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Foreign direct investment in China and other major economies: an empirical analysis of determinants and impacts from 2010 to 2022.

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## **ABSTRACT**

This paper focuses on the determinants of FDI due to its increasing importance for the global economy to provide valuable insights for enterprises and governments in attracting FDI. I analyzed the different types, motivations, theories, effects, main determinants, and recent trends of FDI. A chapter is dedicated to China's FDI due to its unique characteristics and dynamic market. There is a description of the background of Chinese policies regarding international trade, the impact, the main investors, and the sectors receivers of FDI. Different regression models were used to answer the main research question which I divided into subquestions. I composed the dataset using the World Bank and OECD database searching nine variables about FDI for 17 countries in a period from 2010 to 2022. Six variables out of eight are significant. Government expenditure on education, urban population, adjusted net national income, and taxes on income profits and capital gains are positively correlated with FDI stocks. On the contrary, political stability and the labor force with advanced education negatively impact the FDI. Overall, the study aims to understand how independent variables influence FDI and what the implications for economic policy are.

## **KEYWORDS**

FDI, FDI determinants, China, multivariate regression

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## **INTRODUCTION**

Foreign Direct Investment is a cross-border investment that aims to build a long-lasting relationship between the parties engaged. FDI is a major source of revenue for many nations and an important driver of global economic growth and integration. It promotes international business relationships and contributes to expanding commerce, integrating developing countries into the global market. In addition to stimulating the economy, this integration gives local companies access to more developed trade networks and bigger markets, creating new businesses while strengthening the existing ones. Foreign Direct Investment helps host countries by moving capital, creating new jobs, increasing wages, reducing unemployment, transfers technology, know-how, and best practices. These are especially important in less developed countries that lack management and R&D capabilities. With the correct policy framework, FDI may support economic progress, financial stability, skilled workforce development, and social well-being.

Even though many studies have been done, they may have some limitations because the conclusions of earlier studies on the variables influencing FDI stocks are not focused on the period from 2010 until now and don't consider a wide range of countries. This paper attempts to evaluate the impact of the main variables mentioned in the literature influencing the FDI stock and flows in the past 13 years, including a big set of countries providing a global view on the FDI determinants.

It is divided into three chapters.

Chapter 1 highlights the definition of FDI, of multinational enterprises and distinguishes the two types of FDI, direct and indirect/portfolio. A paragraph is dedicated to the difference between greenfield investments and mergers and acquisitions, explaining the reasons and factors behind this choice and the consequent risks or disadvantages. The discussion about the OLI Paradigm is important to understand the drivers of FDI when choosing the geographical location, dividing the three elements, and updating the theory with the changes over time. Other important aspects related to FDI are the motivation, the effects, and the main determinants found in the literature. At the end of the chapter, there is a paragraph focused on the trends in the last three years highlighting the impact of COVID-19 in this investment area.

Chapter 2 is dedicated to the FDI in China because of its unique and interesting characteristics of the local business, and the country as a FDI destination. It is one of the

most populated countries and consequently one of the major and dynamic markets with a huge consumer potential. Studying the literature about foreign direct investment in China provides important insights into socioeconomic and government policy effects, its relationship with the GDP, and economic growth. However, studies conducted on FDI in China have demonstrated that the determinants are not exclusive to the nation. This suggests that although China's experience offers insightful lessons, the study should be comprehensible of FDI dynamics in other countries.

For this reason, Chapter 3, the empirical one, aims to answer a research question considering the major countries in the world of international trade. "How do various independent variables, including government expenditure on education, urban population, adjusted net national income per capita, political stability, labor force with advanced education, and taxes on income, profits, and capital gains, influence Foreign Direct Investment? And what are the implications for economic policy formulation and decision-making?". Due to some statistical issues, I run different regression models to see the most effective for the study. In this way, I analyzed the variables that influence more FDI and gave some policy implications. In conclusion, this study offers insightful information on the variables influencing FDI inflows, which helps enterprises create efficient strategies and governments' investment-attracting policies, through the identification of the most significant variables.

# **1. THEORETICAL BASIS OF FDI**

## **1.1 FDI DEFINITION**

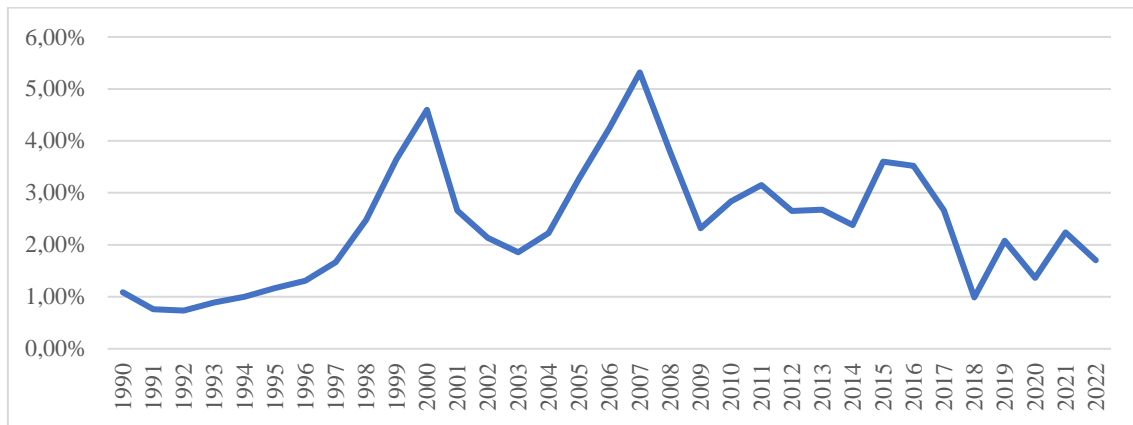
The definition of Foreign direct investment by the OECD (OECD, 2008, p. 234) is: “Foreign direct investment (FDI) is a category of investment that reflects the objective of establishing a lasting interest by a resident enterprise in one economy (direct investor) in an enterprise (direct investment enterprise) that is resident in an economy other than that of the direct investor. The lasting interest implies the existence of a long-term relationship between the direct investor and the direct investment enterprise and a significant degree of influence on the management of the enterprise. The direct or indirect ownership of 10% or more of the voting power of an enterprise resident in one economy by an investor resident in another economy is evidence of such a relationship.”

Multinational enterprises (MNEs) now account for most of the foreign direct investment and they are defined by their presence in two or more countries, regardless of the legal structure or industry of its subsidiaries, incorporating shared control, in which various entities are coordinated under the same ownership with coherent policies and a common strategy. Their interconnection extends beyond ownership, they facilitate the sharing of information, resources, and technology and each one can have an impact on the activity of the others (OECD, 2001). Foreign direct investments (FDI) play a crucial role in globalization, fostering long-term connections between economies and enhancing the competitiveness of both the receiver or “host” and investing or “home” economies. These investments facilitate innovation transfer, promote international trade, and contribute to economic development. To understand how Foreign Direct Investment has become more significant over time, it is necessary to look at FDI as a share of GDP, dividing the first by the GDP. Analyzing foreign direct investment flows as a percentage of GDP provides a more comprehensive perspective on the size and impact of FDI on a country's economy. This approach allows the data to be normalized against the size of the national economy, enabling meaningful comparisons between countries with different economic sizes. The same reasoning is valid when talking about global data because in this way they depend on the economic situation in that year. By looking at FDI as a percentage of GDP, we can observe trends over time and understand whether foreign investment is increasing or decreasing about the size of the economy. In



addition, talking about a single country, FDI data as a percentage of GDP indicates a country's economic stability, because significant fluctuations in this percentage may reflect changes in domestic economic dynamics or global conditions that affect foreign investment.

*Figure 1.1: World Foreign Direct Investment, net inflows (% of GDP)*



Source: World Bank Group (2023)

This graph shows the fluctuation of world FDI as a percentage of GDP from 1990 to 2022. From the first seven years, there is a slight increase in the value of FDI reaching one of the two major peaks in 2000. After a decline in 2001, 2002, and 2003 due to political and economic issues such as the consequences of the dot-com bubble and the invasion of Iraq, there was a rapid increase reaching the highest value of 5.32% in 2007. In 2008/2009 the values significantly fell, and this decrease can be attributed to various factors, primarily related to the global financial crisis that began in 2008. Because investors were more risk-averse and uncertain during this time, many nations saw a reduction in investment and lower consumer spending. Moreover, the financial crisis led to a contraction in global trade and investment flows as credit markets froze due to the insolvency of many financial institutions, resulting in a sharp decline in FDI inflows across the world as investors became more cautious and focused on preserving their capital rather than making new investments. As GDP contracted or grew at a slower pace, the denominator in the FDI/GDP ratio decreased, amplifying the impact of reduced FDI inflows. For the next ten years the situation was quite stable, only in 2018 there was a negative peak, lower than the one in 2009. The reduction of investments was probably because of the trade tensions between the United States and China, which could have led to a risk-averse approach among investors and other economic, sectoral,

and political events.

Foreign investments can be divided into two types: direct and indirect or portfolio. Direct international investments involve purchasing tangible assets such as plants or machinery in a foreign country, whereas indirect foreign investments entail purchasing stock in foreign corporations listed on stock exchanges. Foreign governments favor direct investments because they are viewed as long-term commitments between international and local firms that will help economic progress in the future and strengthen actual relationships. In contrast, indirect investments are typically shorter-term and may not necessarily help the long-term growth of the host country's economy (Corporate Finance Institute website)

## **1.2 GREENFIELD, MERGER AND ACQUISITION**

Foreign firms can invest directly in a host country through greenfield investment or mergers and acquisitions (M&As) and these are two strategic ways that businesses might grow globally. The difference lies in whether the transaction involves creating new assets relying on internal capabilities or transferring the ownership of existing assets. A greenfield investment concerns starting a new company in a foreign market, employing and training local workers, and progressively expanding the enterprise, benefitting from their unique advantages. M&A, on the other hand, entails purchasing an already-existing local business that might already have resources like information and technology, competitive advantage, existing supply chain, and managerial skills (Alon, Elia, and Li, 2020). This “investment taking the form of acquisition of existing assets (mergers and acquisitions) grew much more rapidly than investment in new assets ("greenfield" FDI), particularly in countries undertaking extensive privatization of public enterprises”. (Calderón, Loayza, & Servén, 2004. P. 1). Greenfield investment is more reliant on the home country's comparative advantage because it relies heavily on domestic knowledge production. M&A investment, on the other hand, is more sensitive to the barriers between origin and destination nations, including geographical and cultural differences, especially for industries that rely heavily on contracts or intangible assets. The two kinds of investments show different sensitivity to the institutional and financial characteristics of both countries. M&A activity is strongly impacted by the

destination country's institutional strength, particularly in industries that rely on external capital, while greenfield investment is strongly reliant on the financial development of the home country. This unequal reaction is clear in industries that rely on foreign funding, and it is consistent with the difference between the two investing modalities. M&A includes ownership transfer, while greenfield investments are more dependent on a company's internal capabilities, which are linked to the characteristics of the home country. Another difference between the two is the basic strategy for integrating the parent company with the destination. Greenfield investment is the creation of proprietary assets in the origin country that are then transferred to the destination while M&A identifies a target asset in the destination and integrates it into the parent company's global operations chain (Davies, Desbordes & Ray, 2018).

With mergers and acquisitions, companies seek to achieve financial, business, and strategic objectives, linking different cultures, value systems, and corporate resources. A merger combines two companies into one, whereas an acquisition involves one company taking over another. Both techniques usually achieve common goals such as the one of expanding a company's operations even if there are different regulatory and compliance requirements. There are various reasons why one could be preferred over the other but, in either case, both will involve several costs and estimates.

There are several options for structuring the acquisition of a MNE. A company should choose to buy the entire company, sections of the company, or an important part of the company that provides power of ownership. There are numerous reasons why an international acquisition can be beneficial for a business such as eliminating many of the business formalities associated with entering a new market. Moreover, retaining members of the current management team and most of the current executive-level processes would be advantageous for the expansion (Phung, 2022). Other reasons to prefer an acquisition over a greenfield investment lie in the idea that is impossible to reach a high market share with an enterprise from scratch in a short period. Indeed, if the short-term goal of the company is to reach a high market share, a merger is the best option. The established brand name, the already existing supply chain, and the customer base are advantageous that a greenfield investment doesn't have. They may avoid problems and challenges at the beginning and have previous financing relationships that are reliable even if the company is in a foreign country.

The most influential factor in these kinds of decisions is always cost, with a comparative analysis of the two kinds of investments the most cost-effective will be chosen. Usually, considering that all the licenses, registration procedures, and infrastructures already exist and there is no need to wait time for market introduction, an acquisition or a merger will be less expensive than the creation from zero of an enterprise.

