments in environmental, social and governance projects that aim to achieve sustainable development goals in the long term (World Investment Report 2024, 22-30)

The value of greenfield investment projects announced in 2022 increased by 64% to \$1.2 trillion. It is possible to call this figure the second highest level recorded since 2008. The value of these projects more than doubled in developing economies, reaching \$573 billion (project numbers increased by 37%). This rate increased by 37% in developed countries (project numbers increased by 4%). The sectoral distribution of greenfield megaprojects announced in 2022 shows the main trends in cross-border investments (World Investment Report, 2024: 17-30.)

**Figure 1.**

*Value and number of announced greenfield projects, international project finance deals, and cross-border M&As, 2013–2022 (Billions of dollars, number and per cent)<sup>2</sup>*



When the values and figures in question are examined, it is clearly seen that the importance of the green investment has increased.

#### 1.1.1.2. Mergers and Acquisitions (M&A)

In this type of investment, while the foreign investor is expected to invest in another country and the employment level is positively affected by this, the enterprise in the host country is purchased by one or more foreign investors (Demirel, 2006: 18). Before the purchase, the return of the investment project and the investment analysis to be made must be done well. Mergers and acquisitions are realized by taking over, purchasing or increasing the scale of a facility currently operating in the country where the investment

<sup>2</sup> Source: World Investment Report 2023(p. 18)

will be made through a merger (Seyidoğlu, 1999: 601). Company mergers are the merging of a foreign-capital company and a local-capital company under equal conditions and the same legal basis under one roof. The purchase of any company is the purchase of the majority of the shares of a different company.

Within this scope, merger is a strategy where two or more companies bring together all their resources, lose their legal existence and emerge as a new business. Company mergers are also called corporate marriages.

Cross-border M&A sales are expected to fall by 4% in 2022, reaching \$707 billion. In manufacturing, cross-border M&A sales fell by 42% to \$142 billion, while services deals fell by 5% to \$442 billion. In the primary sector, M&A values broke a decade-long downward trend and more than quadrupled to \$122 billion. Following the 2021 value increase, M&A sales in the pharmaceutical sector fell by 51% to \$36 billion, while the number of deals fell by 22% to 169 (World Investment Report 2024, 22-30.)

**Table 2.**

*Net cross-border M&As, by sector and top industries, 2021–2022 (Concluded)  
(Billions of dollars, number and per cent)<sup>3</sup>*

| Sector/industry | Value (Billions of dollars) |            |                 | Number       |              |                 |
|-----------------|-----------------------------|------------|-----------------|--------------|--------------|-----------------|
|                 | 2021                        | 2022       | Growth rate (%) | 2021         | 2022         | Growth rate (%) |
| <b>Total</b>    | <b>737</b>                  | <b>707</b> | <b>-4</b>       | <b>8 571</b> | <b>7 763</b> | <b>-9</b>       |
| Primary         | 27                          | 122        | 357             | 623          | 389          | -38             |
| Manufacturing   | 246                         | 142        | -42             | 1 608        | 1 406        | -13             |
| Services        | 465                         | 442        | -5              | 6 340        | 5 968        | -6              |

| Sector/industry                         | Value (Billions of dollars) |      |                 | Number |       |                 |
|-----------------------------------------|-----------------------------|------|-----------------|--------|-------|-----------------|
|                                         | 2021                        | 2022 | Growth rate (%) | 2021   | 2022  | Growth rate (%) |
| <i>Top 10 industries in value terms</i> |                             |      |                 |        |       |                 |
| Information and communication           | 135                         | 166  | 23              | 2 045  | 1 799 | -12             |
| Extractive industries                   | 25                          | 121  | 387             | 420    | 216   | -49             |
| Finance and insurance                   | 75                          | 88   | 17              | 714    | 602   | -16             |
| Transportation and storage              | 53                          | 41   | -23             | 313    | 297   | -5              |
| Pharmaceuticals                         | 73                          | 36   | -51             | 218    | 169   | -22             |
| Electronics and electrical equipment    | 39                          | 29   | -27             | 299    | 243   | -19             |
| Trade                                   | 64                          | 27   | -58             | 643    | 592   | -8              |
| Professional services                   | 38                          | 23   | -39             | 666    | 730   | 10              |
| Food, beverages and tobacco             | 10                          | 21   | 116             | 197    | 157   | -20             |
| Real estate                             | 34                          | 20   | -42             | 409    | 336   | -18             |

<sup>3</sup> Source: World Investment Report 2023, page 19

### **1.1.2.3. Joint Ventures**

FDI can sometimes be in the form of a joint venture with a local company or companies. A joint venture is when two or more companies come together and cooperate in a specific product/market area. Two companies can more easily accomplish a task that they would have difficulty accomplishing separately. Some of the companies that enter into the investment partnership here have expert human resources, some have financial resources, and some have advanced technology or quality raw materials. A joint venture can be attractive to businesses because it reduces the high risk of starting a new business, gives small businesses the chance to compete with and survive among large companies, and allows them to easily acquire new technologies (Dinçer, 1998: 289).

As the phenomenon of globalization has become dominant in the global economy, the increase in unfair competition has made it difficult for companies to sustain their existence in the market. In such an environment where unfair competition takes place, the survival of companies depends on the ability to make the right decisions regarding the company's future strategy and to implement these decisions at the right time. The fact that the competitive conditions in the markets have become so difficult forces companies to form strategic joint venture partnerships. In this direction, businesses have to prefer to maintain their existence by sharing capital, costs, technology and perhaps most importantly, risk (Titiz et al. 2007: 118).

The concept of risk here is that more than one company takes risks rather than a single company taking risks. If we give an example from financial markets, instead of making an investment in a single financial asset as a result of portfolio diversification, it is the situation where the risk is distributed among more than one financial investment instrument in the portfolio. Thus, companies try to maximize their profits by reducing their costs and sharing the risk. Otherwise, the MNCs that emerged as a result of globalizing economies today will cause local businesses that do not have the power to compete at a global level to not even be able to cover their costs and after a while, these businesses will withdraw from the market. In such a case, increasing the effectiveness of economic policies in countries, taking measures to protect the competitiveness of local businesses in order to attract FDI to the country and providing incentives to these businesses to produce high value-added goods will also positively affect the country's exports. According to the fact that investment, which is another type of investment,

creates new businesses, FDI associates' investment with employment. In this type of investment, attention is drawn to whether the investment created jobs or not (Berger vd. 1997: 95-139)

## **1.2. Tax Revenues**

Tax revenues are a critical source for the government to provide public services and oversee the economy. The size of these revenues, both in absolute terms and as a proportion of Gross Domestic Product (GDP), directly affects a country's economic capacity and the welfare level of the society. By extracting a portion of the national income as public revenues, the government finances public goods and services. At the same time, these resources are used as a fiscal policy tool in the implementation of public policies (Öztürk, 2016: 16).

In today's world, tax revenues are one of the most effective tools for achieving fiscal policy goals. Taxes are economic values collected from taxpayers without compensation, based on the state's sovereign power. These values are collected according to rules specified in the law, enabling the government to finance public services (Ulusoy, 2016: 50). While tax revenues hold the largest share among public revenues, they are also a fundamental tool in achieving significant goals such as economic growth, accelerating development, ensuring economic stability, and establishing a fair income distribution (Altay, 2015, p: 146).

In this context, the processes of collecting and spending tax revenues are key factors affecting the socio-economic structure of countries. In countries where economic freedoms have increased, positive developments such as an increase in tax revenues, improved quality of life, enhanced competitiveness, and reduced corruption are also observed (Demena & Bergeijk, 2019). Economic freedom means limited government intervention in the production, consumption, and transportation of goods and services, playing a decisive role in economic performance. Various studies reveal that in countries with high levels of economic freedom, tax revenues increase and their socio-economic performance is high. This implies that economically freer countries can generate more tax revenue compared to those with less economic freedom (Basheer et al., 2019)

In conclusion, accurately analyzing both traditional and non-traditional factors affecting tax revenues is vital for governments. In this regard, increasing economic freedom can contribute to raising tax revenues, allowing for a more efficient market mechanism and

thus building a stronger economic structure (Goel & Nelson, 2005).

The development goals of developing countries are multidimensional, encompassing various economic, social, and technological elements. These countries aim to strengthen their economic infrastructure and enhance their technological capacities by primarily increasing investment rates (UNCTAD, 1999: xxiv).

This is crucial not only for economic growth but also for integrating technological innovations into local firms and making national production processes more competitive. Enhancing technological capacities allows countries to offer higher value-added products in global trade markets, boosting their competitiveness. This competitiveness contributes to the growth of export volumes and increased effectiveness in world markets, supporting the creation of sustainable income sources for economies (UNCTAD, 1999, p: 235). Simultaneously, these growth processes enable governments to expand their tax base, increase public revenues, and finance development policies.

Additionally, developing countries aim to distribute the societal benefits of economic growth equitably. In this context, creating more employment opportunities not only serves as a core component of economic growth but also plays a significant role in reducing social inequalities. More employment increases individuals' income levels and contributes to the growth of both indirect and direct tax revenues. However, to achieve these goals, countries must effectively mobilize their resources and capabilities in the rapidly changing and globalizing competitive world economy. This process should be carried out not only through government policies but also in collaboration with effective stakeholders at both national and international levels (UNCTAD, 1999: xxiv.)

### **1.2.1. Definition and Components of Tax Revenues**

There are many factors affecting tax revenues, and among them, economic, social, political, and cultural elements play an important role. Among these elements, economic freedom is a particularly significant factor that directly or indirectly affects tax revenues. Economic freedom means minimal or no government intervention in the production, consumption, and transportation of goods and services. In other words, economic freedom allows individuals to do as they wish with their income and assets. This plays an important role in obtaining the tax revenues that the government needs to finance public expenditures (Chafuen and Guzmán, 2000).

Economic freedom is an important indicator of high socio-economic performance in a country. Various studies have shown a strong relationship between the level of economic freedom and the welfare levels and socio-economic performance of countries. In this context, in countries where economic freedom has increased, indicators of quality of life (income, employment, education, basic health, etc.) have improved, competitiveness has risen, and corruption levels have decreased. This indicates that economic freedom has a direct impact not only on economic growth but also on tax revenues. By enhancing a country's socio-economic performance, economic freedom also increases tax revenues derived from this performance. Therefore, economically free countries generally obtain more tax revenue.

Factors affecting tax revenues can be divided into traditional and non-traditional categories. Traditional factors usually include elements such as economic growth, tax rates, and the breadth of the tax base. However, these factors may not always be sufficient to increase tax revenues. At this point, it is important to consider non-traditional factors as well. Economic freedom is among the non-traditional factors. Tanzi (1989) stated that traditional factors do not satisfactorily explain fluctuations in tax revenues. On the other hand, Ghura (1998) argued that there is little that can be done to change the traditional determinants of tax revenues in the short term, but efforts to change other non-traditional factors that could affect tax revenues in the long term are important.

In this context, economic freedom is an important non-traditional factor that can create long-term effects on tax revenues. Governments need to make substantial public expenditures to provide public services, and public revenue is needed to finance these expenditures. Taxes constitute the most important source of this revenue. Therefore, it is necessary to consider the economic freedom index that affects tax revenues. Economic freedoms involve the removal of bureaucratic barriers and the minimization of public interventions. This can promote the efficient functioning of the market mechanism, thereby increasing socio-economic freedoms and tax revenues. Goel and Nelson (2005) argued that economic freedoms can have an impact on tax revenues. In conclusion, economic freedom is an important factor that increases tax revenues, and it is crucial for governments to consider this factor in their tax collection processes.

The size of public revenues, both in absolute terms and as a proportion of Gross Domestic Product (GDP), significantly affects the production capacity of the economy, economic

activity, and the welfare level of society. By extracting a portion of the national income as public revenues, the government finances public goods and services and also utilizes these revenues as a tool of fiscal policy (Öztürk, 2016, p:16).

Today, one of the most important tools used to achieve fiscal policy goals is tax revenues. Taxes are economic values collected from taxpayers without compensation, based on the state's sovereign power and according to rules specified in the law. The authority to levy taxes is exercised by the state or public institutions authorized by the state (Ulusoy, 2016, p: 50). While taxes hold the largest share among public revenues, the fundamental aims sought through these taxes include economic growth and development, maintaining economic stability, and ensuring a fair distribution of resources and income (Altay, 2015, p: 146).

One of the goals of fiscal policy is economic growth, which refers to the increase and expansion of employment levels, natural resources, and technological factors to provide a higher real income per capita compared to the previous year. Tax policy can support and guide this increase and expansion in economic growth to a certain extent (Türgay, 2011, p: 326). Additionally, tax policies play an important role in ensuring the effective participation of production factors in the production process and increasing production capacity. These policies regulate resource allocation to encourage entrepreneurship and are one of the fundamental functions of tax policy in modern economies (Akdoğan, 2016, p: 494).

There are different theoretical approaches to the effects of tax policies on economic growth. Keynesian growth theories argue that public expenditures are the main dynamic of economic growth rather than tax policies. The Neo-Classical growth model suggests that tax policies have only short-term effects and do not affect economic growth in the long term. The Endogenous growth model, however, argues that tax policies can have significant effects on economic growth in the long term. Moreover, the Supply-side economics view states that tax policies can affect economic growth from the supply side (Tokathioğlu & Selen, 2017, p: 302).

To achieve economic growth, various interventions can be made to the economy through tax policies. Policymakers can offer various incentives through tax policies to improve the quality and quantity of labour potential, increase capital accumulation, and promote technological development (Susam, 2016, p: 232). The five main ways tax policies can

affect economic growth are as follows (Tokatlıoğlu and Selen, 2017, p: 306):

- Taxes on income can affect investment rates.
- They can affect the supply of labour.
- They can increase productivity through research and development policies.
- They can direct resources to sectors with low efficiency.
- They can disrupt the effective functioning of human capital.

These dynamics allow for a broad examination of the effects of tax policies on the economy and demonstrate the importance of implementing the right tax policies for economic growth (Tokatlıoğlu and Selen, 2017).

### **1.2.2. Importance of Tax Revenues in Economic Development**

Economic growth refers to a process in which a country's overall production capacity and income level increase, and this concept has always been of great importance as a fundamental area of study in economic policies. Developed and developing countries have developed different strategies to achieve their growth targets. Economic growth describes the increase in production and income in economies over specific periods, along with the rise in real GDP (Durkaya & Ceylan, 2006: p:80). While developed countries strive to maintain stable growth rates, developing countries implement various economic and fiscal policies (such as tax, spending, and borrowing) to achieve their set growth targets (Temiz, 2008: p: 2). In this process, the factors affecting economic growth continuously change depending on the social, political, and economic conditions of the period.

Many economists explain economic growth with factors such as capital accumulation, technological development, and human capital, while sometimes developing different theories about how these factors work together. For example, some economists argue that increasing capital investments is necessary for growth, while others emphasize the importance of R&D, technological development, and human capital (Samuelson & Nordhaus, 2010: p: 506). Additionally, the distinction between growth and development plays an important role in determining growth strategies. While developed countries have largely completed their economic growth, developing countries are making more intense efforts for growth. At the center of these efforts are usually fiscal policies such as tax

policies, public spending, and borrowing strategies.

The relationship between economic growth and tax revenues is interpreted differently according to different economic views and models. In classical economic theory, taxes are generally considered as financing for public expenditures, emphasizing that the tax system is a tool based solely on the ability to pay and is applied without affecting individuals' economic decisions. In the classical approach, the effects of taxes on the economy are evaluated within a more limited framework. In contrast, Neo-classical growth theories suggest that taxation does not have a significant impact on economic growth in the long term, while Monetarist and supply-side economic theories argue that high tax rates can negatively affect production levels. Particularly, supply-side economics holds the view that reductions in tax rates will increase tax revenues and have a positive effect on production (Savaş, 2000, 252-255). This theory believes that reducing tax rates will increase labor supply, investments, and consequently production.

On the other hand, the Keynesian economic approach sees tax revenues as a critical tool in achieving economic growth and development. According to Keynesian theory, public resources obtained from tax revenues can be used to support economic development. In this approach, as per capita national income increases, societal welfare levels rise, leading to an expansion of the tax base and consequently an increase in tax revenues. Wagner's Law comes into play here, suggesting that economic growth and increasing incomes will trigger a greater demand for public services. Governments typically finance these increased public expenditures with tax revenues (Gupta, 2007, p: 4; Sağdıç, 2019, p:157).

While the economic development process has similar effects on tax revenues, sometimes a negative relationship between growth and tax revenues can also be observed. Especially in cases where indirect taxes are high in tax structures, the increase in informal economic activities can lead to a decrease in tax revenues (Chaudhry & Munir, 2010, p: 447; Sağdıç, 2019, p: 159). Such negative effects on tax revenues become more pronounced due to problems like inadequate tax audits, tax evasion, and the informal economy. However, regulations and tax reforms to combat the informal economy can increase tax revenues and thus strengthen the positive effects on economic growth.

To achieve their economic growth targets, states must effectively use tax policies in addition to fiscal policies. One of the important factors affecting public expenditures aimed at increasing economic growth is tax revenues. Tax revenues, the most important

source of financing for public expenditures, can affect economic growth both directly and indirectly. The impact of taxes on economic growth is multifaceted. The direct impact of the tax burden on the labour force affects labour supply and thus production processes. Additionally, changes in indirect taxes can affect consumption levels by influencing individuals' purchasing power. While high tax burdens can increase the effectiveness of public services provided by the state by revealing the income effect of taxes, high direct taxes (income and wealth taxes) can have a deterrent effect on investments. However, the effective use of tax revenues is critical for promoting economic growth and achieving growth targets (Çelikay, 2018, 38-40).

The impact of tax revenues on economic growth is quite complex and reflects a multidimensional relationship. While tax policies are an important policy tool in the growth process, changes in tax rates can lead to different outcomes on growth by affecting economic decisions such as investment, consumption, and savings. Therefore, states should take strategic steps to ensure sustainable economic growth by carefully designing the fiscal and tax policies they pursue.

In addition, the importance of tax revenues in economic development is quite significant because tax revenues are among the most important financial resources that direct the state's economic activities and support sustainable development.

### **1.3. Relationship between FDI and Tax Revenues**

FDI play a critical role in ensuring the economic growth, development, and stability of countries. These investments are typically defined as long-term investments made in a local business or project and come with direct capital, technology, management skills, and other production factors. FDIs not only provide capital flow but also create numerous economic opportunities. These opportunities include employment growth, increased productivity, and enhanced production capacity. However, the relationship between FDI and tax revenues is not merely a one-way interaction. This relationship is a mutual interaction and dynamic process, based on various economic, political, and social factors.

The impact of FDI on a country's economic growth has been extensively researched. FDI are considered a significant factor that increases the economic growth rate and can create positive effects such as capital accumulation, technology transfer, improvement in labor quality, and increased productivity, especially in developing countries. FDI contribute to elevating the general production level of the economy by enhancing local production

capacity. Additionally, investments enable local firms to open up to foreign markets and cope with international competition.

The impact of investments is often visibly seen on economic growth through capital and technology transfer. For example, production processes in sectors with foreign investments become more efficient, workforce skills improve, and local firms become more resilient to international competition. However, the effects of foreign investments on growth can vary depending on the sector, the nature of the investment, and the economic infrastructure of the country. Investments in high-tech sectors generally result in higher productivity, whereas the impact of investments in low-tech sectors on growth may be limited. At this point, it is important to consider not only the quantity but also the quality of FDIs (Alfaro et al., 2004, 89-112).

Tax policies are among the important factors determining the level and structure of FDI in a country. Before making their investments, investors evaluate the tax environment in the target country. Tax policies play an important role in attracting or deterring investors. Many countries offer incentives such as low tax rates, tax exemptions, or advantageous tax rates applied in special economic zones to attract FDIs. Such incentives increase investments by reducing the costs of foreign investors. Moreover, foreign investors consider not only the tax rates but also the transparency, reliability, and enforceability of the tax system in the countries they are considering investing in. In countries with high tax burdens, investors make decisions by considering the potential constraints of the tax rates.

However, low tax rates and incentives may only be attractive in the short term. In the long term, governments need to balance fiscal policies by increasing tax revenues to sustain the economic benefits brought by investments. Increasing tax revenues not only allows for the financing of public expenditures but also enables the state to invest in infrastructure projects that will support economic growth (Auerbach & Hines, 2002, 222-245).

The impact of FDI on tax revenues is not limited to attracting investments to the country. Increasing investments raise production and consumption levels in the economy, thereby expanding the tax base. In this context, the increase in production capacity and the growth in trade volume increase the quantity of taxable goods and services. Consequently, public revenues obtained through taxes also grow. This increase allows the government to

finance public services and at the same time enables the realization of infrastructure projects that will make economic growth sustainable.

In particular, the increase in production in the sector where investments are made increases the revenue obtained from direct taxes (income tax, corporate tax, etc.), while the revenue obtained from indirect taxes (VAT, consumption tax, etc.) also increases. This helps increase the tax revenues contributed by local and foreign businesses and strengthens the state's public finances. Moreover, the increase in tax revenues allows the government to manage the economy more effectively. Public resources obtained with increasing tax revenues support economic development steps such as improving local infrastructures and strengthening social services such as education and health (Feldstein, 1995, 67-92).

Effectively managing tax policies not only increases tax revenues but also plays a significant role in attracting foreign investments to the country. Investors attach great importance not only to tax rates but also to the stability, transparency, and enforceability of the tax system. Uncertainties or fluctuations in the tax system can pose significant risks for foreign investors. Therefore, having sustainable and investment-friendly tax policies increases FDI.

Tax reductions and incentives can be effective in attracting foreign investments in the short term, but in the long term, the transparency and fairness of the tax system is a critical factor in ensuring the sustainability of investments. Additionally, eliminating differences between local and foreign investors and enabling all investors to operate under equal conditions is necessary to attract more investments. Tax policies shape the investment environment not only by regulating tax rates but also by factors such as how the tax burden will be distributed and which sectors will be incentivized. In this context, the investment-enhancing effect of tax policies is highly important for economic growth and development (Savaş, 2000, 252-255).

There is a strong and mutual relationship between FDI and tax revenues. While FDIs are an important component of economic growth, they also help strengthen public finances and ensure economic stability by increasing tax revenues. Foreign investments increase local production capacity while also expanding the tax base, allowing the state to finance public expenditures. Moreover, properly managing tax policies plays an important role in attracting foreign investments to the country and increasing tax revenues. Therefore, the

relationship between FDIs and tax revenues is of great importance not only in terms of economic growth and development but also in terms of fiscal policies.

The relationship between FDI and tax revenues is examined from two main perspectives. Firstly, the positive effects that FDI will have on the tax revenues of the relevant country after the economic growth contribution it will create in the country where the investment is made come to the fore. FDI can positively affect domestic incomes with spillover effects such as bringing new technologies to the country, modernizing production processes, and increasing human capital (skills). In light of these potential benefits, policymakers continually review tax rules and make new regulations if necessary. In addition, tax policies can also encourage direct investments made abroad. Because foreign investments lead to an increase in net domestic income by providing effective access to foreign markets and economies of scale (OECD, 2008, p: 1).

According to views supporting FDI, tax incentives contribute to the more efficient use of public resources and limit rent-seeking activities. Moreover, the revenue losses from tax incentives are compensated by the positive effects of FDI on economic growth and ultimately by increasing the tax base (Boly et al., 2019, p: 1).

From the second perspective, the transfer of a large portion of profits by businesses making foreign direct capital investments to the home (central) country using transfer pricing and other tools in tax legislation negatively affects the tax bases in the country where the investment is made. This naturally leads to a decrease in tax revenues in the country where the investment is made. Developing countries offer fiscal incentives (reductions in tax rates, exemptions, tax holidays, etc.) to attract FDI, provide financial incentives (grants, concessional loans, etc.), and sectoral privileges (e.g., monopoly rights). However, these incentives may weaken tax revenues in developing countries.

Sağdıç et al. (2020) emphasize the importance of evaluations made specifically through the example of the fragile five countries when analyzing the impact of FDI on tax revenues. The study shows that FDI leads to an increase in tax revenues in these countries in relation to economic growth. Despite being financially and politically fragile, the fragile five countries demonstrate that foreign investments are a factor that increases tax revenues. This situation reveals that tax revenues increase in parallel with economic growth and that FDI serves as an important tool in strengthening tax policies.