However, an acquisition is not a free-risk investment because some problems may occur in the merger process of the two companies at different levels, both internally and externally. The already existing management could be reluctant to adapt to the new values and way of working, and the new workers could damage the previous concept of the company. There can also be external barriers, from the regulatory system of the foreign country which can block or delay the process and the new start of the company. On the contrary, a greenfield investment involves the creation of a new entity in another country linked with the home one with the purchase of physical assets. The reasons behind this could be lowering labor costs, increasing market share, and enlarging the customer base. This kind of investment could be used when there is no possibility of an acquisition, if it is too difficult to implement it, or if the benefits of creating another entity are higher than the costs. These benefits could be tax advantages, facilitating local regulation, economies of scale, and access to different resources from the one in the home country.

However, there are some disadvantages compared to a merger or an acquisition, such as the length of time a new entity starts getting returns. The new company can be successful only if the demand, market trends, and local consumer behavior are effectively forecasted, otherwise, the market uncertainty will damage it. Adaptation to a different culture and regulatory system is one of the major concerns of both the acquisition and the greenfield investment but especially in the last case can be time-consuming and challenging. Other disadvantages are linked to brand recognition which is not already established but needs to be built from zero, and the difficulties in recruiting a skilled local workforce which could prefer remaining in existing companies. In conclusion, the choice to pursue greenfield investment or mergers and acquisitions is based on some factors. One is strategic fit because the choice should be closely aligned with the company's strategic goals. Greenfield investments have the benefit of

generating assets related to the company's individual needs, and so the company can be more flexible. On the contrary, M&A may give quick access to an established market presence, client base, technology, or expertise, therefore supporting specific strategic goals. Second, the chosen market entrance approach is critical. Greenfield investment is frequently preferred when entering a market where the firm does not already have a presence, allowing the construction of operations depending on the company's needs and plans. M&A may be favored when pursuing a fast market penetration or targeting a specific firm. Regulations also have an important influence because foreign investment rules, antitrust laws, and industry-specific regulations can all have a substantial influence on the choice between the two.

### **1.3 OLI PARADIGM**

The Eclectic or OLI Paradigm, established by Dunning (1997), states that a firm's international value-adding operations are determined by three factors: ownership advantages (O), internalization advantages (I), and location advantages (L). It investigates the drivers of Foreign Direct Investment in terms of geographical location, amount of control over foreign investment, and the sorts of ownership advantages required for effective international production. There are “three types of ownership-specific advantages:

(a) those that stem from the exclusive privileged possession of or access to particular income generating assets,

(b) those that are normally enjoyed by a branch plant compared with a de novo firm, and

(c) those that are a consequence of geographical diversification or multi-nationality per se” (Dunning, 1988, p. 2)

All these aspects are dependent on each other and peculiar to different industries and sectors and will vary across regions, explaining a “foreign value-added activity.

The ownership advantage (O), also known as the firm-specific advantage, is limited to firms in other countries whose superior productivity may be linked to managerial skills, specific intangible assets, corporate cultures, and specialized know-how, typically

providing competitive advantages. O-advantages allow multinational enterprises to achieve economies of scale, gain access to financial capital, diversify assets, and invest in industries to increase their parent firm's capacities in the domestic market.

The location advantage (L), also known as country-specific advantage, refers to the non-transferable economic characteristics of the host country that contribute to different levels of productivity. These location decisions are influenced for example by labor costs, market size and composition, presence of natural resources, and host country government policies. This aspect shows why multinational enterprises invest in countries with favorable regulations, legal systems, and lower entry barriers. The internalization advantage (I) refers to how firm- and country-specific institutions decide about foreign market entry strategies, choosing between market transactions, intra-firm coordination, or wholly owned subsidiaries. Internalization factors explain how firms tend to internationalize in situations of market failure, to avoid negotiation costs, control supplies, and protect property rights (Dunning & Lundan, 2008). Multinational firms emerge from failing markets with high external transaction costs and operational risks. The Eclectic Paradigm has changed over time, and classified ownership advantages as asset-based (Oa), transaction-based (Ot), and institutional-based (Oi). The first advantage is related to a company's tangible or intangible assets that give it a worldwide competitive advantage including unique technology, brand recognition, patents and copyrights, or access to natural resources. These advantages refer to the company's capacity to exploit its position in international transactions and contractual and legal agreements. These characteristics include negotiating favorable terms, acquiring advantageous contracts, and having strategic alliances, and licensing agreements. Lastly “Institutional assets advantages refer to the codes of conduct, norms and corporate culture, incentive systems and appraisal, and leadership within the firm” (Lopes, 2010. P. 7).

## **1.4 FDI MOTIVATION**

International companies aim to preserve their competitive advantage by reducing costs, expanding their market share and market base, and developing assets which are crucial to stay competitive in a fast-changing world (Mallampally & Sauvart, 1999). All the

strategies behind FDI investments have started as autonomous and separate production by the entity in the foreign country, arriving at a complex strategy that integrates home and foreign companies. MNEs frequently look to expand their product offerings, integrate value-added supply-chain stages, or take advantage of complementary assets. These goals are the result of several types of failures of the market which aim at permitting price differentiation, preserving the input sources, guaranteeing product quality, defending intellectual property rights, and splitting overhead expenses. For this reason, MNEs are more inclined to do FDI to benefit from their competitive advantages compared to signing contracts with foreign firms when the perceived risks of transactional market failure are higher (Dunning, 1988).

Dunning's Eclectic Paradigm of International Production (Dunning, 1988) states that from the home country's point of view, there are four kinds of investments determined by economic considerations: market-seeking, resource-seeking, efficiency-seeking, and strategic asset-seeking.

Market-seeking strategies are willing to protect existing markets or enter foreign markets to enlarge the customer base, find new target customers or new geographic areas where there is more demand, and diversify the customer base and revenue streams, reducing the dependence on a particular market. Indeed, the saturation of the market due to intense competition can lead a company to search for new opportunities abroad finding markets where they can increase their profits, forcing the firm to invest abroad. These new opportunities can be for example new local trends that can be exploited, adoption of new technologies, and favorable regulatory and tax systems. These last two aspects are in the hands of the Governments and can attract many of these kinds of FDI. In addition to these, there may be the need to follow an important supplier that has moved its production facilities to another country and force the company to move to another nation. With products that must be adapted to different countries it is usually necessary to familiarize themselves with the culture and customs, so firms are required to move there, being responsible to fulfill local needs. Related to this, increasingly important is the necessity of establishing a physical presence in foreign markets where the leading firms are the competitors, to have under control the situation and respond faster to possible problems.

Resource-seeking investments are focused on positioning near the resources needed by

the company to produce its output. These resources could be not available or more costly in the home country while, on the contrary, they can be acquired in another country at a lower cost with high quality. For manufacturing, energy, mining, and food industries the availability of natural resources is fundamental, for this reason, having factories in countries with abundant natural resources can lead to a competitive advantage and a cost-effective supply chain. In this way, the cost of transportation and the risk of events that disrupt the supply chain are reduced. Related to the service sectors these investments exploit resources such as tourism, medical services, and car rentals, the so-called “location-bound resources”. Another non-material resource important for service and manufacturer firms is cheap and well-motivated unskilled or semi-skilled labor (Dunning & Lundan, 2008). These companies usually are located in countries where the real labor is expensive so to reduce these costs, they build subsidiaries in other countries where the labour-intensive activities can be done at a lower cost. This resource-seeking investment is explained by the trends of developed countries internationalizing in Africa, East Europe, and the Middle East externalizing the routine activities to locations where the labor is cheaper and investing in countries to exploit qualified management and different technologies.

With efficiency-seeking investments companies want to “increase their efficiency by exploiting the benefits of economies of scale and scope, and also those of common ownership” (Kurtishi-Kastrati, 2013. P. 62) to increase the profitability in the long term. The focus is on implementing in the best way the market and resource-seeking investments to gain competitive advantage in the form of economies of scale and scope, having common governance with different cultures, markets, and policies. There are two different efficiency-seeking investments. The first includes the separation of value-added activities and resource-intensive activities, respectively in developed and developing countries. The second gains advantages by exploiting economies of scale and scope in countries with similar economies, considering other kinds of factors such as local competition, micro and macro policies, and the structure of incentives.

The last kind of investment is strategic asset seeking which implies investments in new technologies and not already existing assets, to create competitiveness, or increase the market share. To protect or achieve a competitive advantage is necessary to set and achieve some long-term strategic objectives, owning both human competencies and



physical assets different from the ones of competitors (Dunning, 2008). Some investments of this kind are related to creating new synergies to expand the area of R&D, lowering transaction costs, having access to organizational capabilities, spreading administrative costs, and opening new appetible markets. To do so is important that the critical information is kept secret and protected by patents, licenses, and copyrights.

## **1.5 THE EFFECTS OF FDI**

The global economy is significantly influenced by multinational businesses, whose power is only growing, especially in emerging nations. Almost one-third of all inward foreign direct investment worldwide takes place in these nations where foreign direct investments are viewed as potential opportunities for growth. As a result, numerous countries have put measures into place to increase FDI even because “Foreign direct investment (FDI) is the largest source of external financing to developing countries, greater than the contributions of remittances, private debt, and portfolio equity, or official development assistance”. (Saurav, Liu & Sinh, 2020, p.3)

However, some governments express worries about FDI's impact on both the country of origin and the destination, even if it is shown that inward investments can benefit the host country by providing capital, technology, and managerial resources. This is especially important in less developed countries where R&D and managerial skills are lacking. “Recognizing that FDI can contribute to economic development, all governments want to attract it. Indeed, the world market for such investment is highly competitive, and developing countries, in particular, seek such investment to accelerate their development efforts”. (Mallampally & Sauvart, 1999. P.4)

The competition between domestic and international companies for local labor makes foreign direct investment affecting average wages in local businesses and even increasing their productivity. It is difficult to determine if the possible advantages of foreign direct investment for workers result in gains in the general performance of the labor market because it may raise wage inequality, especially when talking about the relative incomes of skilled workers (OECD, 2018).

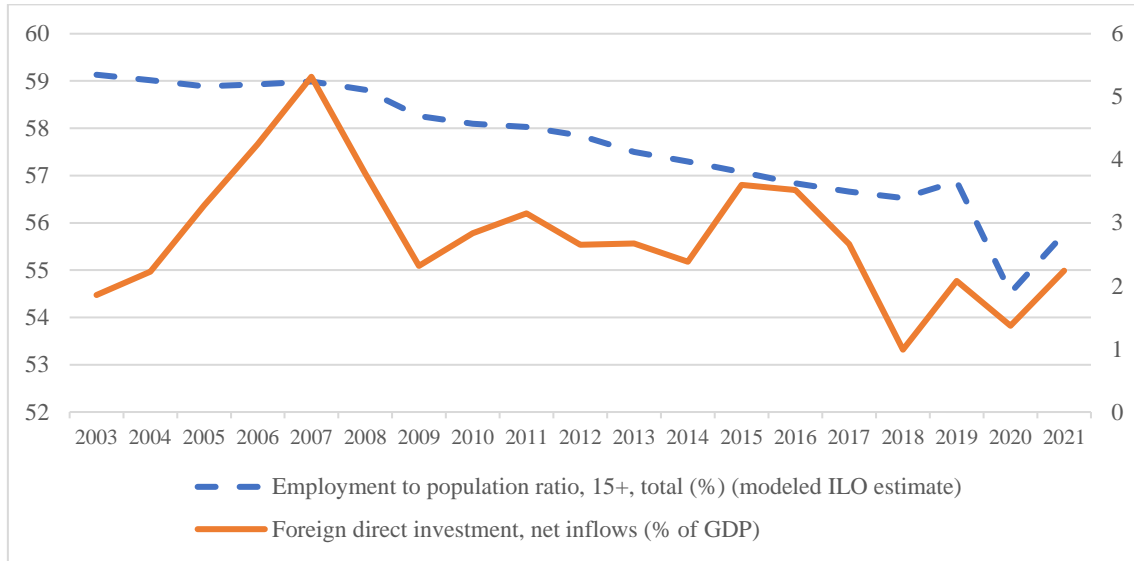
The relationship between Foreign Direct Investment and job creation is complex and depends on several factors. FDI can have a direct positive influence on employment by

increasing the capital stock in expanding industries, while indirect benefits might occur through the supply chain of domestic enterprises. Higher wages might also boost employment by raising demand for domestic goods and services, but employment losses can occur because of foreign acquisitions that lead to the closure of existing enterprises, or when FDI targets unproductive sectors, resulting in local job displacement (Sayour & Schröder, 2021).