Additionally, the impact of FDI on economic growth is directly related to tax revenues.

Sağdıç et al. (2020) state that the sectors where investments are concentrated, especially by expanding the tax base, enable the state to obtain more revenue. The positive effect of FDI on tax revenues, especially in developing economies, contributes to the formation of more sustainable fiscal policies by combining with economic growth.

Another important factor related to the effect of FDI is tax competition. Investors typically evaluate tax burdens in different countries with comparative analyses. Especially, the removal of non-tax barriers and the convergence of national economies have led to the tax burden becoming a more important factor in the choice of investment location (OECD, 2008, p: 3). Particularly, corporate tax rates have a decisive effect on FDI flows. Arbatli (2011) and Tang (2012) stated that corporate tax rates negatively affect FDI flows and that high corporate tax rates create a deterrent effect on FDI. Opponents of FDI argue that tax incentives deprive developing countries of the tax resources necessary to finance infrastructure, education, or health investments, and that this has a negative impact on economic growth. Additionally, it is argued that such incentives are not effective in attracting foreign direct capital investments (Boly et al., 2019, p: 1)

### **1.3.1. Advantages and Disadvantages of Tax Revenue for FDI**

Tax revenue plays a significant role in shaping the attractiveness of a country for foreign direct investment. While favourable tax policies can encourage FDI inflows by reducing operational costs, they may also lead to challenges such as reduced public income or tax competition among nations. This section briefly explores how tax revenue considerations can influence the benefits and drawbacks of attracting foreign direct investment.

#### **1.3.1.1. The Positive Effect of FDI on Tax Revenue**

There are several ways in which FDI can have a direct positive impact on tax revenue. Firstly, a direct positive effect is seen when FDI leads to the establishment of a new multinational company (MNC), which becomes a new taxpayer. More taxpayers mean a greater potential for tax payments to the government. Secondly, FDI can boost tax revenue through the transfer of technology, knowledge, and managerial skills from the parent company in the home country to its subsidiary MNC in the host country. This transfer often occurs through training provided to selected suppliers that meet initial qualifications to learn about multinational systems, such as quality control and cost accounting (Blalock & Gertler, 2005, p: 79). As a result, MNCs may become more profitable, thereby increasing tax revenue (MacDougall, 1960, p: 208).

FDI can also have a positive and indirect effect on tax revenue through horizontal spillover effects that lead to economies of scale. The impact of FDI on tax revenue is influenced by the competition and technological spillovers from MNCs that enhance productivity (Nguyen et al. 2014, p: 28). Productivity gains can occur as domestic firms increase output due to technology transfers from MNCs. The competitive environment encourages domestic companies to adopt new technologies and improve efficiency (Demena & Bergeijk, 2019). Domestic firms may observe and emulate the practices of foreign companies to boost productivity. Additionally, the movement of trained labour from MNCs to domestic firms can further enhance productivity. The presence of FDI may also stimulate the growth of domestically-owned companies to support MNC operations, creating a "crowding-in" effect (Borensztein et al., 1998, p: 117). More companies result in more taxpayers, and an increase in domestic firms leads to higher labour demand, reducing unemployment (Zeb et al., 2014, p: 15). Consequently, increased productivity, a higher number of companies, and greater employment contribute to higher tax payments to the government.

FDI can also boost international trade between the host and home countries, enhancing customer-supplier relationships. This growth results from increased imports of intermediate goods from the home country and higher exports of final products from the host country (Safitriani, 2014, p: 98). Consequently, tax revenues from international trade may rise. Additionally, since FDI generally has a positive effect on economic growth and income levels, it can lead to increased aggregate demand, enabling the government to collect more taxes, such as value-added tax, property tax, and other indirect taxes (Mahmood & Chaudhary, 2013, p: 59.)

#### **1.3.1.2.The Negative Effect of FDI on Tax Revenue**

FDI can directly reduce tax revenue in some cases. One reason is that countries may lower their tax rates to attract FDI, potentially decreasing overall tax revenue (MacDougall, 1960, p: 280, Nguyen et al., 2014, p: 28). Additionally, FDI can negatively impact tax revenue if multinational companies (MNCs) engage in "transfer pricing" strategies (Gropp & Kostial, 2000, p: 1). Globalization and varying tax rates across countries create opportunities for MNCs to shift profits to countries with lower tax rates or tax havens, preventing the host country from maximizing tax revenue from FDI.

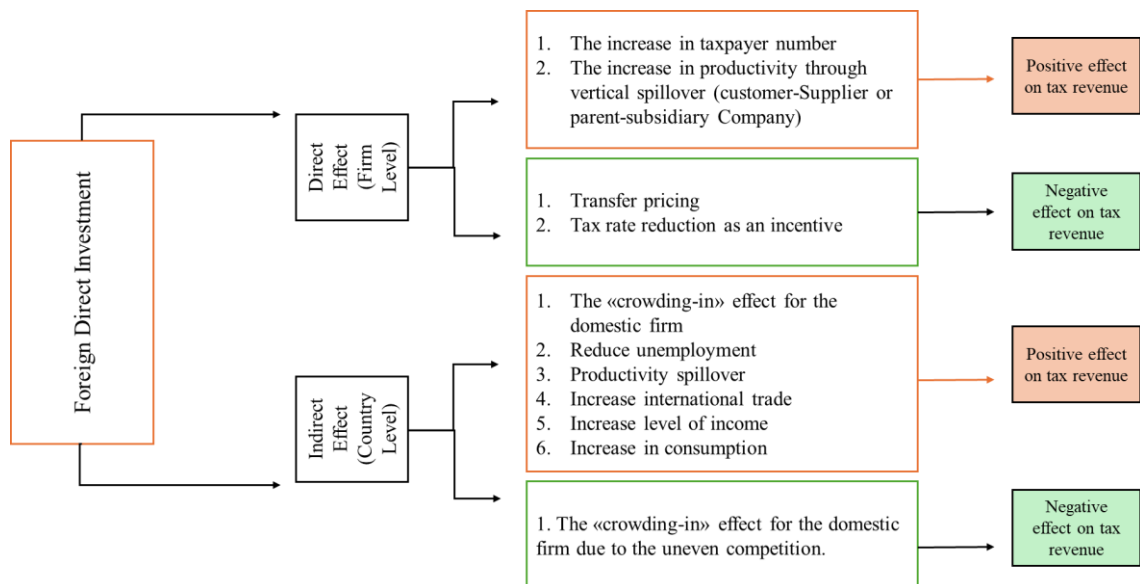
FDI can also indirectly harm tax revenue. Competition between MNCs and domestic

firms can reduce the economic contributions of domestic companies, which often lack the technology, knowledge, and managerial skills of MNCs and are thus less productive. Intellectual property rights further restrict domestic companies' ability to keep up with MNCs' technological advancements, potentially leading to a "crowding-out" effect. This effect can also occur if MNCs recruit talented employees from domestic firms by offering higher salaries, making it difficult for domestic companies to retain skilled workers (Long, 2005, p: 333). The situation worsens if MNCs establish monopolies, hindering domestic firms' ability to compete, and consequently reducing their tax contributions (Nguyen et al., 2014, p: 28).

Ultimately, the overall impact of FDI on tax revenue depends on whether the positive effects outweigh the negative ones. If the positive impacts are greater, FDI could potentially enhance tax revenue from sources such as corporate income tax, value-added tax, property tax, international trade tax, and other taxes related to economic activities. The figure below summarizes all the direct and indirect effects of FDI on tax revenue discussed.

**Figure 2.**

*Summary of the channel on how FDI affect tax revenue*



*Note: Author compilation*

## **2. A GENERAL OVERVIEW ON LITERATURE**

### **2.1. The Impact of FDI on Economic Growth**

The Harrod-Domar model argues that economic growth is directly linked to savings and that increased savings will support growth. Similarly, Solow (1956) explained economic growth with factors such as capital (K) and labor (L) and developed this model further. In this study, Solow agreed that growth increased with investments coming from savings, but questioned whether this could be achieved with capital accumulation balanced by depreciation and population growth. As a result of all these, it was suggested that low savings rates lead to slower economic growth. In this context, it was emphasized that the difference between foreign capital investments and local savings should be taken into consideration in order to achieve the targeted growth rates (Pratomo, 2020).

FDI symbolizes a country's competitiveness in international markets and represents its economic ties with other countries. According to Privara and Kiner (2020), globalization, trade, technology transfers, investment distribution and rapid access of people and information, are increasing the connection between global economies, cultures and political systems and are in an important place in shaping the world. In today's rapidly changing global environment, the capacity to quickly adapt to market changes increases both competitiveness and profitability (Blažkova and Dvouletý, 2018).

Dobrovič et al. (2019) underline that investing in product and process innovations, as well as improving employee competencies and customer satisfaction (Belas et al., 2014), are essential to maintain competitiveness. In this context, it is clear that FDI is an integral part of a country's integration into the global economy. However, Miyagawa and Ohno (2009) argue that the beneficial effects of FDI on national economies are only in the short term. Saksonova (2014) warns that a decrease in investment activity could trigger a negative cycle, reducing industrial production, increasing unemployment, and consequently reducing both disposable income and government revenues.

Rajnoha et al. (2018) discuss strategies by foreign investors to shift their profits to low-tax regions, thereby reducing tax rates and increasing profits. This also causes artificial understatement of business performance. Belas et al. (2012) state that new regulations facilitate this process by increasing capital investments.

Developing countries often view foreign direct investment (FDI) as a solution to

problems such as low investment levels, foreign exchange deficits, and insufficient tax revenues. Therefore, they often offer incentives such as tax benefits to attract FDI. Ginevičius & Šimelytė (2011) state that tax breaks are important in attracting FDI, while Putuntica & Bonaci (2013) confirm that tax incentives have a major impact on investment decisions.

### **2.1.1. The Role of FDI in Eastern Europe Economies and Türkiye**

This chapter aims to establish a comprehensive framework that elucidates the critical relationship between FDI and tax revenues, providing insights into how these investments can be leveraged to enhance fiscal health in Eastern Europe and Türkiye.

Among the priorities for developing countries are increasing investment rates to enhance technological capacities and skills, boosting competitiveness in global markets through exports to ensure sustainable income growth, and creating more employment opportunities to equitably distribute the benefits of economic growth. To achieve these goals, developing countries must enhance their resources and capabilities in a globalized and competitive world economy, which is possible through more effective partnerships. If these countries can develop new, higher value-added activities in a liberalized and globalized environment, they will be more successful in achieving their growth objectives by producing goods and services for open markets. FDI plays a crucial role in complementing the efforts of national firms and countries in this regard (UNCTAD, 1999: xxiv).

Considering the above effects, there is a high probability that there is a direct proportionality in the demand for FDI. In this context, the amounts of FDI in Eastern European countries and Türkiye in the last ten years are given in the tables below.