A recent study by Ha et al (2021), shows that foreign ownership has resulted in a significant increase in both employment and wages for multinational affiliates in developing nations. Wages tend to rise faster for highly skilled people, while in labor-intensive and low-skill activities there is strong job growth and a low increase of salary. FDI creates jobs in the destination country through both direct and indirect effects, meaning respectively an increase in the number of job positions by the subsidiary and the creation of new ones for local suppliers.

Direct job creation refers to job possibilities created directly inside foreign-owned subsidiaries, divisions, or facilities established because of FDI in a host country. When a foreign firm invests in establishing operations in a new site, it usually produces a variety of job opportunities to support its commercial activities. FDI indirectly boosts employment development by interacting with local suppliers because foreign enterprises frequently rely on a network of locals to provide raw materials, components, and other resources necessary for their operations. For this reason, when foreign corporations raise their demand for goods and services from local suppliers, the latter needs to increase their production capacity or hire more people to fulfill the increasing demand. This opens new job opportunities in the local supply chain, manufacturing, logistics, and support services sectors.

Figure 1.2: Global FDI as a percentage of GDP and employment ratio (2003/2021)



Source: World Bank. World Development Indicators (2022)

Figure 1.2 shows a linear relationship between the global employment rate and FDI, especially from 2019 to 2021 a positive relation is shown, demonstrating that FDI has the power of changing the employment rate. However, the effects of FDI can be different and their relation is complex.

Related to the job creation by foreign entities, is important to consider the FDI multiplier effect which means that with the creation of a job opportunity thanks to an FDI project, there are other jobs generated or eliminated in the economy of the host country. The initial rise in jobs is expected to increase wages for local products, leading to a positive multiplier. However, rising wages and prices may only partially avoid this positive impact on employment (Moretti, 2010).

Another effect related to the job creation is technological spillover. Foreign direct investment facilitates the transfer of sophisticated technology, know-how, and best practices from foreign enterprises to the host country. This process, known as technology transfer, is critical to promoting economic development and innovation. Foreign firms that invest in FDI contribute sophisticated technologies, industrial techniques, and management practices that may outperform those available domestically. Technology spillover happens through backward, and forward links, and worker turnover both within and between businesses. Indeed, when a country successfully obtains foreign direct investment, its technology level is forecasted to improve (Sultana & Turkina, 2020). FDI impact also human capital enhancement. Even

before the establishment of the subsidiary, this improvement starts when governments invest in human capital development to attract FDI. Later, once employees are hired by a foreign entity, they are trained and educated in a multinational environment, having also a positive impact on the whole economy and business they interact with, including creating vertical links with suppliers. Improving human capital increases productivity and revenues, and the returns on investment in new technology and process innovation (Michie, 2001). In general, in low-income families, parents may prefer sending their children to work over school. However, FDI can boost human capital by paying greater wages to unskilled workers, allowing families to afford their children's education. Because multinational enterprises offer appealing job possibilities in host countries, students are encouraged to pursue secondary and postsecondary education. On the other side, if the salaries of unskilled workers increase, also the opportunity cost of attending school rises, leading to increasing school dropout rates (Emako, Nuru & Menza, 2023).

## **1.6 FDI DETERMINANTS**

Many elements, such as political stability, cheaper manufacturing and production costs, and attractive exchange and tax rates, play an important role in attracting foreign direct investment. The investment decisions are determined by economic considerations including market size, development prospects, labor costs, infrastructure, resource availability, legal frameworks, political stability, and government policies. In the beginning, there are some obstacles that multinational corporations face while establishing operations in new countries through FDI. Understanding the drivers of FDI is critical for governments, investors, and businesses looking to attract and take advantage of foreign investment possibilities. Furthermore, cultural, and social elements such as language, company procedures, and societal norms together with trade agreements and global trends might influence the attraction of a location for foreign direct investment.

Both developed and developing countries do FDI with the latter continually seeking investments from their more developed counterparts. Developing countries rely heavily on foreign capital flows due to limited internal investment capital resources, while industrialized countries want to attract this money to increase their fixed capital. For the

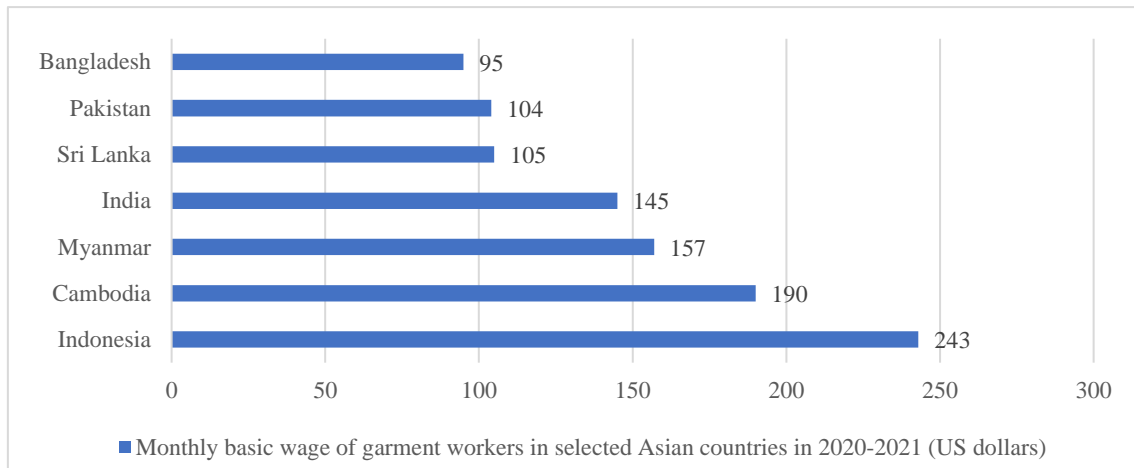
developing ones, this is because these investments are a source to finance capital investment and bring advanced technology and innovative ideas, leading to increased economic activity to address the challenge of unemployment and infrastructural problems in these nations. These countries compete to attract FDI by offering favorable conditions for business, economic growth, and sustainable development. “An emerging country is one whose economy is not yet fully developed yet either was in the recent past or very likely will be soon. Emerging countries are also known as emerging economies because the emphasis is on their economic development” (World Population by Country, 2024, website page). Despite their uniqueness, the distinction between emerging markets and other developing economies is unclear. Brazil, Turkey, Russia, India, and China are among the world's fastest-growing economies. Other emerging nations include oil-rich Bahrain, Saudi Arabia, Iran, Kuwait, the United Arab Emirates, Qatar, Oman, and Iraq (World Population by Country, 2024). In these economies, foreign capital flows are essential for building capital and promoting economic growth together with domestic savings and for this reason, foreign direct investment is a useful tool for expanding in foreign markets, exploiting resources, and cutting production costs. Therefore, foreign direct investment is crucial to transferring innovations, enhancing business culture, improving managerial skills, and raising living conditions and employment in the host country (Eissa & Elgammal, 2020).

### **1.6.1 Cheap labor or skilled workers?**

There is a long dispute on whether FDI should prioritize locations with access to skilled people or cheap labor. On one hand, multinational companies can increase their profits by investing in nations with low labor costs reducing manufacturing and production costs. On the other hand, there are advantages to investing in places with a skilled labor force, because it may increase productivity, and innovation, and improve competitiveness. The contrast between low-cost labor and highly skilled labor highlights the strategic decisions that investors must make when they decide to do FDI. Companies, in general, aim at cost reduction, which frequently leads them to seek places with lower labor costs. Bangladesh, for example, has emerged as the world's leading maker of ready-made clothing because of its inexpensive cost of labor (Haudi,

Wijoyo & Cahyono, 2020). The next figure shows the difference in the monthly basic wage for workers in the textile and garment sector of 7 Asian countries in 2020/2021. Comparing Bangladesh and Indonesia, the latter is quite less than three times more.

*Figure 1.3: Monthly basic wage of garment workers in 2020/2021 (US dollars)*



Source. Clean Clothes Campaign, 2021.

The fast growth of globalization, trade liberalization, and lower transportation costs allowed the fragmentation of manufacturing processes and supply chain activities for multinational companies. As a result, there was a significant incentive for businesses to shift labor-intensive industries to nations with cheaper labor costs, which are commonly developing economies. This tendency has allowed these nations to attract an increasing amount of FDI by exploiting their comparative advantage over economies with higher wage levels. However, it is not important the nominal value of the labor cost per se because even if one country has the lowest cost, if the workers are not so productive it is not efficient. What is important is the added value of the labor to understand how productive and efficient a worker is, even if it is not a measure of profitability. To have a comprehensive view the most important data to analyze is the real cost of labor adjusted by the productivity which is a key factor in the definition of the location of the subsidiary of a transnational corporation.

Labor-intensive and low-skilled manufacturing industries, such as textiles and food processing, generally receive large FDI from countries with abundant and inexpensive labor. Firstly, because labor-intensive industries benefit from abundant and low-cost labor, employing cheap labor costs to cut manufacturing costs, boosting profitability, and gaining a competitive advantage in international markets. Secondly, these sectors

may require large-scale manufacturing to obtain economies of scale, so it is necessary to sustain the increase of industrial capacity without being constrained by labor shortages or excessively high salaries. Lastly, these governments may establish regulations and incentives to encourage investment, easing the entry of foreign enterprises into these areas, lowering the entry barriers, and providing access to a mass market. Education and training programs are critical for developing human capital and a country's workforce skills.

From the host country, FDI in low-skilled occupations can be beneficial if foreign corporations provide training programs to improve the skills and capacities of local people in low-skilled jobs. Investing in skill development may boost labor productivity and efficiency, resulting in higher-quality products and enhanced competitiveness. Moreover, foreign firms that invest in low-skilled employment may help to build the host country's infrastructure and utilities which can be beneficial to both the local labor and the whole economy.

However, despite theoretical predictions suggesting that lower wages attract more FDI inflows, nowadays the situation is changing. The evidence regarding the impact of low labor costs on FDI is uncertain. The effect of the wage, representing the labor costs, can vary significantly, being either negative, positive, or insignificant. One explanation for the positive marginal effect is that a high wage makes investors think about high labor quality making some firms prefer that location for their foreign investments. However, as labor quality improves, the high wage's negative cost effect on FDI becomes more evident. It means that when labor quality is above a certain threshold, the wage effect on FDI becomes negative. Furthermore, the impact of labor quality on FDI inflows varies based on salary levels. In general, the marginal effect of wages tends to decrease with higher labor quality, indicating that in areas with lower labor quality, FDI firms prefer locations with better labor quality even if it means higher wages, while in regions with higher labor quality, they prefer lower labor costs. Indeed, reducing labor costs alone may not provide a comparative advantage in attracting FDI inflows, because it is important to recognize the significance of local labor quality. Developing economies might prioritize human capital creation and labor quality improvement using their low labor cost advantages and successfully attracting foreign direct investment (Hou, Li, Wang & Yang, 2021).

Some authorities have adopted low-wage initiatives as part of their FDI policies, believing that multinational companies (MNEs) seek cheaper labor. This emphasis on cheap wages has fierce rivalry among countries to attract and keep these investments, generating concern about potential job losses and falling salaries. This effect is the so-called "race to the bottom" This issue focuses on the idea that foreign investment activities especially in low-wage countries cause wage declines affecting comparative advantages and decreasing buying power, leading to suboptimal levels of consumption and employment (Cueto, 2017). Olney (2013) examines two hypotheses using data on foreign direct investment into the United States and data on employment laws in 26 nations, which together account for more than 75% of FDI from the United States abroad. The two significant predictions that are at the center of the race to the bottom theory are that multinational corporations usually make investments in nations with less restrictive laws and that to attract foreign direct investment, nations undercut their standards. The impact of employment protection on FDI is evaluated after determining time and country fixed effects, some variables of that foreign country that affect FDI. The results show that employment protection negatively affects the foreign sales of US multinational corporations. This is in line with the hypothesis that lowering job protection laws will lower production costs in the receiving nation and boost US foreign direct investment there.