**Table 3.**

*World Investment, 2022 Foreign Direct Investment Amounts in Eastern Europe Countries and Türkiye <sup>4</sup>*

| <b>Year (Million USD)</b> | <b>Bulgaria</b>               | <b>Croatia</b>              | <b>Czechia</b>    | <b>Estonia</b>         | <b>Hungary</b>   | <b>Latvia</b>     |
|---------------------------|-------------------------------|-----------------------------|-------------------|------------------------|------------------|-------------------|
| <b>2012</b>               | 1,697.19                      | 1,312.13                    | 7,984.11          | 1,564.94               | 14,606.38        | 1,111.41          |
| <b>2013</b>               | 1,837.74                      | 909.83                      | 3,639.13          | 771.06                 | 3,584.74         | 901.79            |
| <b>2014</b>               | 461.58                        | 2,891.21                    | 5,492.00          | 553.29                 | 7,967.55         | 896.74            |
| <b>2015</b>               | 2,217.35                      | 74.06                       | 465.10            | 110.96                 | -14,537.43       | 738.93            |
| <b>2016</b>               | 1,040.26                      | 266.23                      | 9,814.77          | 1,033.29               | -5,438.55        | 254.59            |
| <b>2017</b>               | 1,813.85                      | 529.89                      | 9,521.68          | 1,277.28               | 3,514.89         | 745.59            |
| <b>2018</b>               | 1,142.61                      | 1,199.04                    | 11,010.36         | 1,426.32               | 6,460.33         | 963.66            |
| <b>2019</b>               | 1,835.27                      | 401.48                      | 10,108.41         | 3,082.95               | 4,256.18         | 924.69            |
| <b>2020</b>               | 3,397.08                      | 146.35                      | 9,411.48          | 3,419.34               | 7,046.72         | 1,005.13          |
| <b>2021</b>               | 1,892.45                      | 4,427.42                    | 9,050.64          | -832.00                | 7,558.81         | 3,322.32          |
| <b>2022</b>               | 2,504.88                      | 3,674.59                    | 9,853.13          | 1,205.12               | 8,571.47         | 1,507.97          |
| <b>Total</b>              | <b>19,840.26</b>              | <b>15,832.24</b>            | <b>86,350.82</b>  | <b>13,612.55</b>       | <b>43,591.10</b> | <b>12,372.80</b>  |
| <b>Year (Million USD)</b> | <b>Lithuania</b>              | <b>Poland</b>               | <b>Romania</b>    | <b>Slovakia</b>        | <b>Slovenia</b>  | <b>Albania</b>    |
| <b>2012</b>               | 802.09                        | 12,423.52                   | 3,198.55          | 2,981.69               | 339.33           | 855.44            |
| <b>2013</b>               | 573.89                        | 3,625.46                    | 3,602.36          | -604.25                | -151.22          | 1,265.90          |
| <b>2014</b>               | -133.39                       | 14,268.74                   | 3,215.68          | -512.82                | 1,051.24         | 1,111.43          |
| <b>2015</b>               | 1,055.05                      | 15,270.83                   | 3,840.47          | 106.14                 | 1,675.08         | 945.72            |
| <b>2016</b>               | 302.61                        | 15,690.15                   | 5,000.39          | 805.90                 | 1,245.94         | 1,100.67          |
| <b>2017</b>               | 1,020.79                      | 9,172.34                    | 5,419.47          | 4,016.77               | 897.74           | 1,148.89          |
| <b>2018</b>               | 976.64                        | 15,996.27                   | 6,218.91          | 1,675.08               | 1,384.17         | 1,289.69          |
| <b>2019</b>               | 3,021.64                      | 13,510.17                   | 5,791.04          | 2,510.64               | 1,462.91         | 1,287.97          |
| <b>2020</b>               | 3,518.33                      | 15,195.44                   | 3,432.30          | -2,403.54              | 220.00           | 1,108.16          |
| <b>2021</b>               | 2,864.57                      | 29,580.08                   | 10,573.70         | 58.71                  | 1,773.30         | 1,233.92          |
| <b>2022</b>               | 2,157.88                      | 29,461.90                   | 11,272.95         | 2,905.43               | 1,622.03         | 1,434.13          |
| <b>Total</b>              | <b>16,160.09</b>              | <b>174,194.89</b>           | <b>61,565.83</b>  | <b>11,539.75</b>       | <b>11,520.53</b> | <b>12,781.92</b>  |
| <b>Year (Million USD)</b> | <b>Bosnia and Herzegovina</b> | <b>Moldova, Republic of</b> | <b>Montenegro</b> | <b>North Macedonia</b> | <b>Serbia</b>    | <b>Türkiye</b>    |
| <b>2012</b>               | 394.87                        | 241.44                      | 619.75            | 142.90                 | 1,298.57         | 13,745.00         |
| <b>2013</b>               | 276.36                        | 233.21                      | 447.47            | 334.96                 | 2,053.10         | 13,461.00         |
| <b>2014</b>               | 550.20                        | 341.69                      | 497.66            | 272.53                 | 1,998.80         | 12,969.00         |
| <b>2015</b>               | 361.14                        | 237.30                      | 699.37            | 240.45                 | 2,347.56         | 18,976.00         |
| <b>2016</b>               | 349.76                        | 83.23                       | 226.41            | 374.60                 | 2,352.02         | 13,651.00         |
| <b>2017</b>               | 491.89                        | 151.59                      | 558.57            | 205.30                 | 2,878.29         | 11,113.00         |
| <b>2018</b>               | 581.38                        | 296.99                      | 489.81            | 725.20                 | 4,090.51         | 12,511.00         |
| <b>2019</b>               | 457.51                        | 508.62                      | 416.45            | 446.40                 | 4,269.81         | 9,543.00          |
| <b>2020</b>               | 429.05                        | 150.12                      | 532.28            | 230.06                 | 3,468.53         | 7,686.00          |
| <b>2021</b>               | 587.32                        | 410.05                      | 698.92            | 556.49                 | 4,589.58         | 11,840.00         |
| <b>2022</b>               | 661.37                        | 587.30                      | 876.75            | 793.80                 | 4,645.92         | 12,881.00         |
| <b>Total</b>              | <b>5,140.85</b>               | <b>3,241.54</b>             | <b>6,063.44</b>   | <b>4,322.71</b>        | <b>33,992.67</b> | <b>138,376.00</b> |

As can be seen from the table above, the amounts in question have continued to increase in the last decade in Eastern European countries and Türkiye, which receive direct foreign investment. Among these countries, the most investment was made in Poland and then in Türkiye.

<sup>4</sup> Source, UNCTAD, <https://unctadstat.unctad.org/datacentre/dataviewer/US.FdiFlowsStock>

## **2.2. The Impact of Tax Policies on FDI**

Foreign direct investment (FDI) plays a vital role in increasing a country's competitiveness in the global market and strengthening its economic interaction with other countries. According to Privara and Kiner (2020), globalization has become an important indicator of power in the modern world. This process connects global economies, cultures, and political systems through trade, technology, investment flows, and the exchange of people and information. In this rapidly changing global environment, the ability to quickly adapt to market conditions is critical for businesses, which increases competitiveness and profitability (Blažkova & Dvoutělý, 2018).

Developing countries view foreign direct investment as a means to alleviate economic challenges such as low investment rates, foreign exchange deficits, and inadequate tax revenues. Therefore, they often offer tax incentives to attract such investments. While Ginevičius and Šimelytė (2011) emphasize that tax reductions are a decisive factor in attracting FDI, Putuntica and Bonaci (2013) also indicate that tax incentives have a significant impact on investment decisions. In this context, strategic design of tax policies can play a key role in making countries attractive for foreign investments. Recently, with the internationalization of developed economies turning into foreign direct investment, more companies have started to make a move in international trade. This increase in trade and the liberalization of international economic relations have increased the tendency towards trade and investment dynamics. In the field of tax law, both scientific studies (Abela et al., 2009; Blouin et al., 2014) and practical taxation show that efforts to attract foreign direct investment directly affect the provisions of tax law.

Research conducted within the scope of tax and accounting regulations indicates that financial accounting should be evaluated differently from tax law in order to attract direct foreign investment; because the harmonization efforts of these two areas negatively affect financial statements, prevent capital movement and investment, and reduce tax revenues (Abela et al., 2009; Blouin et al., 2014). Corporate tax laws generally affect investors differently and affect financial accounting regulations by disrupting capital distribution.

An OECD review analysing EU tax regulations confirms that appropriate tax policy can encourage foreign direct investment in the EU (OECD, 2012). It recommends creating tax rules that encourage equity investment over debt financing. Blouin et al. (2014) and Dukic (2011) argue that countries are aware that higher corporate debt financing generally

increases tax benefits and that this approach should be taken into consideration.

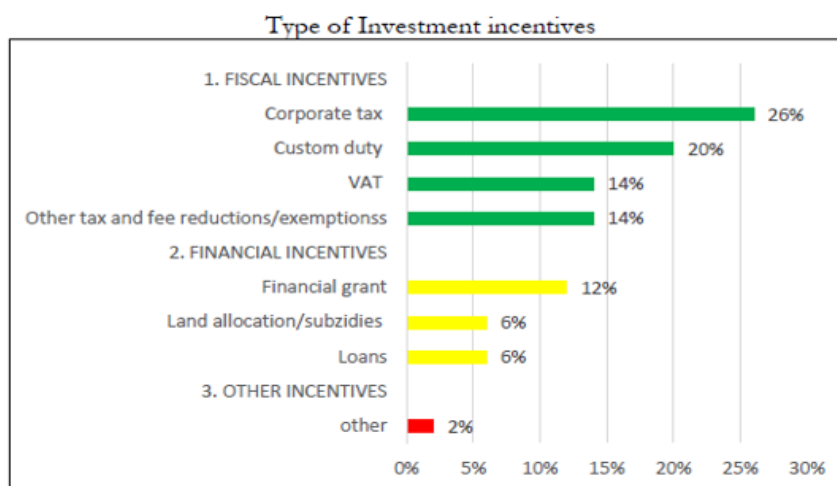
EU tax legislation, including Council Directive 90/435/EEC, aims to create a tax policy environment that encourages foreign direct investment. For example, dividends paid by an EU company to a foreign entity that holds a certain percentage of voting shares for a certain period of time are generally exempt from withholding tax. In addition, corporate tax laws in EU member states provide incentives to attract foreign direct investment, such as exemptions on capital gains under certain conditions and incentives for research and development projects, thus demonstrating a direct impact on the tax regulation of foreign direct investment.

### 2.2.1. Tax Incentives and International Competition

Many countries recognize that foreign direct investment (FDI) can have positive effects on their economies. Therefore, they compete in the international arena to attract FDI by offering various incentives (Te Velde, 2006). In general, foreign investors prefer to invest in countries with a large market potential, high income levels, a skilled workforce, reliable infrastructure, supportive trade policies, and macroeconomic and political stability (Blomstrom, 1991). However, when investors choose between countries with similar economic and political characteristics, the incentives offered are of critical importance. These incentives can be one of the determining factors affecting investment decisions and thus increase the competitive advantage of the country. Therefore, strategically designed incentive policies of countries serve as an important tool in attracting foreign investments.

**Figure 3.**

*Type of Investment Incentives<sup>5</sup>*



<sup>5</sup> UNCTAD 2018, p:151

In general, investment incentives can be divided into three main categories. The first category is fiscal incentives, which include reducing the taxes that investors are obliged to pay to the government. Fiscal incentives include practices such as tax holidays, tax cuts, import tariff exemptions, and various tax exemptions. According to a study conducted by UNCTAD in 50 countries, fiscal incentives represent the largest segment, accounting for 74% of all incentives (UNCTAD, 2018, p: 151).

The second category is fiscal incentives, which include direct financial support from the government to investors. Such incentives include practices such as loans or grants offered to foreign investors under certain conditions. According to the findings of the study, fiscal incentives constitute 24% of the total incentives.

The third category covers other incentives beyond fiscal and financial incentives. These incentives include options such as monopoly rights, privileges, and regulations on free trade zones (UNCTAD, 1996, p: 180). According to the research, these other incentives constitute 2% of the total incentives. This distribution shows that investment incentives are largely concentrated on financial facilities.

### **2.2.2. The Risk of FDI Leading to Tax Loss (Transfer Pricing and Tax Evasion)**

Transfer pricing is a system that helps determine the correct prices for goods and services exchanged between related companies. When independent companies trade with each other, prices are usually determined according to market conditions. However, these prices may not be directly affected by market conditions among related companies (companies that are part of the same group). Therefore, these companies usually try to imitate market prices. (OECD Transfer Pricing Guideline, 2022)

Tax authorities should not assume that related companies manipulate their profits. Because determining market prices can sometimes be complex or certain commercial strategies can be implemented. Therefore, some adjustments can be made to check whether the prices are fair.

Transfer pricing affects the distribution of income between companies but does not change the total income. The distribution of income should be made by taking into account the functions and risks undertaken by the companies. For example, even if the price of sales made by a manufacturing company to a distribution company changes, the total profitability of the group is generally not affected.

Transfer pricing rules are based on international guidelines, especially the OECD guide. In Türkiye, these rules are regulated by the Corporate Tax Law No. 5520. These regulations require related party transactions to comply with fair market prices.

Companies must prepare documentation to show that they have conducted related party transactions at the correct prices. These documents help companies defend themselves in tax audits and ensure that transfer pricing policies are properly implemented.

In recent years, there has been a demand for greater transparency internationally. For this reason, many countries have begun to request more comprehensive transfer pricing documentation. In Türkiye, these requirements were enacted with Presidential Decree No. 2151. These regulations attempt to prevent transactions between companies from causing tax losses between countries.