In some research, a drop in unit labor costs increases FDI, consistently with the cost-seeking strategy providing evidence for the race to the bottom theory. One of these is by Bayraktar-Sağlam and Sayek Böke (2017) who studied the correlation of FDI and labour costs In the OECD countries from 1995 to 2009. They stated that "higher labor productivity, which reflects itself in higher compensation to labor, attracts more FDI, and this increased FDI leads to higher labor compensation; this relationship can be labeled as a virtuous cycle where higher productivity of labor induces FDI, which in turn feeds back into higher productivity. However, if the higher labor costs are due to an increase in labor market regulatory burdens, this leads to a drop in FDI, which leads to a drop in the compensation of labor and labor productivity" (Bayraktar-Sağlam & Sayek Böke, 2017. P. 8). This explains the dynamic connection between labor productivity, labor cost, and foreign direct investment. On the one hand, there are the workers who create more output per unit of input, meaning they are more productive and are usually



paid more and because investors are attracted to places where there is trained and productive labor, this increases foreign direct investment. Increased FDI into the nation as a result raises labor wages even more because of the rise in the need for skilled labor and investments in technology and training. On the other hand, FDI may be discouraged if rising labor costs are mostly the result of more labor market regulations, such as strict employment protection laws or high minimum wage standards. Such regulatory restrictions raise operating expenses and decrease profits and return on investment. This leads to a decline in FDI inflows, causing a decline in labor productivity and labor compensation because demand for labor decreases. These two trends create a virtuous and a vicious cycle, the first is about higher labor productivity that increases FDI, which increases even more productivity. The latter is the decline in FDI due to labor market regulatory burdens also leading to productivity/compensation losses.

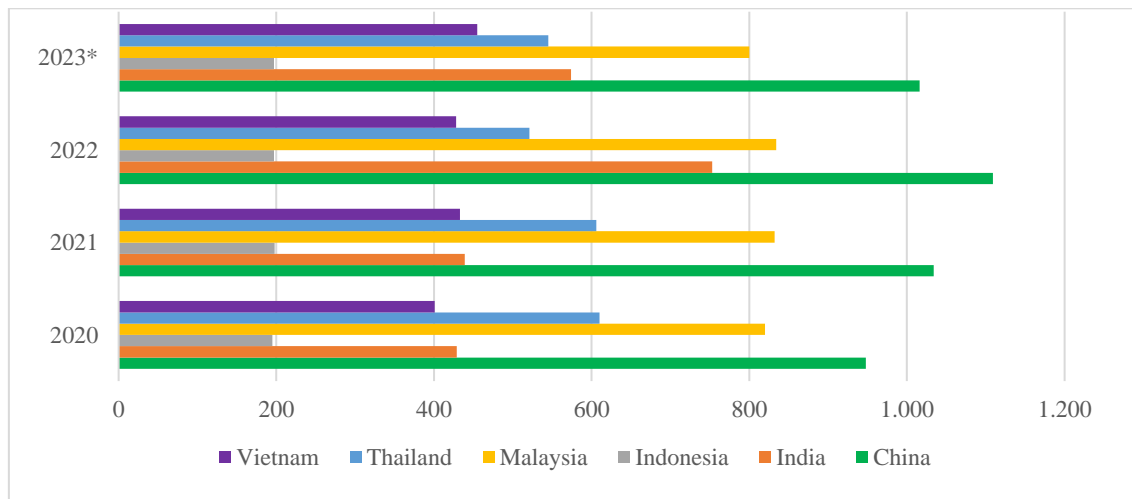
In some sectors such as manufacturing, an increase in a worker's salary, if reflects an increase in labor productivity, drives up the FDI. This shows that in some sectors, higher wages encourage FDI flow even if they mustn't exceed a certain level. Host countries aiming to attract more FDI in manufacturing, have to develop measures to increase labor productivity, which will result in higher returns. In conclusion, increased worker productivity draws more FDI. However, rising labor costs above a certain level, restrict FDI, resulting in lower productivity, which further reduces FDI. This is because the cost advantage and competitiveness are reduced and after all, the profits for the company will decline.

To understand the best policies to attract and maintain FDI, governments must recognize sectoral differences and stress the diverse contributions performed by various components of labor costs. A negative component of the wage to consider is composed of the "regulatory burdens" which are the non-wage component of labor cost. They not only harm FDI but also cause indirect productivity losses, impacting the labor market. To attract more FDI in manufacturing, nations should eliminate regulatory obstacles and develop measures to boost worker productivity through skill development and reduced bureaucracy (Bayraktar-Saglam & Böke, 2017).

An example of the end of cheap labor is China, whose position in the downstream stages of the supply chain is challenged by the MITI-V (MightyFive) which are Malaysia, India, Thailand Indonesia, and Vietnam which have lower labor costs. Many

corporations have adopted the "China plus one" strategy to manage rising labor costs, intending to maintain current facilities in China while creating new factories in other Asian nations with lower labor costs.

*Figure 1.4: Average monthly net salary in the Asia-Pacific region from 2019 to 2023, by country or territory (in U.S. dollars)*



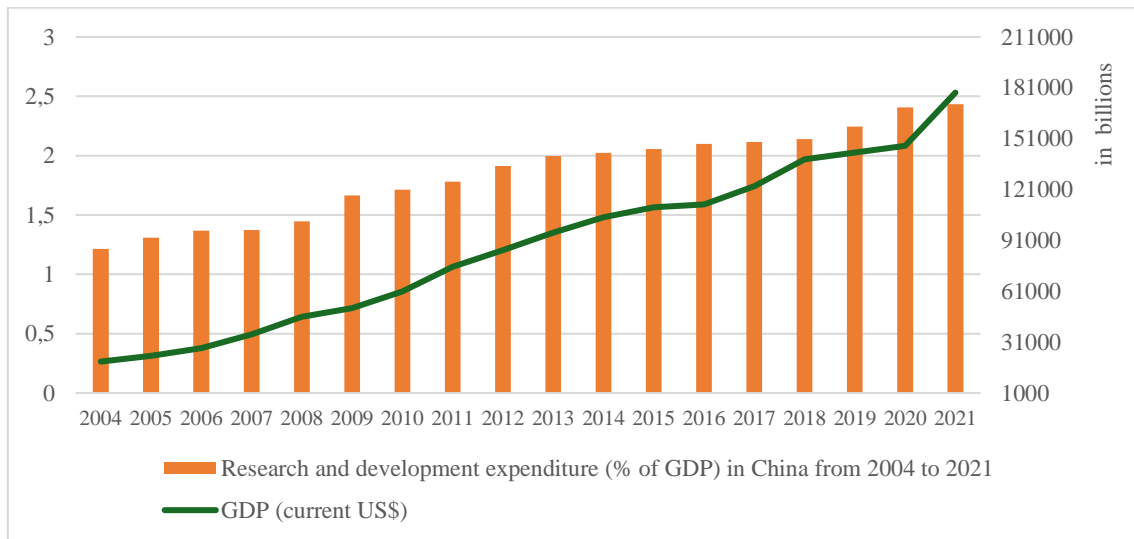
\* data refers to the first half of 2023.

Source: Picodi, 2023

Figure 1.4 shows the monthly wages of MITI-V countries plus China. The latter is always the highest while Indonesia is the lowest, usually one-fifth of China. These differences explain why countries are shifting their supply-chain activities from China to other cheaper Asian countries. However, full removal from China is considered problematic for other reasons than labor costs, such as ease of doing business, infrastructural quality, and market size. Indeed, some studies show that China's neighbors will be among the top manufacturing locations in the world, perhaps replacing China from its current position as the most competitive manufacturing country. India indeed, is becoming a global manufacturing center, also because many Indian workers are uneducated, uninformed, poor, and generally unaware of their rights. For this reason, China must strengthen its position in the Global Value Chain to remain competitive in the global economy. To do this, the country is attempting to move up the value chain by shifting from low-value-added activities to innovation and technologically sophisticated industrial methods. This trend is shown in the graph below which represents the R&D expenditure as a percentage of GDP and the trend of the

latter.

Figure 1.5: R&D expenditure as a percentage of GDP and the GDP trend in US dollars



Source: World Bank. World Development Indicators, 2023

The graph above shows an increasing trend in R&D expenditure as a percentage of GDP reaching the highest peak of 2.43% in 2021. Between 2020 and 2021 R&D as a percentage of GDP grew by about 1%, this last low percentage is explained by the rapid growth of GDP because it is the denominator in the ratio of R&D expenditure over GDP. Since the GDP growth in these two years was 21%, even if the absolute value of R&D expenditure increased, it was not in line with the growth of the GDP. Even with this lower percentage overall, the rise in R&D spending as a percentage of GDP indicates that more capital was invested in research and development in comparison to the size of the economy as a whole.

The quality of the labor market and human capital have a significant influence on a country's growth and FDI inflows in developing nations. Skills development is critical for Sustainable Development, as it promotes innovation and competitiveness, social inclusion, and transfer of knowledge. Indeed, countries can create jobs, attract investors, and improve overall economic performance by providing workers with the required skills. Rapid innovations in technology are reshaping businesses and labor markets, resulting in a need for new skills and competencies. To remain competitive in a global economy that is becoming more interconnected, governments must invest in skill development. A competent workforce improves a country's ability to attract international investment, contribute to global value chains, and compete in knowledge-

based sectors. Foreign Direct Investment promotes skill development by offering training opportunities for workers and suppliers, as well as influencing the demand for technical and management skills in host nations. According to Palit and Nawani (2007), growing complexity and technology intensity would increase the demand for technologically and skill-endowed places, leading to a favorable influence on FDI. Developing a trained and educated workforce is crucial for leveraging technical capabilities, absorbing new technologies, and fostering creativity.

Countries with strong manufacturing industries, such as chemicals, machinery, and equipment, attract FDI in sectors that need more capital, talent, and technology. They usually have well-developed infrastructure, transportation networks, industrial areas, and a professional workforce expert in manufacturing processes. Their infrastructure and experience make them appealing locations for FDI in advanced technology industries, looking to exploit existing competencies, and resources and benefit from technology transfer and knowledge spillovers.

Research done by Oco Global (2020), showed an increased competitiveness among nations seeking investors, choosing established markets with a strategic approach. Indeed, investor locational decisions are changing, with a greater emphasis on talent acquisition and technical capabilities, particularly in industries such as technology, sophisticated manufacturing, and life sciences. The relationship between skills and foreign direct investment is mutually advantageous. The availability of labor skills is an important determinant for investors when choosing investment destinations because of their interest in efficient local labor. Investors' introduction of new knowledge and techniques benefits host economies by providing people with skills that may be used for future job possibilities creating benefits for the whole society not only for the individual. This interdependent interaction has the potential to create a loop in which skill progress and FDI reinforce one another.

In conclusion, the availability and quality of workers are becoming valued more highly than labor costs and they are g considered as one of the most important drivers of foreign direct investment (Asamani, 2022). Many multinational companies invest in other nations to get access to highly trained workers, particularly in fields such as pharmaceuticals, electronics, and telecommunications. For this reason, countries with

low-cost, but highly trained workforces are especially appealing to MNCs in certain industries.

### **1.6.2 Market Size**

One of the most widely accepted determinants of FDI in developing countries is market size often represented by the host country's per-capita Gross Domestic Product or real GDP. The first one is mainly used, because "the absolute size of GDP is more likely to reflect population size than per capita income" (Root & Ahmed, 1979, p. 758). Large markets are composed of extensive and expanding consumer bases which significantly increases demand for products and services, attracting international investors looking to boost sales, expand their operations, and reach new markets. Large markets can also foster economies of scale because a large market requires the effective use of resources and the exploitation of strategies which lowers production costs per unit and boosts profitability for businesses (Scaperlanda & Mauer 1969). In addition, the economies of many developing nations are expanding quickly, which is boosting middle-class size and purchasing power. Businesses now have the chance to profit from the growing customer demand for a range of goods and services, so to optimize their investment returns, multinational corporations aim to invest in markets with robust potential for economic growth. Economic growth, reflected in GDP growth rates, is used as an indicator of market dynamism and potential returns on investment. Higher growth rates signal expanding opportunities and greater profitability prospects, further incentivizing FDI inflows (ElShazly, 2020).