## **CHAPTER TWO**

### **3. Empirical Analysis: Panel Granger Causality Between FDI and Tax Revenue**

#### **3.1. Data and Sample Selection**

##### **3.1.1. Data**

The dataset employed in this study comprises annual panel data covering 19 Eastern European countries and Türkiye over the period from 2005 to 2022. The dependent variable is tax revenue as a percentage of GDP, which serves as a key indicator of fiscal capacity. The main independent variable is foreign direct investment (FDI) inflows, also measured as a percentage of GDP, reflecting the scale of external capital entering each economy. To ensure robustness, several control variables are included: GDP growth rate (to capture overall economic performance), inflation rate (to account for macroeconomic stability), and trade openness (as a measure of integration into global markets). All data were obtained from reliable international sources, including the World Bank, the International Monetary Fund (IMF), and the United Nations Conference on Trade and Development (UNCTAD).

Economic conditions are among the comparability factors described in the Transfer Pricing Guideline published by the Organisation for Economic Co-operation and Development (“OECD”) and Turkish Transfer Pricing Legislation. In this regard, it is important to assess the economic conditions in the markets in which the MNE’s operate. Accordingly, this section aims at finding similarities of Eastern Europe countries and Türkiye in terms of their economic conditions.

While choosing the countries from a range of 195 countries worldwide, the main resources used were the World Bank database, IMF Fiscal Monitor Database and OECD database. The IMF, being an organization of 190 countries, covers 115 countries in Fiscal Monitor database, as given on the October 2022 World Economic Outlook (FiscalMonitor, 2022).

The primary focus was to narrow down the range of countries by selecting from the group of Eastern European countries' economies, as indicated in the IMF economic classification, due to Türkiye's alignment with the economic and geographic conditions of Eastern European countries.

The methodology to understand the similarities of Eastern Europe Countries and Türkiye is as follows:

- I. **Bulk Rejection:** Financial data of 115 countries were obtained from the International Monetary Fund's "World Economic Outlook Database", and we intentionally selected Eastern Europe countries on the IMF Fiscal Monitor Report, due to Türkiye's alignment with the economic and geographic conditions of Eastern European countries. Therefore, in this study, the subgroup of countries mainly consists of eastern Europe countries, having the common economic characteristics which will be explained further below.
- II. **Filtering of Eastern Europe Countries:** The countries are selected from the list of IMF Economic Groups, which include Türkiye and 20 other emerging markets from Eastern Europe.
- III. After extracting the subgroup of countries, economic indicators are chosen from the World Economic Outlook database covering the years 2018-2022. The data used for economic comparability are:
  - a. annual GDP Growth (% change),
  - b. gross national savings (% of GDP),
  - c. general government structural balance (% of potential GDP),
  - d. inflation rates (annual %) and
  - e. central bank policy interest rates.

These indicators were chosen to describe the characteristics of Eastern Europe markets and evaluate economic comparability. The grounds behind determining these indicators are explained in detail in the related sections below.

### **3.1.2. Selection of Sample**

The analysis was initiated by obtaining a master list of global economic data from the World Economic Outlook yielding 115 countries. Followingly, a list of differentiating economic factors were researched for bulk rejection purposes. One single group can classify countries geographically and economically, and the Eastern Europe markets belong to this classification. Türkiye and Eastern European countries align in both geographical and economic dimensions, exhibiting congruent features within the IMF's

analytical framework. Geopolitically, Türkiye and Eastern European nations share a strategic positioning, serving as crossroads between continents, a factor recognized in IMF assessments of regional significance. Economically, these entities have undergone transitions from centrally planned to market-oriented economies, reflecting IMF categorizations and analyses. Moreover, their economic structures display resemblances across sectors, encompassing agriculture, manufacturing, and a growing service sector, reflecting a convergence consistent with IMF-defined developmental patterns. The shared geographical positioning and economic transformations underscore the interconnectedness and common developmental trajectories observed within the IMF framework across Türkiye and Eastern European countries. Besides, the major transition in Eastern European countries is from transition-specific commitments to institutional commitments. In order to assess the quantitative change in these commitments, annual GDP growth, gross national savings, general government structural balance, inflation rate and central bank policy interest rates are examined.

As a result, the following countries are Eastern Europe countries, which are similar to Türkiye in terms of geography and economics.

“Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Kosovo, Latvia, Lithuania, Moldova, Republic of (MD), Montenegro, North Macedonia, Poland, Romania, Serbia, Slovakia, Slovenia”

IMF uses the Fiscal Monitor (IMF, Fiscal Monitor) tool for an economic classification. This tool surveys and analyzes the latest public finance developments and updates fiscal implications of the crises and medium-term fiscal projections and assesses policies to put public finances on a sustainable footing. Therefore, in order to take the fiscal and political implications into account, the IMF classification is chosen, combining both qualitative and quantitative characteristics of economies. Besides, the World Bank range for the classification of middle-income groups is larger and encompasses the advanced economies as well.

Although inequalities and income distribution are important, those parameters are not considered because they imply welfare factors such as education, accessibility of health system, transportation, etc. rather than purchasing power.

Additionally, given that World Bank and IMF classification of economic groups depends on output level, it is rationally expected that the growth patterns of the countries that are

belonging to the same economic groups would be similar. Therefore, taking annual GDP growth averages would build the benchmark analysis on a solid ground.

### **3.1.3. Time Period**

A 5-year frequency is used in this analysis as, in Eastern Europe countries' markets, most of the transactions, borrowings and lendings' duration are short term periods, which last less than a year (IMF, 2004, p: 18). Countries that depend heavily on short-term borrowing face a greater risk of abrupt capital outflows and liquidity crises. By the nature of Eastern Europe countries' markets, the borrowings are made for short term because they cannot be convenient for long term funding. Additionally, weak predictability for the later terms directs the emerging markets to short term borrowings. In order to eliminate the effect of those short-term crises and economic shocks, the data retrieved from the IMF and World Bank Database covers the last 5 years in this analysis (i.e. the period between 2018-2022) (IMF, 2004:p: 1) except for inflation data.

The time range considered for the inflation rate is rather longer (15 years) due to the short-term volatility of inflation rates in emerging markets and specifically in Türkiye. As Türkiye displays a rather unique inflationary pattern in last 3 years due to the unusual monetary policy, the data analyzed for inflation rate was limited a 15- year period between 2008-2022 for the comparable countries.

### **3.1.4. Elimination of Countries due to Missing Data**

For the purpose of this research, as no reliable data is found for Belarus and Russian Federation in World Economic Outlook Database for the chosen years of 2018-2022. Thus, this country is excluded from the research and 18 countries were further analyzed.

### **3.1.5. Indicator based Elimination**

#### **3.1.5.1. GDP Growth (% change)**

Real economic growth is a useful tool to measure how much a country's economy has grown in real terms compared to past years. Also, real economic growth rate allows the comparison of the real growth of economies in countries that have different inflation rates.

GDP Growth should be analyzed together with other economic indicators in order to determine the strength of an economy. In general terms, real economic growth is a positive indicator helping create employment and higher production within an economy.

Economies that have similar characteristics are expected to have similar real GDP growth rates.

Therefore, the differences between the Eastern Europe countries' markets depending on their population and currencies are eliminated under this parameter.

The GDP per capita data on the list of Eastern Europe countries with available data from World Bank database for the 2018-2022 period is as follows.

**Table 4**

*GDP Growth (Annual % change, 2018-2022)<sup>6</sup>*

| No. | Country                   | 2018 | 2019 | 2020   | 2021  | 2022  | Averages |
|-----|---------------------------|------|------|--------|-------|-------|----------|
| 1   | Albania                   | 4.02 | 2.09 | -3.30  | 8.91  | 4.84  | 3.31     |
| 2   | Bosnia and Herzegovina    | 3.83 | 2.89 | -3.02  | 7.39  | 3.90  | 3.00     |
| 3   | Bulgaria                  | 2.68 | 4.04 | -3.96  | 7.63  | 3.36  | 2.75     |
| 4   | Croatia                   | 2.80 | 3.42 | -8.58  | 13.07 | 6.33  | 3.41     |
| 5   | Czech Republic            | 3.22 | 3.03 | -5.50  | 3.55  | 2.46  | 1.35     |
| 6   | Estonia                   | 3.78 | 3.74 | -0.55  | 8.01  | -1.29 | 2.74     |
| 7   | Hungary                   | 5.36 | 4.86 | -4.54  | 7.20  | 4.58  | 3.49     |
| 8   | Kosovo                    | 3.41 | 4.76 | -5.34  | 10.75 | 3.51  | 3.42     |
| 9   | Latvia                    | 3.99 | 2.57 | -2.20  | 4.06  | 1.98  | 2.08     |
| 10  | Lithuania                 | 3.99 | 4.63 | -0.02  | 5.98  | 1.89  | 3.29     |
| 11  | Moldova, Republic of (MD) | 4.08 | 3.55 | -8.28  | 13.93 | -5.95 | 1.47     |
| 12  | Montenegro                | 5.08 | 4.06 | -15.31 | 13.04 | 6.09  | 2.59     |
| 13  | North Macedonia           | 2.88 | 3.91 | -6.11  | 5.51  | 2.15  | 1.67     |
| 14  | Poland                    | 5.95 | 4.45 | -2.02  | 6.85  | 4.87  | 4.02     |
| 15  | Romania                   | 6.03 | 3.85 | -3.68  | 5.79  | 4.79  | 3.36     |
| 16  | Serbia                    | 4.50 | 4.33 | -0.90  | 7.55  | 2.25  | 3.54     |
| 17  | Slovakia                  | 4.03 | 2.51 | -3.34  | 4.86  | 1.67  | 1.95     |
| 18  | Slovenia                  | 4.45 | 3.45 | -4.32  | 8.21  | 5.37  | 3.43     |

**Table 5**

*Annual GDP Growth (%) Türkiye<sup>7</sup>*

|         | 2018 | 2019 | 2020 | 2021  | 2022 | Average |
|---------|------|------|------|-------|------|---------|
| Türkiye | 2.98 | 0.78 | 1.94 | 11.35 | 5.57 | 4.52    |

Note: The calculations in question were made by the author, taking into account the data in the table above .

According to the comparison above, Türkiye lies slightly above the observed range of the given dataset between the years 2018 and 2022. Belarus and Russian Federation is eliminated from the list due to lack of data, therefore the remaining

<sup>6</sup> Source; world bank data base, <https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG>

<sup>7</sup> Source: world bank - <https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=TR>

dataset consists of 18 countries excluding Türkiye. According to the observed set, the examined countries are comparable to Türkiye. The statistical range is shown in the table below.

**Table 6**

*Annual GDP Growth (%) Comparable Set*

| # of observations | Min  | Low Q | Median | Türkiye | Up Q | Max  |
|-------------------|------|-------|--------|---------|------|------|
| 18                | 1.35 | 2.21  | 3.15   | 4.52    | 3.41 | 4.02 |

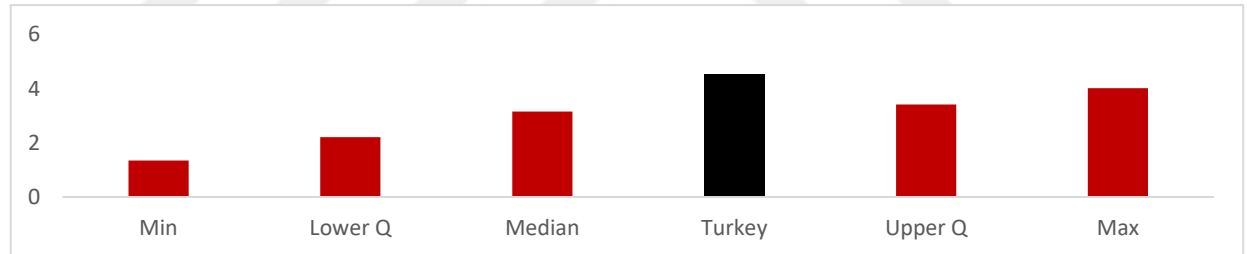
Note: The calculations in question were made by the author, taking into account the data in the table above.