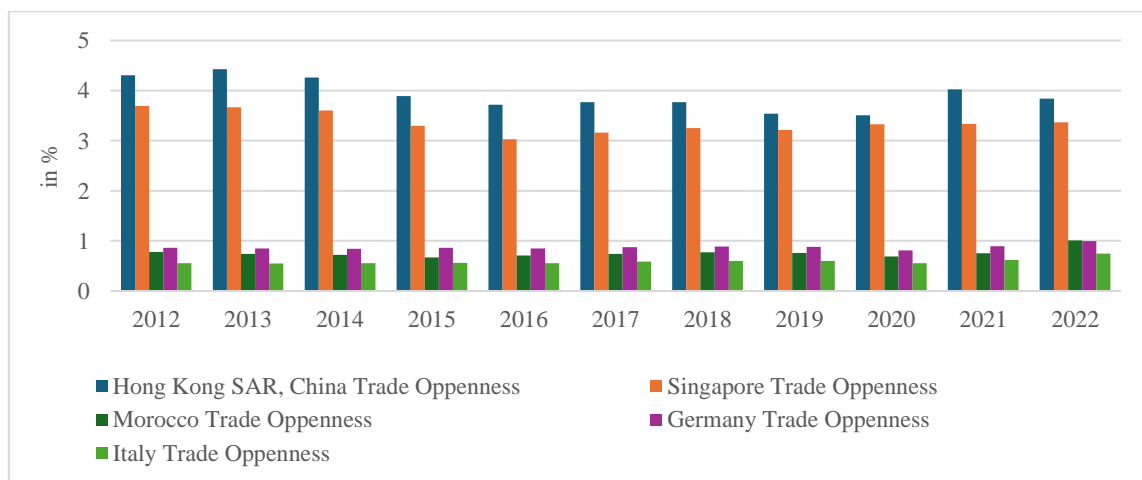
Cheng and Kwan (2000) and Moosa and Cardak (2006) demonstrated that larger markets offer multinational corporations a substantial consumer base for their products and services and so it is an attractive determinant because this demand creates an attractive incentive for companies to invest in these countries. As a result, larger economies typically receive more foreign direct investment from companies looking for growth opportunities and that want to exploit the local population's purchasing power. Moreover, high-growth nations have effective macroeconomic policies that attract foreign capital, such as monetary, fiscal, and exchange rate plans, which are meant to promote stability, control inflation, and boost economic growth (Onyeiwu & Shrestha, 2004).

### 1.6.3 Trade Openness

Another important factor influencing FDI in emerging nations is their level of trade openness. Open economies give foreign investors access to international markets, making it easier for them to sell goods and services so increased trade openness significantly increases FDI inflows (Zaman et al, 2018). Most studies use the ratio of exports + imports divided by GDP as a proxy for it (Lankes & Venables, 1996). This is not a perfect metric because big economies usually appear to be less open when using this method. The graph below shows the trade-to GDP value, of four countries: Hong Kong, Singapore, Morocco, Germany, and Italy. The highest values are the ones of Hong Kong and Singapore because these two economies rely on international trade while the other three are much less. Thanks to its advantageous location in Asia, Hong Kong has become a major hub for international trade, business, and finance by utilizing its connections to the Chinese mainland. It attracts tourists and provides high-quality services, promoting the international growth of Chinese businesses in a favorable climate with a low tax system, unrestricted capital movement, effective markets, and respect for the law (Hong Kong Economy website, 2022).

Singapore is well-known throughout the world for its stable economy, low tax rates, dynamic business environment, liberalized banking industry, and political stability. Singapore interacts with a wide range of partners globally, increasing competitiveness in the area and maintaining its position as a major player in the global economy. (3E Accounting Firm Singapore website)

Figure 1.6: Exports of goods and services (% of GDP)



Source: World Bank. World Development Indicators, 2023

Another way to distinguish open economies can be found if they are members of the WTO because they are expected to gradually lower import barriers and comply with a set of predetermined guidelines (Binh & Haughton, 2002). Better economic performance has traditionally been correlated with trade and market openness, creating new opportunities for consumers, businesses, and workers worldwide. Salary and working conditions are often better in more open trade economies than in those that are not, and the first one usually grows quicker than relatively closed ones (OECD website). To conclude, theoretical reasons suggest that trade openness positively influences foreign direct investment inflows, therefore, more trade sector liberalization would encourage inward foreign direct investment (Ang, 2008). “Through FDI and the trade it generates, host countries can gain from comparative advantage, economies of scale, and trade-related R&D spillovers” (Lankes & Venables, 1996, p. 89). The beneficial correlation between trade openness and economic growth supports the advantages of global trade liberalization and integration.

#### **1.6.4 Natural Resources**

When companies do resource-seeking they are likely to establish their subsidiaries in countries with abundant natural resources such as gas, oil, and mines. However, the literature recognizes that countries rich in natural resources could attract foreign direct investment in such sectors while simultaneously decreasing other kinds of FDI. Asiedu (2013) proposed a hypothesis suggesting an inverse relationship between natural resources and foreign direct investment. Firstly, when there's a rapid increase in natural resource production, it often causes the local currency to appreciate, reducing the competitiveness of the country's exports in the global market. For this reason, investors prefer to shift their investments away from sectors not related to natural resources leading to an overall decrease in foreign direct investment. Secondly, natural resources, particularly oil, are characterized by volatile market conditions, leading to fluctuations in exchange rates, and increasing the probability of external economic shocks. These factors will create an image of macroeconomic instability for that country, discouraging foreign investment. Lastly, FDI in resource-rich countries which are focused mainly on the natural resource sector require a huge initial investment while the next operations

typically demand fewer financial cash flows, reducing FDI inflows.

Poelhekke and Van der Ploeg (2010) reveal that natural resources have a negative impact on non-resource FDI while exerting a positive influence on resource FDI. This indicates that countries with abundant natural resources tend to attract more investment in resource-related sectors but have a decrease in non-resource FDI. This negative effect on non-resource FDI is amplified in countries geographically close to major markets because the proximity to large markets amplifies the adverse impact of natural resource abundance on non-resource FDI. More specifically, an example of this trend is that a doubling of oil prices leads to a significant decrease in non-resource FDI, highlighting the sensitivity of FDI flows to fluctuations in resource prices, particularly in economies with an abundance of natural resources.

### **1.6.5 Quality of Institutions**

Various studies have indicated that institutions are critical in determining the inflows of Foreign Direct Investment, showing that FDI prefers countries with stronger institutional structures, meaning that bad governance may impede FDI. According to Daude and Stein (2007), there are two main ways that low institutional quality discourages foreign direct investment. It acts as a tax, raising the cost of FDI and it increases investment uncertainty. So, FDI is positively impacted by increased institutional quality, with some institutional characteristics being more important than others. More specifically, erratic policy, onerous regulations, and strong government commitment are the most problematic aspects when talking about attracting foreign direct investment.

Buchanan et al. (2012) demonstrate how crucial high-quality institutions are to attracting foreign direct investment providing evidence that FDI and institutional quality are positively and significantly correlated. Furthermore, the study analyzed that lower FDI volatility is linked to improved institutional quality, so to reduce it and guarantee long-term economic development, it is important to emphasize institutional reforms to foster favorable macroeconomic conditions. Moreover, according to Harms and Ursprung (2002), foreign investors tend to favor nations with democratic institutions since authoritarian regimes frequently decrease the possibilities for FDI.



Lastly, Globerman and Shapiro (2002) demonstrate that policies that promote both local and international competition, transparent legal and regulatory frameworks, and effective government service delivery are all indicators of effective political governance.

### **1.7. RECENT TRENDS (2020/2022)**

The world economy has been severely impacted by COVID-19, which has had an instantaneous and drastic effect on foreign direct investment together with the new policies promoted, and sustainability tendencies, changing the face of global production. In terms of global production trends, there is a willingness to have shorter value chains, more value-added concentration, use digital platforms to reach foreign markets, and decrease investments in tangible productive assets. Global Foreign Direct Investment inflows decreased in 2020 going from \$1.85 in 2019 trillion to \$1.19 trillion in only one year. This level is, even lower than the level in 2009 that decreased because of the global financial crisis. The main reason is of course the COVID-19 pandemic that slowed greenfield investment and led multinational enterprises to reconsider new projects due to global lockdowns and potential recession.

FDI components decreased due to a contraction in greenfield investments and M&As, together with a decline in profits and equity investment flows. COVID-19 prevented investment and forced MNEs to reconsider new projects and consequently, the decline in foreign direct investment exceeded the one of GDP and trade. When shops, manufacturing facilities, and construction sites were physically closed to stop the virus's spread, most of the investment expenses, such as the projects' fixed operation costs, were still present, but other expenses were completely stopped.

Greenfield project announcements were delayed and a lot of mergers and acquisitions (M&As) were stopped for a while. “The impact of the pandemic on global FDI was concentrated in the first half of 2020. In the second half, cross-border M&As and international project finance deals largely recovered. But greenfield investment – more important for developing countries – continued its negative trend throughout 2020 and into the first quarter of 2021” (UNCTAD, 2021, P. 4).

FDI declined significantly in both developed and emerging economies, falling by 58%

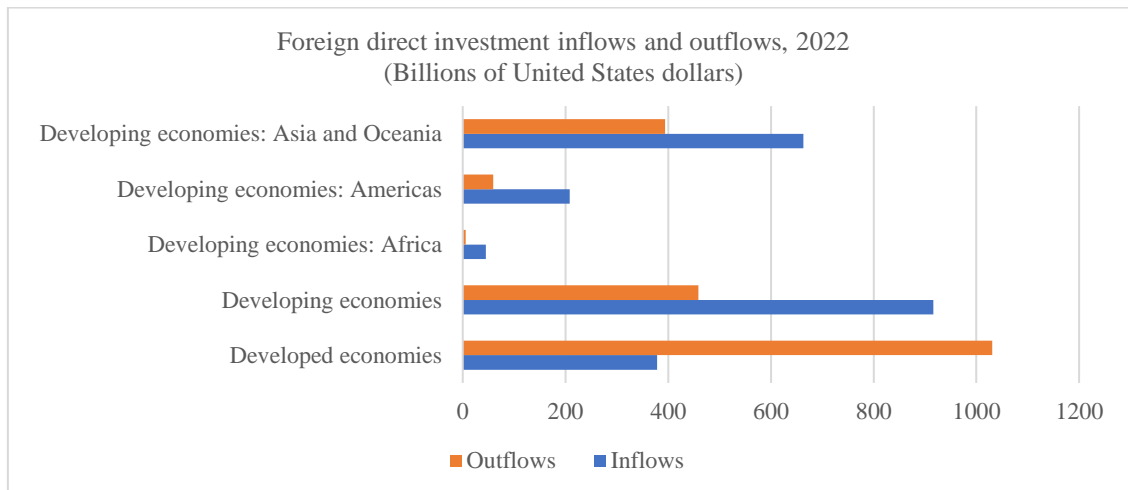
in both. However, the fall in developing areas was more moderate, so developing economies accounted for two-thirds of global FDI. Developing nations suffered a greater decrease than developed ones, greenfield announcements in these fell by 44%, compared to declines of about 16% in developed countries. Intracompany loans and profitability have trended downward in several countries as a result of changes in financial situations inside multinational companies in reaction to the crisis. The pandemic's influence on global investment trends was immediate and focused during the first half of 2020. “International project finance values and cross-border mergers and acquisitions (M&As) were especially shaken by stiffer financing conditions, rising interest rates, and uncertainty in financial markets. The value of international project finance deals fell by 25 percent in 2022, while cross-border M&A sales were 4 percent lower” (UNCTAD, 2023. P. 3).

Global foreign direct investment flows recovered strongly in 2021, reaching \$2.19 trillion, supported by a considerable increase in merger and acquisition activity and a rapid expansion in international greenfield investments, thanks to the permissive financing conditions and favorable infrastructure regulations. However, the global environment changed dramatically in 2022, such to geopolitical concerns like the war in Ukraine, and the pandemic's long-term repercussions. This has resulted in a triple crisis for food, fuel, and money in many nations, boosting investor reluctance to go internationally and perhaps reducing global FDI. The worldwide FDI rebound in 2021 resulted in increases across all regions, with developed countries accounting for approximately three-quarters of the rise, composed mostly of M&A transactions by multinational firms. However, this resulted in large intra-firm financial movements as well as FDI volatility in major investment hubs, and despite their substantial revenues, MNEs showed little interest in investing in new productive assets overseas such as greenfield investments. The increase in infrastructure-oriented foreign project finance and cross-border M&As was so much higher than the greenfield investment increase which remains below pre-pandemic levels (UNCTAD, 2022).

Global foreign direct investment fell in 2022, especially because of the global crisis, which included the conflict in Ukraine, rising prices of food and energy, and debt pressures. Indeed, stress financing conditions, higher interest rates, and capital market volatility had a significant influence on international investments and cross-border

mergers and acquisitions. This decline was primarily due to lower financial flows and transactions of multinational enterprises in developed countries while FDI in developing countries increased marginally, reaching 70% of the global investments. This growth was distributed inequitably because only a few large emerging economies accounted for most growth.

Figure 1.7: Foreign direct investment inflows and outflows in 2022



Source. UNCTAD. 2023.

Figure 1.7 shows both the outflows and inflows of FDI in developed and developing countries dividing the latter into three geographical areas (Asia and Oceania, Africa, and Americas). Looking at the developing economy the inflows are double the outflows meaning that these countries attract foreign investors more than domestic investors that invest abroad. For developed countries is the contrary because the outflows are about three times that of the inflow values. These differences depend on numerous determinants that make investors choose between developed and developing countries as host countries for FDI.