As it can be seen from the table above, Türkiye's average annual GDP Growth percentage lies within the observed range of the given dataset. Therefore, from the implication of the first economic indicator, annual GDP growth, the set is comparable for Türkiye.

For a visual examination, the statistical range for percentage Annual GDP Growth is shown in the chart below.

**Figure 4.**

*Annual GDP Growth (%)*



Note: The drawings in question were made by the author, taking into account the data in the table above.

### 3.1.5.2. Gross National Savings

In the IMF database, Gross National Savings as % of GDP is expressed as “the ratio of gross national savings in current local currency and GDP in current local currency”. Gross national saving is what remains from a country's total disposable income after subtracting spending on final consumption, and making an adjustment for pension funds [SNA 1993]. In many countries, national saving is calculated using data on domestic investment from national accounts and net foreign investment from the balance of payments.

Gross National Savings show the inclination of a given economy to defer consumption and save its income for investments. Consequently, it is expected that markets with similar characteristics should experience similar gross national savings ratios.

**Table 8***Gross National Savings (% GDP, 2018-2022)<sup>8</sup>*

| No. | Country                   | 2018  | 2019  | 2020  | 2021  | 2022  | Averages |
|-----|---------------------------|-------|-------|-------|-------|-------|----------|
| 1   | Albania                   | 16.55 | 14.40 | 13.41 | 17.15 | 18.44 | 15.99    |
| 2   | Bosnia and Herzegovina    | 18.22 | 20.14 | 17.86 | 21.87 | 22.83 | 20.19    |
| 3   | Bulgaria                  | 23.72 | 24.29 | 20.43 | 21.32 | 20.02 | 21.96    |
| 4   | Croatia                   | 24.92 | 25.72 | 23.62 | 24.84 | 25.82 | 24.99    |
| 5   | Czech Republic            | 26.95 | 26.95 | 27.42 | 28.60 | 28.07 | 27.60    |
| 6   | Estonia                   | 28.90 | 28.65 | 28.48 | 30.59 | 29.02 | 29.13    |
| 7   | Hungary                   | 26.74 | 27.48 | 26.27 | 26.77 | 25.92 | 26.64    |
| 8   | Kosovo                    | 28.64 | 28.88 | 26.58 | 27.22 | 24.46 | 27.16    |
| 9   | Latvia                    | 22.97 | 22.41 | 24.56 | 21.75 | 19.33 | 22.20    |
| 10  | Lithuania                 | 20.64 | 21.25 | 21.21 | 20.81 | 21.63 | 21.11    |
| 11  | Moldova, Republic of (MD) | 15.88 | 15.54 | 16.12 | 14.43 | 9.46  | 14.28    |
| 12  | Montenegro                | 14.90 | 17.69 | 5.23  | 17.43 | 16.02 | 14.25    |
| 13  | North Macedonia           | 32.72 | 31.83 | 27.11 | 29.15 | 28.95 | 29.95    |
| 14  | Poland                    | 19.52 | 20.26 | 21.16 | 20.10 | 20.25 | 20.26    |
| 15  | Romania                   | 18.74 | 19.42 | 19.61 | 18.32 | 18.78 | 18.97    |
| 16  | Serbia                    | 18.68 | 18.28 | 20.60 | 21.61 | 20.84 | 20.00    |
| 17  | Slovakia                  | 22.46 | 20.55 | 19.54 | 18.12 | 15.45 | 19.22    |
| 18  | Slovenia                  | 27.32 | 26.57 | 27.47 | 25.68 | 23.39 | 26.09    |

As shown in the table above, Belarus and Russian Federation is eliminated from the list of countries due to lack of reliable data. The following table shows the results of this indicator for Türkiye:

**Table 9***Gross National Savings Results for Türkiye (% GDP, 2018-2022)<sup>9</sup>*

|                | 2016  | 2017  | 2018  | 2019  | 2020  | Average |
|----------------|-------|-------|-------|-------|-------|---------|
| <b>Türkiye</b> | 27.80 | 26.15 | 26.90 | 30.46 | 29.36 | 28.14   |

Note: The calculations in question were made by the author, taking into account the data in the table above.

Türkiye has realized an average GNS of 28% of its GDP for the analyzed period. The statistical range for the comparable set is shown in the table below:

<sup>8</sup> Source: IMF - [https://prosperitydata360.worldbank.org/en/indicator/IMF+WEO+NGSD\\_NGDP](https://prosperitydata360.worldbank.org/en/indicator/IMF+WEO+NGSD_NGDP)

<sup>9</sup> Source: IMF, [https://prosperitydata360.worldbank.org/en/indicator/IMF+WEO+NGSD\\_NGDP](https://prosperitydata360.worldbank.org/en/indicator/IMF+WEO+NGSD_NGDP)

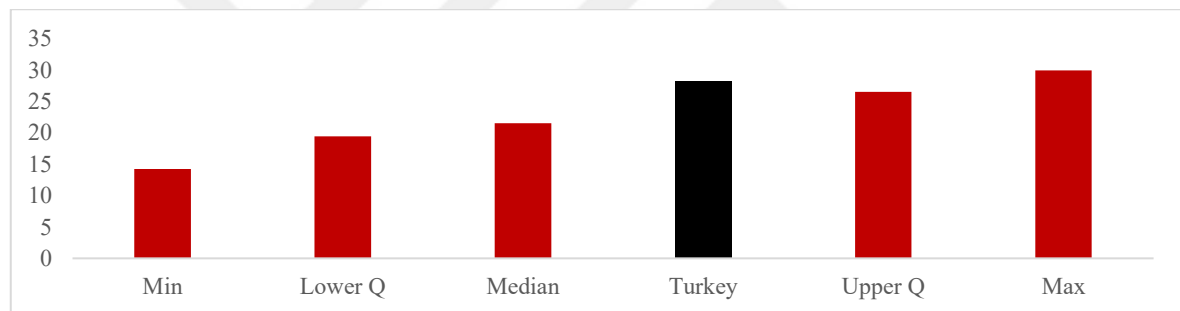
**Table 10**

Gross National Savings Comparable Set (% GDP, 2018-2022)

| #of<br>observati<br>ons | Min   | Lower<br>Q | Median | Türkiye | Upper<br>Q | Max   |
|-------------------------|-------|------------|--------|---------|------------|-------|
| 18                      | 14.25 | 19.42      | 21.54  | 28.15   | 26.50      | 29.95 |

Note: The calculations in question were made by the author, taking into account the data in the table above.

As shown in the table above, Türkiye lies within the observed range of this dataset. As such, the 18 countries shown in the tables above remain comparable to Türkiye. For visualization purposes, the statistical range of the given set and Türkiye's position is shown in the figure below:

**Figure 5***Gross National Savings (% of GDP, 2016-2020)*

Note: The drawings in question were made by the author, taking into account the data in the table above.

### 3.1.5.3. General Government Structural Balance

As defined by OECD, the structural or underlying fiscal balance shows the difference between what the government earns and spends, after removing the effects of temporary events and changes caused by the ups and downs of the economy. This measure helps us understand whether a country's fiscal policy is helping the economy grow, keeping it stable, or slowing it down. That's important because government income and spending often change depending on how the economy is doing. (OECD, 2015).

In the IMF database, the structural budget balance refers to the general government cyclically adjusted balance adjusted for non-structural elements beyond the economic cycle. These include temporary financial sector and asset price movements as well as one-off, or temporary, revenue or expenditure items.

General government structural balance is an indicator of medium-term orientation of

fiscal policy, which can be used as an indicator of the strength of a given economy.

**Table 11**

*General Government Structural Balance (% of Potential GDP)<sup>10</sup>*

|    |                           |       |       |       |       |       |       |
|----|---------------------------|-------|-------|-------|-------|-------|-------|
| 1  | Albania                   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
| 2  | Bosnia and Herzegovina    | 1.06  | 0.60  | -2.76 | 0.39  | 0.25  | -0.09 |
| 3  | Bulgaria                  | 0.09  | 0.79  | -1.68 | -2.87 | -3.27 | -1.39 |
| 4  | Croatia                   | 1.25  | -0.56 | -5.13 | -2.79 | -3.37 | -2.12 |
| 5  | Czech Republic            | 0.21  | -0.79 | -5.51 | -6.29 | -4.33 | -3.34 |
| 6  | Estonia                   | -0.99 | -0.27 | -5.42 | -4.01 | -2.92 | -2.72 |
| 7  | Hungary                   | -3.06 | -3.42 | -7.33 | -6.14 | -5.96 | -5.18 |
| 8  | Kosovo                    | -3.01 | -3.65 | -5.96 | -1.40 | -0.81 | -2.97 |
| 9  | Latvia                    | -1.53 | -1.51 | -3.12 | -6.55 | -6.06 | -3.75 |
| 10 | Lithuania                 | 0.49  | 0.32  | -6.59 | -1.21 | -2.07 | -1.81 |
| 11 | Moldova, Republic of (MD) | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
| 12 | Montenegro                | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
| 13 | North Macedonia           | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
| 14 | Poland                    | -1.17 | -1.40 | -6.62 | -3.09 | -4.19 | -3.29 |
| 15 | Romania                   | -3.94 | -5.48 | -5.29 | -7.60 | -5.84 | -5.63 |
| 16 | Serbia                    | 0.72  | -0.51 | -5.92 | -4.29 | -2.59 | -2.52 |
| 17 | Slovakia                  | -1.65 | -1.76 | -1.81 | -1.70 | -2.16 | -1.81 |
| 18 | Slovenia                  | 0.29  | -0.19 | -6.50 | -5.99 | -3.90 | -3.26 |

With the indicator in consideration, 2 countries are eliminated from list of the potential comparables of Türkiye, which are Belarus and Russian Federation, due to lack of reliable data. The following table shows the results of this indicator for Türkiye:

**Table 12**

*General Government Structural Balance (% of Potential GDP) for Türkiye<sup>11</sup>*

|                | 2018  | 2019  | 2020  | 2021  | 2022  | Average |
|----------------|-------|-------|-------|-------|-------|---------|
| <b>Türkiye</b> | -5.33 | -6.14 | -4.99 | -5.14 | -5.88 | -5.50   |

Note: The calculations in question were made by the author, taking into account the data in the table above.

As can be seen from the table above, Türkiye's average general government structural balance as a % of potential GDP for 2018-2022 is -5.50 %. The table below shows the statistical range for General Government Structural Balance:

**Table 13**

*General Government Structural Balance Comparable Set (% of Potential GDP)*

| # of observations | Min   | Lower Q | Türkiye | Median | Upper Q | Max   |
|-------------------|-------|---------|---------|--------|---------|-------|
| 18                | -5.63 | -3.33   | -5.50   | -2.84  | -1.89   | -0.09 |

<sup>10</sup> Source, IMF, [https://prosperitydata360.worldbank.org/en/indicator/IMF+WEO+GGSB\\_NPGDP](https://prosperitydata360.worldbank.org/en/indicator/IMF+WEO+GGSB_NPGDP)

<sup>11</sup> Source, IMF, [https://prosperitydata360.worldbank.org/en/indicator/IMF+WEO+GGSB\\_NPGDP](https://prosperitydata360.worldbank.org/en/indicator/IMF+WEO+GGSB_NPGDP)

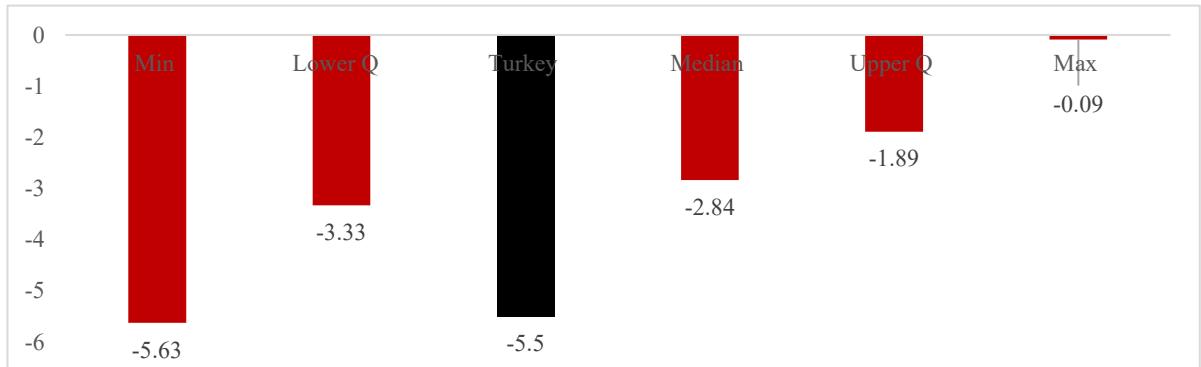
Note: The calculations in question were made by the author, taking into account the data in the table above.