Industry trends in 2022 showed an increase in projects in the infrastructure and global value chain (GVC)-intensive sectors, es such as electronics, automotive, and equipment. The latter are under supply-chain restructuring constraints, and experienced an increase in project numbers and values, with three of the top investments concentrating on semiconductors to solve global chip shortages. International investment in developing countries in sectors aligned with the Sustainable Development Goals (SDGs) grew in 2022, particularly in infrastructure, energy, water and sanitation, agrifood systems, health, and education, while investment in agrifood systems remains below 2015 levels.

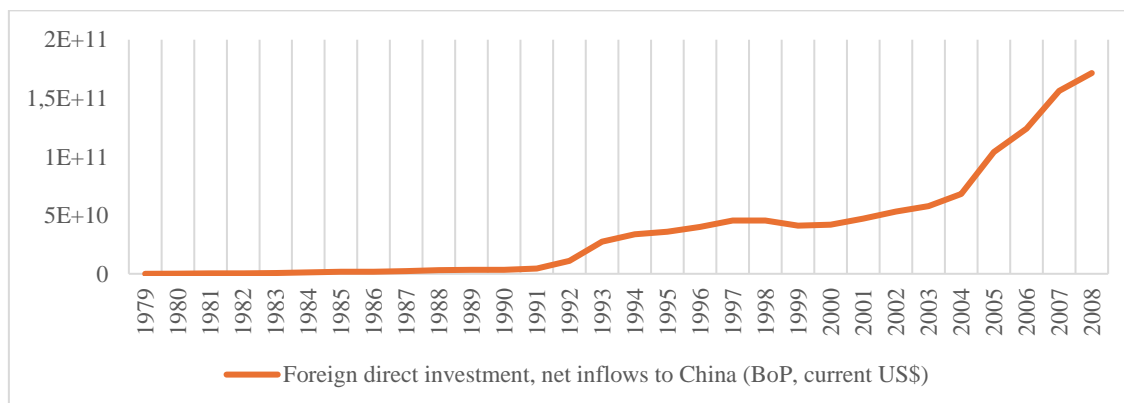
The investments in all Sustainable Development Goal (SDG) sectors, were about \$2.5 trillion in 2014 while more than \$4 trillion per year now.

## 2. FDI IN CHINA

### 2.1 THE BACKGROUND

Foreign direct investments have significantly increased globally since the 1980s, contributing to the economic growth of many countries, promoting resource allocation efficiency in home countries, and economic growth in host countries. Since 1978, Chinese policymakers recognized that foreign direct investments are a cost-effective way to acquire superior technology and resources from foreign countries and to exploit their capabilities. Indeed, the Chinese government has implemented programs to encourage foreign investment and thanks to its large market and low labor costs has attracted millions of overseas investors. However, higher FDI inflows began after 1992. During this initial phase, foreign investors were hesitant to invest in the country due to the government's cautious approach to its domestic economy. To increase its trade openness and its attractiveness to foreign investors the Chinese government provided tax benefits to international investors, including the “Equity Joint Venture Income Tax Law”, the “Foreign Enterprise Income Tax Law”, and the “Industrial and Commercial Tax Provision”. In 1992 the second phase of foreign direct investment started with the implementation of open FDI policies and regulations to promote it across the country, rather than just in specific regions. “Some service industries, such as aviation, telecommunication, banking, and retail trade, were opened to FDI participation in a limited and experimental fashion” (Cardoso and Flores, 2005. P. 66). Furthermore, the government permitted foreign investors, to plan, establish subsidiaries, and to have rights to build infrastructure facilities in China.

*Figure 2.1: Foreign direct investment, net inflows to China (current US\$)*

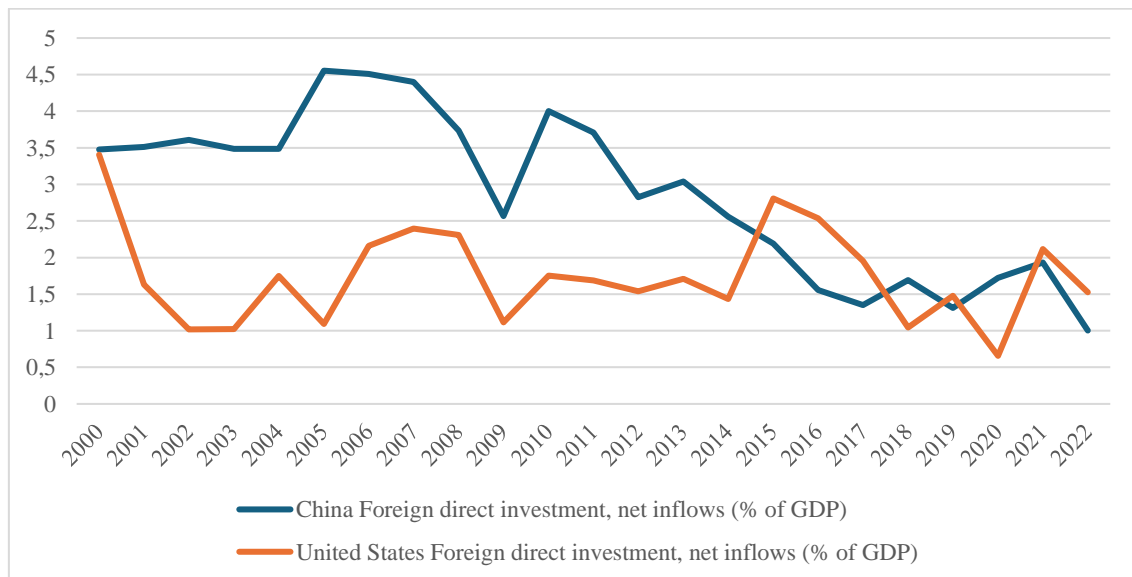


Source: World Bank Group (2023)

As it is shown in Figure 2.1, these policies had clear positive results on investment: in 1992 the number of FDI doubled the previous year, and the same in 1993. FDI inflows were high from 1994 to 1997 but declined in 1999 and 2000 due to the East Asian Financial Crisis that weakened the investment capabilities of Asian countries, which were significant investors in China.

After China joined the World Trade Organization (WTO) in 2001, the third phase began in 2002, starting to create a more open economy by implementing a more uniform and planned regulatory framework and benefiting from it. Its access to the WTO has strengthened developing-country production networks, making foreign-invested firms emerge as a significant component of China's national economy (Aichele & Heiland, 2018). In that period, it was the first global destination for FDI among developing countries, and in 2002 it became the world's largest recipient of foreign direct investment, surpassing the USA, more than quadrupling its GDP in 10 years (World Trade Organization website). It was 1,3394E+12 in 2001 arriving at 6,08719E+12 in 2010 (World Bank, 2023).

Figure 2.2: Foreign direct investment, net inflows (% of GDP)



Source: World Bank. World Development Indicators, 2023.

Figure 2.2 shows the pattern of the FDI inflows in the percentage of GDP for both the USA and China, this measure allows us to compare better the two countries rather than the absolute values of FDI. From 2000 to 2015 the values are always higher for China,

meaning that FDI is more influential and present in the Chinese economy rather than for the Americans. In 2015 there was a peak of the FDI inflows in the USA because of some acquisitions that were due to “large corporate reconfigurations by multinational enterprises, including shifting their headquarters, for strategic reasons and for tax inversion purposes” (UNCTAD Press, 2013) so the values overcome the Chinese ones. From 2017 both countries had similar values, alternating one over the other and vice versa.

The Chinese government continues implementing policies and laws that improve the quality of investments and increase market transparency. Promulgated by the Ministry of Commerce on April 16, 2004, and effective two months later, the “Measures for The Administration on Foreign Investment in Commercial Fields”, denoted that there aren’t any limits on policy in service trade. In 2010 the State Council reiterated the government's goal of promoting scientific innovation and industrial upgrading thanks to foreign investments welcoming high-end manufacturing, advanced technology, modern services, and environmental protection industries.

More recently, according to the Ministry of Commerce, China's actual foreign direct investment in 2023 exceeded about 158.89 billion US\$ (China International Import Expo Bureau, 2024). Even if the total fell 8% from 2022, it remained the third highest in history, in a period of global decline in cross-country investment caused by slowing global economic development, increased geopolitical risks, and weaker foreign demand. However, according to data from China's Balance of International Payments published on Statista, quarterly foreign direct investment inflows to China were \$-11.8 billion in the third quarter of 2023. This is the first time China's inward FDI flows have fallen to negative levels since 1998. This reduction indicates that foreign investors are withdrawing money from the nation at a quicker rate than they are investing it. Geopolitical difficulties, such as weakening ties with the United States, the country's low interest rates, and economic recession are possible factors that explain the decline. Indeed, at the beginning of 2023, China's National Bureau of Statistics reported poor GDP growth estimates, it increased by only 3.0 percent in 2022. This value was the lowest result since modern Chinese GDP statistics began, with the only exception of the COVID crisis in 2020. However, China was the only major global economy to show positive annual GDP growth in 2020, and last year was perhaps also hurting less

economically than others, despite the invasion of Ukraine and internal coronavirus lockdowns that lingered into 2022 in the country.

## **2.2 CHINESE FDI DETERMINANTS**

Research on foreign direct investment (FDI) in China has revealed that factors influencing FDI there are not specific to the country and have also had a significant role in drawing FDI to other developing countries. With 1.2 billion people, it has enormous consumer potential and investors see the Chinese market as the last unexplored area on the planet. China's fast economic growth and expanding purchasing power have drawn significant market-oriented foreign direct investment. This FDI has concentrated on basic chemicals, drinks, vehicles, electronics, and medicines (OECD, 2000).

Cheng and Kwan (2000) showed a strong relationship between GDP and foreign direct investment inflows both at the national and provincial levels in China. Due to the country's strong economic growth, exceptional market potential, and expanding middle class, China has a growing market that attracts foreign investors looking to profit from rising domestic demand. As international businesses invest in China to internationalize, produce, and sell in this market, they not only increase their sales and profits but also stimulate the country's economy. FDI inflows allow people to choose from a greater range of goods and services provided by international companies and are attracted by the potential of GDP growth because it encourages higher consumption. This increased consumption in turn generates economic growth and increases GDP. Furthermore, as businesses establish operations and hire more staff, they create new jobs raising the employment levels and in turn improving the standard of living and economic well-being. In addition to market size, low wage costs have played a crucial role in China's appeal to foreign direct investment and their distribution (Das, 2007). China has always offered cheaper costs for international investors due to its large population and lower pay rates compared to developed nations. For these reasons, businesses may use the large labor pool to reduce expenses, produce goods at a low cost, and increase profitability. To take advantage of these resources, foreign businesses establish factories and production facilities to produce goods for both local and foreign markets. However, China's economic policy has changed recently to emphasize private



consumption, which has led to a notable rise in wages making the other Asian countries gain from this change. This theory is supported by empirical results obtained by Donaubauer and Dreger (2016) suggesting that China's wage growth has changed how foreign direct investment is distributed throughout Eastern Asia. As a result, China will receive less investment in labor-intensive industries, while nearby low-income nations will gain from greater FDI.

New market opportunity is one of the main drivers of Chinese foreign direct investment because both high-income and middle-income countries exhibit a propensity for market-seeking and natural resources. This demonstrates how Chinese businesses are concentrating on obtaining non-fuel natural resources in developing nations. In West, East, and South East Asia, GDP is consistently and significantly predictive of market-seeking foreign direct investment. East and South East Asia's mineral wealth has a beneficial impact on Chinese foreign direct investment (FDI), indicating that these areas are resource-seeking. In conclusion, resource-seeking goals differ between income levels and geographical areas, even if market-seeking is still the key driving force for Chinese FDI overall.

China starting from the '90 has always tried to open markets, reduce barriers and incentivize international trade, to improve the investment environment and increase FDI inflows. This is because the Government understood how important these investments are in bringing in new capital, technologies, and know-how while also supporting the growth of the export industry. The creation of Open Economic Zones (OEZs) and Special Economic Zones (SEZs) has been a key factor in attracting foreign direct investment. It provided advantageous economic conditions and administrative decentralization, enabling local governments to freely develop infrastructure and draw in foreign investment through preferential policies. They helped for an effective resource allocation and allowed experimentation with market-oriented reforms, which has contributed significantly to China's development. Additionally, by drawing in foreign capital, technology, and knowledge, they have increased economic opening, promoted industrial development, and strengthened China's integration into the world economy (World Bank, 2017).

Manufacturing FDI, particularly export-oriented, is influenced by the real unit labor costs which measure the international price competitiveness. Given that most services

must be provided where they are consumed, FDI in the services sector is especially likely to be generated by a significant base of customers. On the other hand, these input cost considerations have a substantially less impact on services FDI than on manufacturing FDI indicating that labor cost advantages across countries are only relevant for FDI into the manufacturing sector. (Riedl, 2010). Because most of multinational entities seek to use FDIs to improve production efficiency or cost-effectiveness, rising labor costs, increased real estate prices, and complex international relationships have all forced these corporations to relocate their manufacturing bases elsewhere.