Given that Türkiye's structural balance as a % of potential GDP falls within the observed range of the comparable set, it can be concluded that these countries in the list are comparable to Türkiye in terms of structural balance.

The statistical range for the General Government Structural Balance is shown in the figure below for visual representation.

**Figure 6**

*General Government Structural Balance (% of Potential GDP)*



Note: The drawings in question were made by the author, taking into account the data in the table above.

#### **3.1.5.4. Inflation Rates**

The Consumer Price Index (CPI) shows how the prices of goods and services that households buy change over time. These price changes affect how much people can actually buy with their income, which also affects their well-being. Since not all prices go up or down at the same speed, the CPI gives an average change in prices. The index usually starts at 1 or 100 in a chosen starting period. The CPI values for later times show how much prices have changed, in percentage terms, compared to that starting period. When we talk about yearly CPI at the end of the year, we mean how much prices have changed compared to the same time the year before.

Since inflation is an indicator of the level of increase in the prices of goods and services, it is also an indicator of the decrease in purchasing power of the currency. Inflation rates have a direct effect on the monetary policy of a given country, and uncontrolled increases or decreases in inflation can damage the health of an economy.

For inflation displays the volatility and it is a factor of change itself, the patterns in each country although they belong to the same economic groupings might differ. Accordingly, Türkiye displays a rather unique inflationary pattern in last 3 years due to the monetary

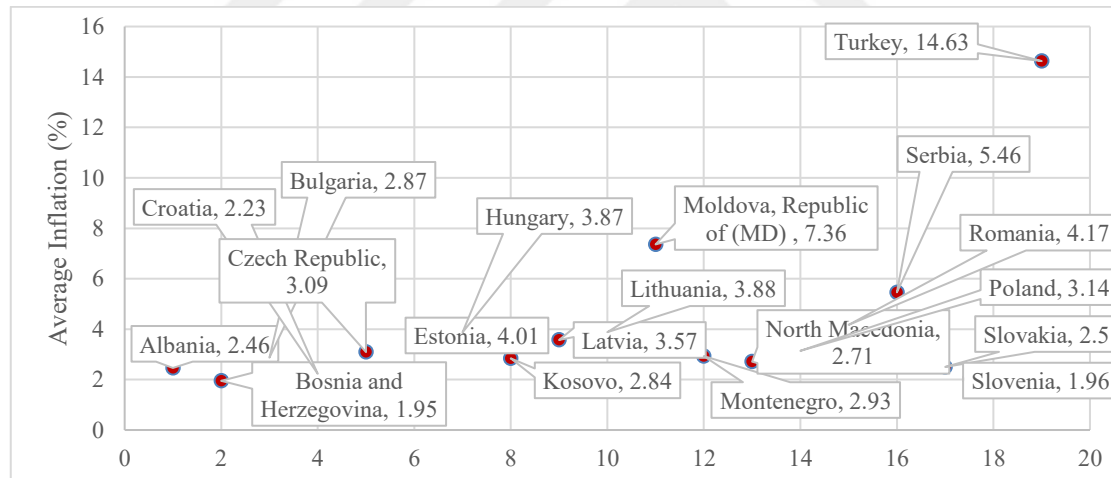
policy. In 2002 the inflation targeting was implicit, while after 2006 the monetary policy was based on explicit inflation targeting. Inflation in Türkiye increased exceptionally during last 3 years due to the devaluation of Turkish Lira because of many external factors and the CBRT objectives. Accordingly, it was determined that a 15-year timespan, rather than a 5-year timespan would yield more accurate results, as inflation rates are harder to characterize within a limited range of time. Therefore, the data retrieved for inflation rate covers a 15- year period between 2003-2017 for the chosen countries for consistency.

As an example, 2018 in particular yielded an annual inflation rate (CPI) as high as %20.3 in Türkiye, which exceeded the %20 level of the last 16 years.

In order to present a visual representation of where Türkiye's volatile inflation rate stands in comparison to countries in the comparable set, the comparable sample is displayed in the scatterplot figure below.

**Figure 7**

*Scatterplot for Inflation Rates, (Average %, 2005-2019)<sup>12</sup>*



As shown in the scatterplot diagram above, Türkiye's average inflation levels for the analyzed period is in the same band as the average of other comparable countries.

### 3.1.5.5. Central Bank Policy Interest Rates

The Central Bank Policy Rate ("CBPR") is a monetary policy instrument to regulate the availability, cost and use of money and credit, allowing a central bank to implement or signal its monetary policy stance. It is most commonly set by the central banks' policy making committees and the underlying financial instrument of the CBPR varies country

<sup>12</sup> Source:IMF, <https://www.imf.org/external/datamapper/PCPIPCH@WEO/WEOWORLD/VEN>

by country.

The CBPR determines the levels of the rest of the interest rates in an economy. Most importantly and relevant to benchmarking studies, the private agents and mostly private banks obtain money from the central bank at the price of the policy interest rate. As an economic indicator, a rise in the CBPR is commonly used to curb inflation, currency depreciation, excessive credit growth or capital outflows. On the other hand, by cutting the interest rates, central banks seek to boost economic activity by encouraging credit expansion.

For the recent years, the policy rates in Türkiye are different than average funding cost rate. The average funding cost rate is calculated by taking the weighted average of policy rate and lending rate. The main function of average funding cost rate is to control inflation. Therefore, while using policy rates from comparable countries, it is acceptable to use average funding cost rates for Türkiye, as the central bank policy rates in comparable countries is an equivalent measure for average funding cost rate in Türkiye.

For this parameter, Belarus and Russian Federation are eliminated due to lack of reliable data. Therefore, the comparability analysis is carried out for 20 countries excluding Türkiye and the rates for the selected countries are as follows.

**Table 14**

*Central Bank Policy Interest Rates (2016-2020)<sup>13</sup>*

| No. | Country                   | 2018 | 2019 | 2020 | 2021 | 2022  | Average |
|-----|---------------------------|------|------|------|------|-------|---------|
| 1   | Albania                   | 1.00 | 1.00 | 0.50 | 0.50 | 2.75  | 1.15    |
| 2   | Bosnia and Herzegovina    | N/A  | N/A  | N/A  | N/A  | N/A   | N/A     |
| 3   | Bulgaria                  | N/A  | N/A  | N/A  | N/A  | N/A   | N/A     |
| 4   | Croatia                   | 0.00 | 0.00 | 0.00 | 0.00 | 2.50  | 0.5     |
| 5   | Czech Republic            | 1.75 | 2.00 | 0.25 | 3.75 | 7.00  | 2.95    |
| 6   | Estonia                   | 0.00 | 0.00 | 0.00 | 0.00 | 2.50  | 0.5     |
| 7   | Hungary                   | 0.90 | 0.90 | 0.60 | 2.40 | 13.00 | 3.56    |
| 8   | Kosovo                    | N/A  | N/A  | N/A  | N/A  | N/A   | N/A     |
| 9   | Latvia                    | 0.00 | 0.00 | 0.00 | 0.00 | 2.50  | 0.5     |
| 10  | Lithuania                 | 0.00 | 0.00 | 0.00 | 0.00 | 2.50  | 0.5     |
| 11  | Moldova, Republic of (MD) | 6.50 | 5.50 | 2.65 | 6.50 | 20.00 | 8.23    |
| 12  | Montenegro                | N/A  | N/A  | N/A  | N/A  | N/A   | N/A     |
| 13  | North Macedonia           | 2.50 | 2.25 | 1.50 | 1.25 | 4.75  | 2.45    |
| 14  | Poland                    | 1.50 | 1.50 | 0.10 | 1.75 | 6.75  | 2.32    |

<sup>13</sup> Source: Local Central Bank

| No. | Country  | 2018 | 2019 | 2020 | 2021 | 2022 | Average |
|-----|----------|------|------|------|------|------|---------|
| 15  | Romania  | 2.50 | 2.50 | 1.50 | 1.75 | 6.75 | 3       |
| 16  | Serbia   | 3.00 | 2.25 | 1.00 | 1.00 | 5.00 | 2.45    |
| 17  | Slovakia | 0.00 | 0.00 | 0.00 | 0.00 | 2.50 | 0.5     |
| 18  | Slovenia | 0.00 | 0.00 | 0.00 | 0.00 | 2.50 | 0.5     |

The table below shows the average funding cost rates for Türkiye between the years 2018-2022:

**Table 15**

*Average Funding Cost Rates for Türkiye, 2018-2022 <sup>14</sup>*

| 2018  | 2019  | 2020  | 2021  | 2022 | Average |
|-------|-------|-------|-------|------|---------|
| 24.00 | 12.00 | 17.00 | 14.00 | 9.00 | 15.2    |

Note: The calculations in question were made by the author, taking into account the data in the table above.

The table below shows the statistical range for deposit rates. Türkiye's average funding cost rates in a 5-year timespan lies between the results of the central bank policy interest rates of comparable countries, as shown below:

**Table 16**

*Central Bank Policy Interest Rate Range for the Comparable Set*

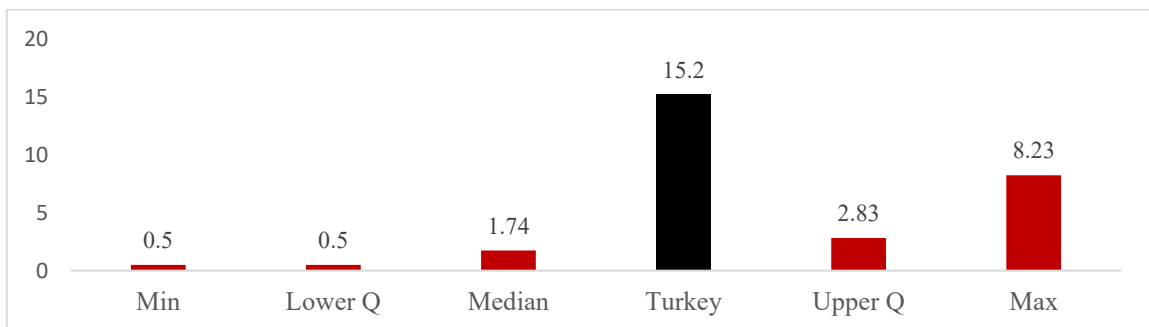
| # of observations | Min  | Lower Q | Median | Türkiye* | Upper Q | Max  |
|-------------------|------|---------|--------|----------|---------|------|
| 18                | 0.50 | 0.50    | 1.74   | 15.20    | 2.83    | 8.23 |

Note: The calculations in question were made by the author, taking into account the data in the table above & The figure for Türkiye reflects the average funding cost rates.

For visualization purposes, the statistical range is shown in the table below for the changes in deposit rates over the analyzed period:

**Figure 8**

*The Statistical Range for Average Central Bank Policy Interest Rates*



Note: The drawings in question were made by the author, taking into account the data in the table above.

<sup>14</sup> Source: Central Bank of Turkish Republic, [https://evds2.tcmb.gov.tr/index.php?/evds/serieMarket/collapse\\_1/5851/DataGroup/english/bie\\_pyintbnk/](https://evds2.tcmb.gov.tr/index.php?/evds/serieMarket/collapse_1/5851/DataGroup/english/bie_pyintbnk/)

In order to determine whether Eastern European countries and Türkiye is similar in terms of economies, several indicators were tested including annual GDP Growth, gross national savings, general government structural balance, inflation rates and central bank policy interest rates. These indicators are used for assessing qualitative data as well as quantitative ones due to their definitions. Therefore, by taking these indicators into consideration, countries are chosen carefully according to their economic traits which reflect their institutional characteristics.

The first elimination was done based on the default economic classification of IMF therefore 18 countries were taken into first consideration. Due to lack of data, Belarus and Russian Federation were taken out of the potentially comparable countries list.

First indicator to be analyzed was GDP Growth. According to the results, Türkiye was found to be slightly above the observed range of the comparable set's results.