Following the 2008 global financial crisis, China's economy slowed gradually, with GDP growth declining since 2010. This time marked the beginning of China's "New Normal," a notion coined by Xi Jinping in 2014 to represent a trend toward slower growth rates. The disparity between investment and consumption forced China to shift to a growth model based on domestic consumption, necessitating a rise in wage wages. Workforce prices increased because of worker protests and workforce shortages worsened by the one-child policy. As a result, China's long-standing competitive advantage based on low-wage labor is approaching its end.

China's government promoting a consumption-based economy due to economic growth and the rise of a large middle class, with higher salaries and increased urbanization have led to a shift in spending patterns, especially for luxury products and food. This is also because of the 12th Five-Year Plan (2011-15) that aims to increase wages as a percentage of national household income. This is not the only rising cost, also increased environmental laws and land prices are important, however, labor remains the most significant concern. A study conducted by Julian Donaubauer and Christian Dreger in 2016 showed that a 1% rise in minimum wages reduces the ratio of FDI compared to GDP by around 0.6 percentage points. These shifts in China's economic situation are expected to have an impact on China's attractiveness to international investors, leading low-cost manufacturers to shift production to lower-cost locations in emerging countries in Asia like Cambodia, Thailand, Indonesia, and Vietnam. As a result, growing wages are altering the pattern and distribution of FDI inflows across Asian regions and countries, higher wages in China have a positive effect on the neighboring countries. On the contrary, the Government's aim to stimulate FDI in high-tech sectors remains

unaffected by wage increases, as labor costs in producing technologically intensive goods are relatively low. Some of these high-tech industries are high-tech items, innovative industrial equipment, and renewable energies.

### **2.3 FDI IMPACT ON CHINA**

Neo-classical growth models rely on innovation in technology as an external factor for long-term growth, predicting a positive correlation between FDI and long-term economic growth in developing countries due to the incorporation of exogenous assets such as technology and intangible assets. (Mehic et al., 2013). According to contemporary growth models that prioritize technology, human capital, and externalities, FDI is predicted to drive long-term economic growth and improve developing countries' economic growth in a variety of ways. As mentioned in the first chapter, FDI promotes economic progress by creating jobs, generating capital, transferring technology, and spreading knowledge. FDI promotes the rapid adoption of general-purpose technology leading to increased labor productivity and brings new technology and proprietary assets to the host country, expanding its manufacturing capabilities. In addition, FDI can lead to beneficial knowledge spillovers, boosting the host country's economic growth, and boosting local firms' productivity and efficiency (Zhang & Zhang, 2022).

FDI may boost its economic growth increasing labor demand and job opportunities. “FDI and labor market flexibility have significant positive effects on China's employment” (Rong et al, 2020). These studies showed that an increase of 1% in FDI, was followed by an increase of about 0,22% in China's employment, demonstrating that foreign direct investment has a considerable positive impact on employment. These investments can create jobs, promoting the transfer and re-employment of domestic workers across regions or sectors. It is important to highlight that even if the increase in the employment rate is important, its consequences are even more important because it means an increase in the final output which consequently leads to economic growth. According to Tuan et al. (2009) and Chen (2017), foreign direct investment with spillover effects, R&D, human capital, capital augmentation, and technology advancement, had an impact on the host country's total factor productivity development.

Chen concludes that while FDI inflow to other regions negatively impacts the urbanization of other cities because workers migrate from rural areas to cities, FDI inflow significantly and positively benefits a city's level of urbanization. In conclusion, also Tuan (2009) observed that during China's economic opening, FDI increased its productivity, suggesting a positive association between FDI and total factor productivity growth.

In 2019, China received \$ 187.166 billion US in foreign direct investment, increasing the overall volume of output not just by FDI, but also thanks to spillover effects and technical transfer. Boosting the productivity and efficiency of local Chinese enterprises, means a greater presence of FDI, with a consequent stronger spillover effect on local economic growth. Another study by Zhang (2017) concludes that the productivity of innovation is positively and significantly impacted by FDI-induced spillovers. China's regional heterogeneity has a major role in the spillover effects of foreign direct investment, with the highest productivity gains found in the eastern areas. In addition, the data indicates a correlation between a province's economic development and innovation efficiency. Spillovers from FDI affect efficiency levels in both positive and negative ways. FDI spillovers stimulate Chinese enterprises to innovate more in less technologically advanced regions, increasing innovation output and helping those areas in catching up with their peers. On the other hand, foreign innovation may compete with local products in areas with advanced technological capabilities, creating a substitution effect that decreases local innovation.

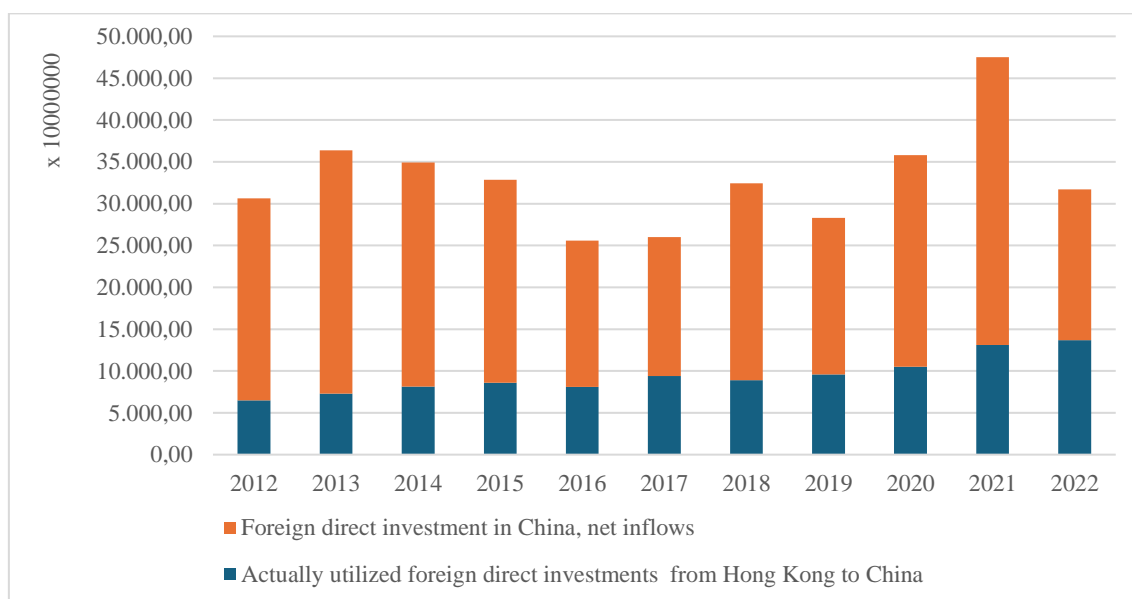
The challenge China faces is balancing environmental sustainability with economic growth, or "green growth." For this reason, is important to understand how foreign direct investment has an impact on the environment, energy consumption, and economic growth. The government should adapt its FDI policies and strategies based on whether FDI has a good or negative influence on green growth. It should adopt tailored policies to maximize benefits and reduce the possible negative consequences, supporting sustainable development in China. Yue et al (2016) demonstrate that FDI supports China's green economic growth by increasing both economic and environmental efficiency by going to industries with fewer emissions and pollutants.

## 2.4 WHICH COUNTRIES INVEST IN CHINA?

China receives most of its foreign direct investment (FDI) from its neighbors in East and Southeast Asia and from some free ports. Following a devastating impact on Southeast Asia, Japan, and South Korea because of the Asian financial crisis at the end of the '90 there was a multi-year regional economic collapse.

In China, Hong Kong has been a significant source of foreign direct investment and Zhang (2005) determined some factors that contribute to this. Hong Kong has particular advantages in export-oriented FDI, thanks to China's export-promotion FDI strategy, China has an enormous pool of inexpensive labor, and between the two countries, there is a special connection.

*Figure 2.3: FDI inflow in China and FDI from Hong Kong to China between 2012 and 2022 in current US\$.*



Source: World Bank Group (2023) and China Statistical Yearbook (2023)

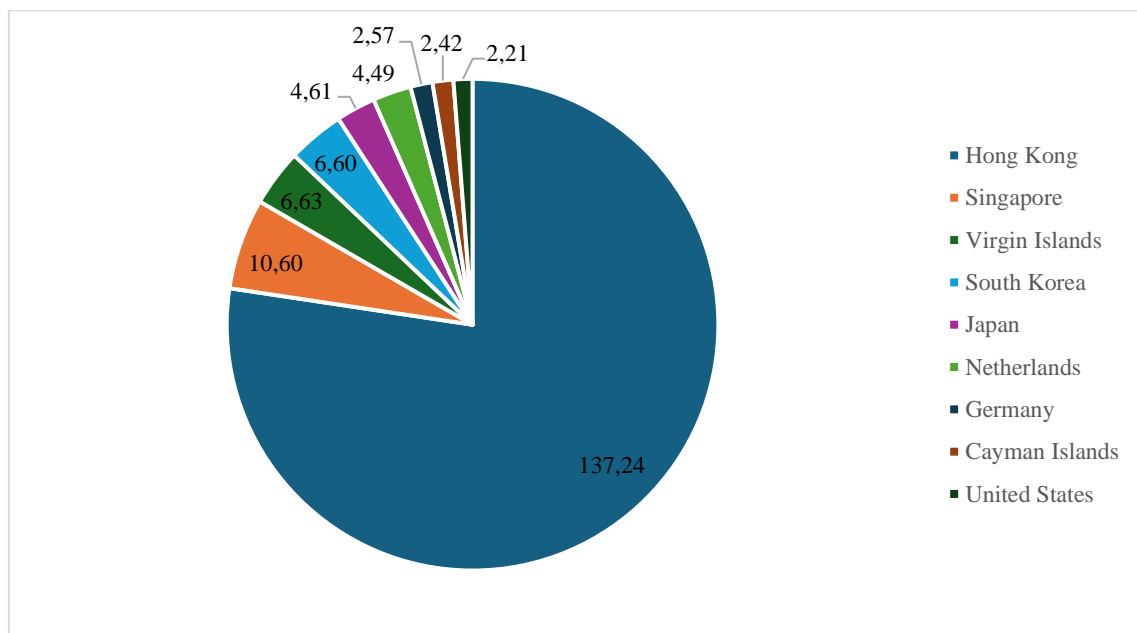
Figure 2.3 shows how Hong Kong contributed significantly to the expansion of China's FDI inflows, growing in importance during the last two decades, and increasing FDI stability arriving at about 74% of the inflow to China in 2020. (Ministry Of Commerce website, 2023). According to Huang (2018), these big numbers derived by the so-called "round-trip FDI" refers to capital that is first exported and then imported back into China as inflow, contributing to the impressive figures.

China receives a large amount of its FDI inflows from the repatriation of Chinese capital that was previously invested elsewhere. According to Bloomberg, this "round-

tripping" of FDI accounts for about 35% of all FDI inflows (Bloomberg News, 2023) Almost all round-trip FDI uses Hong Kong as a transactional channel, together with some offshore financial centers and tax heavens such as the British Virgin Islands, Singapore, Macao, and the Cayman Islands.

Also, Singapore has been a significant contributor to FDI flows in China during the previous decade serving as a key financial hub for China-ASEAN economic cooperation and investment, making the most of ASEAN FDI enters China through Singapore. The following graph shows how important are the Asian countries for the FDI inflow in China. In 2022 Hong Kong and Singapore did 147,84 billion \$ FDI in China.