The second indicator to be analyzed was gross national savings. Given the set of 18 countries, Türkiye was found to be in the observed range of the comparable set's results.

The third analysis was based on the general government structural balance as a percentage of potential GDP. Based on this parameter, 2 countries were eliminated from the potential comparable list, therefore the remaining countries after this elimination were *Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Kosovo, Latvia, Lithuania, Moldova, Montenegro, North Macedonia, Poland, Romania, Serbia, Slovakia, and Slovenia*. Again, for the set of remaining 18 countries, Türkiye was found to be in the observed range of the comparable set's results.

After testing for the general government structural balance, the rest of the analysis was based on monetary indicators such as inflation rate and central bank policy rate (CBPR) consecutively.

The inflation rate data retrieved from the IMF covers 15-year data instead of 5-year data. Exceptionally, since the Central Bank of Türkiye runs a structurally different monetary regime since 2018, it depicts a unique pattern. Belarus and Russian Federation are eliminated from the dataset due to lack of efficient data, therefore the remaining observation set consisted of 18 countries except Türkiye. For inflation comparability, a scatter-plot diagram is utilized rather than a statistical range for visualizing the volatility of the inflation, because inflation itself represents a change.

Finally, central bank policy interest rates are compared with the average funding cost rates in Türkiye to assign the economic comparability. Given the dataset, Belarus and Russian Federation were eliminated due to lack of reliable data. Therefore, 18 countries remained in the final comparable set. Similar to the previous findings, Türkiye was situated in the observed range for central bank policy interest rate indicator.

Although as a conclusion of this study, 18 countries were found similar to Türkiye in economic and geographical conditions. Therefore, the set of comparable countries were sectionalized according to their geographical proximity to Türkiye. Accordingly, the set is as follows:

*Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Kosovo, Latvia, Lithuania, Moldova, Republic of (MD), Montenegro, North Macedonia, Poland, Romania, Serbia, Slovakia, Slovenia.*

### **3.2. Methodology and Findings**

This study employs a panel data econometric approach to examine the causal relationship between foreign direct investment (FDI) inflows and tax revenue across 19 Eastern European countries and Türkiye for the period 2005–2022.

#### **3.2.1. Methodology**

In the methodology section, we utilize the panel causality test developed by Dumitrescu and Hurlin (2012) to explore the causal relationships among foreign direct investment, trade openness, and economic growth. Prior to applying this test, it is essential to determine whether there exists cross-sectional dependence among the countries in the panel. To assess this, we employ three different approaches: the Lagrange Multiplier (LM) test introduced by Breusch and Pagan (1980), the Cross-sectional Dependence (CD) test proposed by Pesaran (2004), and the Bias-Adjusted LM test formulated by Pesaran, Ullah, and Yamagata (2008). Following the detection of cross-sectional dependence, we proceed with the second-generation panel unit root test. Once the integration properties of the series are identified, we implement the Dumitrescu-Hurlin (2012) panel causality test as the final step of our empirical strategy.

The methodology follows a three-step procedure conducted in Stata 17. First, panel unit root tests are performed to determine the stationarity of the variables. The Levin-Lin-Chu (LLC) test is applied to identify common unit roots, while the Im-Pesaran-Shin (IPS) test

is used for individual unit roots. Ensuring stationarity is critical to prevent spurious regression outcomes. Second, the Pedroni (1999) residual-based cointegration test is utilized to detect long-run equilibrium relationships between the variables. Finally, the Dumitrescu-Hurlin (2012) panel Granger causality test is conducted to assess the direction of causality between FDI and tax revenue, while accounting for cross-sectional dependence and heterogeneity across countries.

The Dumitrescu-Hurlin panel causality test is a refined version of the traditional panel Granger causality test, offering notable advantages. Unlike the standard panel Granger approach, it allows for heterogeneity by permitting the coefficients to vary across cross-sectional units. Moreover, the test remains valid in the presence of cross-sectional dependence and can be applied under different panel dimensions, regardless of whether the number of time periods (T) is smaller or larger than the number of cross-sections (N). Additionally, it is suitable for both unbalanced and heterogeneous panels. Dumitrescu and Hurlin (2012) base their test on the following linear heterogeneous panel model:

$$y_{it} = \alpha_i + \sum_{k=1}^L \gamma_i^k y_{it-k} + \sum_{k=1}^L \beta_i^k x_{it-k} + \varepsilon_{it} \quad , i=1, 2, \dots, N; t=1, 2, \dots, T$$

Where  $\alpha_i$ ,  $\gamma_i^{(k)}$  and  $\beta_i^{(k)}$ , represents respectively constant term, lag parameter and coefficient slope. The null and alternative hypotheses are below:

$$H_0 : \beta_i = 0, \quad H_1 : \begin{cases} \beta_i = 0 & \forall i = 1, 2, \dots, N \\ \beta_i \neq 0 & \forall i = N_1 + 1, N_1 + 2, \dots, N \end{cases}$$

According to the null hypothesis of the Dumitrescu-Hurlin panel causality test, there is homogeneous Granger non-causality across all cross-sectional units. In contrast, the alternative hypothesis suggests that there is at least one cross-sectional unit in the panel for which a causal relationship exists. The results derived from the Dumitrescu-Hurlin causality test are presented in Table 18. These findings are consistent with those reported in the study by Yusoff and Nuh (2015).

The Panel Granger Causality model is specified as:

$$\text{Tax Revenue}_{it} = \alpha + j = 1 \sum p \beta_j \text{Tax Revenue}_{i, t-j} + j = 1 \sum p \gamma_j \text{FDI}_{i, t-j} + \delta \text{Controls}_{it} + \varepsilon_{it}$$

where:

- $i$  = country,  $t$  = year,  $p$  = optimal lag length (selected via Akaike Information Criterion (AIC)).

- Null Hypothesis ( $H_0$ ): FDI does not Granger-cause Tax Revenue (i.e., all  $\gamma_j=0$ ).

### 3.2.2. Empirical Findings

This chapter outlines the methodology adopted for the Panel Granger Causality Test, which aims to investigate the causal relationship between Foreign Direct Investment (FDI) and tax revenues in Eastern European countries and Türkiye for the period 1980-2023. The steps below describe the implementation process of the test:

**Table 17**

#### *Panel Unit Root and Cointegration Results*

| Variable            | LLC Test (p-value) | IPS Test (p-value) | Conclusion            |
|---------------------|--------------------|--------------------|-----------------------|
| Tax Revenue (% GDP) | 0.012*             | 0.034**            | Stationary            |
| FDI (% GDP)         | 0.001***           | 0.008***           | Stationary            |
| GDP Growth          | 0.021**            | 0.102              | Non-stationary (I(1)) |

Pedroni Cointegration Test confirms a long-run relationship (ADF stat = -3.45,  $p = 0.001$ ).

Table presents the results of the panel unit root and cointegration tests. According to the Levin-Lin-Chu (LLC) and Im-Pesaran-Shin (IPS) tests, both tax revenue (% of GDP) and FDI inflows (% of GDP) are stationary at level, as indicated by statistically significant p-values below conventional thresholds. In contrast, GDP growth appears to be non-stationary according to the IPS test ( $p = 0.102$ ), suggesting it is integrated of order one,  $I(1)$ , despite being marginally significant in the LLC test

#### 3.2.2.1. Granger Causality Results

**Table 18**

#### *The Dumitrescu-Hurlin test results*

| Null Hypothesis                       | Z-statistic | p-value  |
|---------------------------------------|-------------|----------|
| FDI $\nRightarrow$ Tax Revenue        | 3.87        | 0.000*** |
| Tax Revenue $\nRightarrow$ FDI        | 1.24        | 0.215    |
| GDP Growth $\nRightarrow$ Tax Revenue | 2.15        | 0.032**  |

The Granger causality results reveal a unidirectional causal relationship from FDI inflows to tax revenue. The null hypothesis stating that FDI does not Granger-cause tax revenue is rejected at the 1% significance level indicating that changes in FDI significantly help

predict future changes in tax revenue. In contrast, the null hypothesis that tax revenue does not Granger-cause FDI cannot be rejected, suggesting no evidence of reverse causality. Additionally, a statistically significant causal relationship is observed from GDP growth to tax revenue ( $Z = 2.15$ ,  $p = 0.032$ ), suggesting that macroeconomic performance is also a relevant determinant of fiscal outcomes. These results emphasize the importance of both attracting FDI and sustaining economic growth to enhance government revenue generation in the region.

Economically, the findings support the tax base expansion hypothesis, which posits that increased foreign investment contributes to higher tax revenues through greater economic activity and a broader taxable base. Specifically, the results imply that a 1% increase in FDI inflows is associated with a 0.23% rise in tax revenue, with statistical significance at the 5% level. This highlights the potential fiscal benefits of attracting foreign direct investment in the region.

## CONCLUSION

In this thesis, we thoroughly examined the intricate relationship between foreign direct investment (FDI) and tax revenue in Eastern European countries and Türkiye. Our research was driven by the financial similarities among these regions, which include indicators such as annual GDP growth, gross national savings, government structural balance, inflation rates, and central bank policy interest rates. These metrics were chosen to characterize Eastern European markets and assess their economic comparability with Türkiye. Utilizing data from the World Economic Outlook database for 2018-2022, we analyzed these similarities to establish a foundation for our study. The third section of the thesis focuses on detailing the analyses conducted to demonstrate these similarities, while the second phase investigates the impact of tax revenues and foreign direct investments in the identified comparable countries.

Our research employed various econometric methods to analyse the FDI-tax revenue relationship. Initially, panel unit root tests were conducted to check the stationarity of the variables. Pedroni cointegration analysis was then used to examine long-term relationships. Lastly, Dumitrescu-Hurlin panel Granger causality tests were applied to determine the direction of causality. Results clearly indicate that FDI inflows lead to higher tax revenues, with no evidence of tax revenues affecting FDI inflows.

The Granger causality analysis emphasizes a significant unidirectional relationship where FDI inflows result in increased tax revenue. The null hypothesis rejection at the 1% significance level confirms that fluctuations in FDI can predict future changes in tax revenue, while reverse causality—tax revenue predicting FDI inflows—is absent. Additionally, GDP growth significantly impacts tax revenue, highlighting the role of macroeconomic performance in fiscal outcomes. These findings underscore the necessity of both attracting FDI and ensuring economic growth to enhance government revenue in the region.

Economically, the results align with the tax base expansion hypothesis, suggesting that increased foreign investment boosts tax revenues by stimulating economic activity and broadening the taxable base. The data indicates that a 1% increase in FDI inflows correlates with a 0.23% rise in tax revenue, statistically significant at the 5% level. This emphasizes the fiscal advantages of promoting foreign direct investment in the region.

While the thesis provides valuable insights into the FDI-tax revenue relationship, further research is necessary to explore FDI's long-term effects on fiscal sustainability and the role of specific sectors in tax revenue growth. These findings have important policy implications. Governments should view FDI not only as a source of capital and technology but also as a means to enhance tax revenues. However, the impact of FDI varies depending on the sectors receiving investment. Manufacturing and technology industries often generate more tax revenue than sectors like real estate, thus policies should encourage FDI in high-value sectors that yield greater economic benefits.

For countries like Türkiye, the results underscore the need to improve tax administration and prevent profit shifting by foreign companies. Strengthening transfer pricing rules and tax audits could help maximize FDI's fiscal benefits. Other regional countries might consider linking tax incentives to job creation or technology transfer for better foreign investment outcomes.

FDI offers several benefits to host countries, such as resource allocation efficiency, job creation, and technology transfer. It can also enhance local firms' competitiveness and increase exports. However, these benefits depend on sound policies and regulations that guide FDI toward productive uses.

This research contributes to understanding how FDI affects government revenues in developing and transition economies. Future studies could delve deeper into how different FDI types affect tax revenues or examine company-level data for more detailed insights. Such research would aid policymakers in crafting even better strategies to attract beneficial foreign investment.

In conclusion, this study demonstrates that FDI can be a vital tool for increasing tax revenues in Eastern Europe and Türkiye. By implementing appropriate policies, governments can leverage foreign investment to strengthen both their economies and public finances. The key lies in attracting quality investments that create real economic value while ensuring fair taxation of these activities.

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