*Figure 2.4: Actually utilized foreign direct investment (FDI) in China in 2022, by leading country or region (in billion U.S. dollars).*



Source: National Bureau of Statistics of China; MOFCOM China, 2023

## 2.5 INDUSTRY DISTRIBUTION OF FDI IN CHINA

China's foreign direct investment is shifting from traditional manufacturing to high-tech industries and services. The relocation of foreign firms to China has significantly impacted the country's industrial development. Since then, Chinese technology has advanced significantly, and a comprehensive industrial system has been built. China's economy is becoming more complicated, with multiple sectors emerging. China

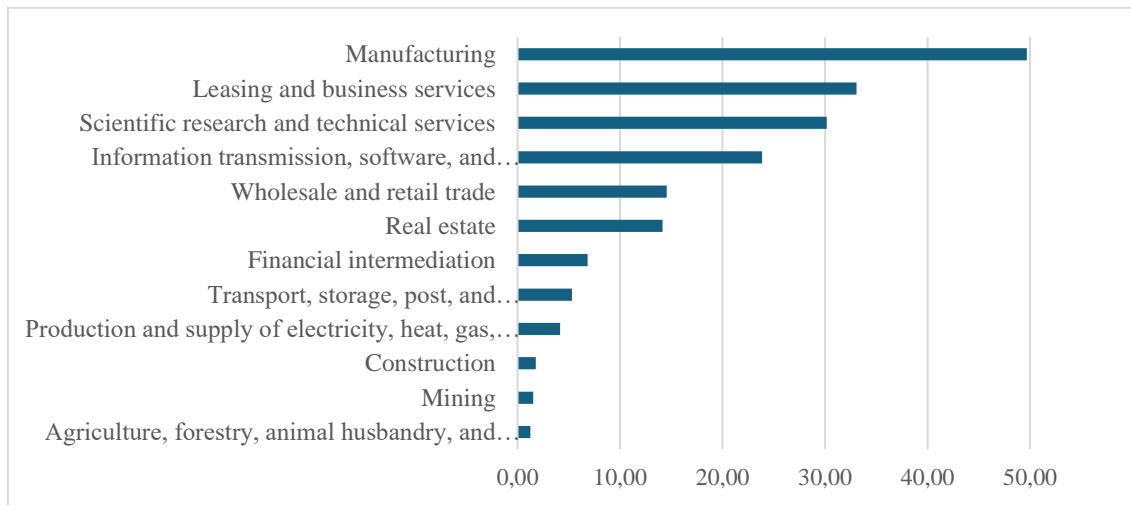
continues to receive significant manufacturing FDI, but services FDI now accounts for the majority of total flows and is the primary driver of growth. This is because manufacturing FDI flows in China are negatively impacted by factors such as rising labor costs, currency appreciation, overcapacity, domestic competition, and the US trade war.

Chinese manufacturing's export capacity and competitiveness rely heavily on foreign direct investment and improve domestic supply chains and other linked industries (Sun, 2012). Until the early 2010s, the manufacturing sector received most Chinese FDI inflows contributing significantly to China's economic growth. They not only create jobs but also connect China to international production networks, transforming it from a closed system to a key player in the global value chain. In 2004 FDI accounted for about 60% of Chinese imports and over 35% of GDP (Whalley & Xian, 2010). China presents two significant advantages for foreign companies and entrepreneurs to invest in the country: it is a leading industrial power and has the largest potential consumer base. The World Investment Report of UNCTAD in 2019 ranked China as the world's second-largest FDI receiver, after only the United States and ahead of Hong Kong.

Nowadays, China's FDI growth is mostly driven by service-related investment, reshaping the FDI landscape, and resulting in the sectoral diversification of foreign capital and corporations in China.

Moreover, increased foreign direct investment in services can lead to increased market competition and improved export quality. This is explained by the results of a study (Sahoo & Dash, 2022) that indicates that foreign direct investment enhances exports in developing nations and that FDI and exports in these countries have a mutually reinforcing relationship. The results of the causality analysis suggest a dynamic link between FDI and exports because greater export levels attract more foreign investment while an increase in FDI inflows boosts exports. As a result, the causation results lend support to the theory that FDI encourages exports in the host country.

Figure 2.5: Value of foreign direct investments in China by sector 2022 (in billion US dollars)



Source: China Statistical Yearbook (2023)

Distribution of Foreign Direct Investment in China has historically benefitted the industrial sector; however, as shown in Figure 2.5 this is changing. This is because China's economic development shifted towards high-quality and advanced industries such as electronic, and automobile manufacturing, technology, services, and consumption. Nowadays, there is a surge in foreign direct investment in profitable service sectors such as financial services, information services, and research and development (R&D), demonstrating how is promoting innovation and it is improving its industrial environment. The manufacturing sector's share of total foreign direct investment (FDI) fell progressively from over 60% in 2005 to less than 20% in 2021, while the service sector was about 75% in the same year. In 2022 China's manufacturing industry has received foreign direct investments of around 49.7 billion US dollars as a part of the 189 billion of the total FDI of that year. Notably, industries including IT, leasing and business services, and scientific research and technology are quickly rising their values adding to the diversification of investments in China.

## 2.6 CONCLUSION

Since 2005 the Chinese currency (RMB) has strengthened, reducing the purchasing power and increasing building and installation costs for greenfield FDI and of acquiring assets. (Goldstein & Lardy, 2006). In addition to that, from 2010, the Chinese market



became increasingly competitive as indigenous manufacturers expanded and the quality of potential partners improved.

Since 2018 foreign investors have been hesitant to engage in China's manufacturing industry due to the current market environment and to the trade war and geopolitical issues that negatively impacted manufacturing exports. Despite this, China's FDI numbers continue to grow, even if with a lower growth because of opportunities in the rising market, and the structural changes. The latter considers the reallocation of resources from less productive sectors to more productive ones, explaining the growth performance of this country. (Chen et al., 2011). This change is highlighted by the fact that in the 2010s, China became the world's second-largest economy, behind the USA. The service sector boomed, the process of urbanization was growing, and many infrastructure constructions were contributing significantly to the added value of gross production and attracting significant foreign direct investment. The Chinese wholesale and retail economy is experiencing a golden era in the 2010s, driven by rising earnings and expanding middle classes. It is also seeing an increase in investment in business and production services due to high demand from foreign and indigenous companies and products for private consumption. Indeed, a comparative analysis made by Chen and Whalley (2014), showed that services are increasingly being prioritized in national development strategies. Given China's comparatively low share of GDP, foreign trade, and employment in comparison to international norms, there is room for further growth of service sectors and service trade. The potential significant consequences for China and the global economy include economic growth, employment and labor migration, technological diffusion, and FDI patterns.

The current generation of Chinese leaders has decided to reject the concept of investment islands adding tax breaks in a few defined areas accounting for a rapid growth of FDI in these zones (Hu, 2020). In addition to that, innovative enterprises with a significant technological component can receive reduced taxes and a special license recognizing their high-tech enterprise status. The authorities have simplified foreign investment approval procedures and introduced a more flexible notification and reporting system using the "Special Administrative Measures for Foreign Investment Access" also known as the "negative list". It has eliminated limitations on specific fields, intending to diminish the constriction, highlighting opportunities in services,

manufacturing, and agriculture. It follows that foreign corporations and capital can freely enter any Chinese industry or sector, with the only exception of some. Multinational corporations typically require extensive knowledge and experts, but they struggle with intellectual property protection in China. Foreign service businesses operating there, want guarantees of national treatment and fair competition and for this reason, China's foreign investment legislation composed of legal regulations that protect the rights and interests of foreign investors, has recently made significant progress. These measures aim to improve companies's efficiency and attract more FDI through tax cuts, tariff reductions, lowering import tariffs, improving project delivery, and reducing the obstacles to foreign investment.

### **3. QUANTITATIVE ANALYSIS**

#### **3.1 RESEARCH QUESTION AND OBJECTIVES**

“How do various independent variables, including government expenditure on education, urban population, adjusted net national income per capita, political stability, labor force with advanced education, and taxes on income, profits, and capital gains, influence Foreign Direct Investment? And what are the implications for economic policy formulation and decision-making?”

This principal research question will be separated into several sub-questions, each addressing the influence of these variables on FDI.

To promote economic growth and development, policymakers must have a deeper understanding of the variables affecting Foreign Direct Investment. This research question explores the relationships existing between nine independent variables and their effects on foreign direct investments. This will help Governments to catch opportunities and improve their infrastructures and economic and business environment, becoming more appealing to foreign investors.

#### **3.2 DATA SOURCES**

In this paper, the data are from the World Bank Group and the OECD, online databases with a variety of datasets covering different countries. The time frame is from 2010 to 2022, there are 17 countries, two dependent variables which are the ones to be studied, and 9 independent variables which are the determinants of the dependent. The chosen countries are China, Russia, India, Brazil, the European Union, the USA, Canada, Japan, Australia, Mexico, Argentina, South Africa, Saudi Arabia, the Republic of Korea, Switzerland, Singapore, and New Zealand. I have chosen these because they are some of the most significant in the world of international trade.

#### **3.3 DESCRIPTIVE STATISTICS**

In this paragraph, I studied the frequencies and computed some graphs to describe the dataset. The table below represents the descriptive statistics such as the range, minimum, maximum, standard deviation, variance skewness, and kurtosis of each variable that will be explained more in-depth one by one. Considering 17 countries and

13 years there are a maximum of 221 observations but some variables have some missing values, so the number of statistics is less.

*Figure 3.1: Descriptive statistics of both dependent and independent variable*

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness	Std. Error
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
FDI flows	221	1.11991E+12	-2.42168E+11	8.77745E+11	8.6387E+10	1.52209E+11	2.3167E+22	2.598	0.164
FDI stock	221	7.49369E+13	-2.325148E+10	7.49137E+13	5.15116E+12	1.69629E+13	2.8774E+26	3.740	0.164
Government expenditure on education, total (% of GDP)	181	4.3059	2.3886	6.6945	4.708197799	0.9740	0.949	-0.324	0.181
Employment to population ratio, 15+, total (%) (national estimate)	206	32.4700	36.7100	69.1800	58.6333	6.6339	44.010	-0.909	0.169
Urban population (% of total population)	221	73.9740	26.0260	100.0000	77.7313	15.3856	236.718	-1.531	0.164
Adjusted net national income per capita current \$	203	70173.8612	476.8990	70650.7602	25251.4822	18872.0056	3.56152E+8	0.533	0.171
GDP growth (annual %)	221	23.1713	-8.6515	14.5197	2.7225	3.2033	10.262	-0.037	0.164
Political Stability and Absence of Violence/Terrorism	208	4.3017	-2.70263	1.5991	0.2271	0.8599	0.739	-0.113	0.169
Labor force with advanced education (% of total working-age population with advanced education)	171	32.3220	56.5780	88.9000	77.1124	6.1134	37.375	-0.897	0.186
Taxes on income, profits, and capital gains (% of revenue)	191	69.2082	-1.3508	67.8574	32.5617	18.6732	348.689	-0.034	0.176
Logistics performance index: Quality of trade and transport-related infrastructure (1=low to 5=high)	221	2.2200	2.3800	4.6000	3.5355	0.52769	0.278	-0.293	0.164

Source: Personal elaboration of data from World Bank Group and OECD.

### 3.3.1 Dependent Variables

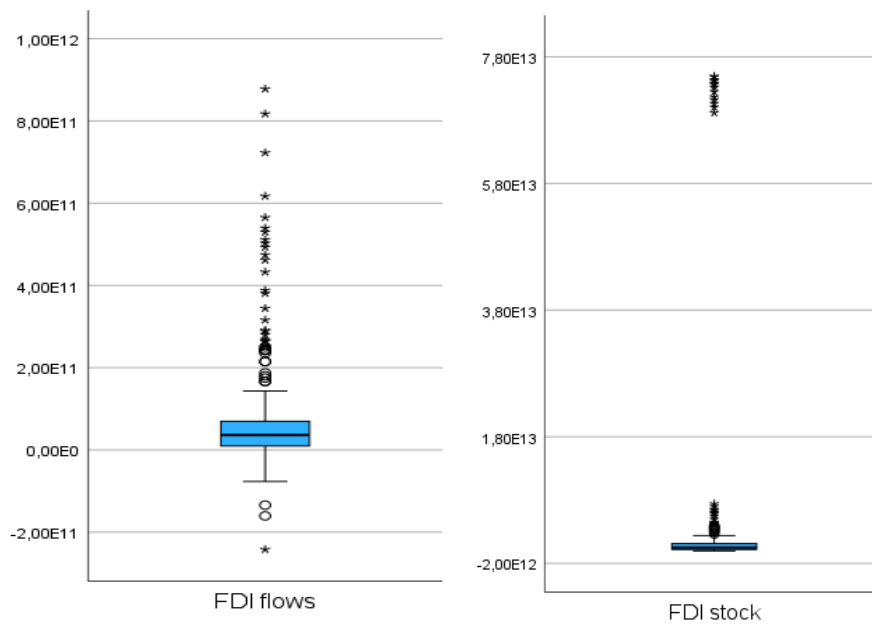
The dependent variables are the FDI inflow and stocks in different countries and in different periods. “Inward flows represent transactions that increase the investment that foreign investors have in enterprises resident in the reporting economy less transactions that decrease the investment of foreign investors in resident enterprises” (OECD Data website). They are measured in current USD and the source is the World Bank Dataset called “Foreign direct investment, net inflows (BoP, current US\$)”.

The other variable to measure FDI is the stock which “is the value of foreign investors' equity in and net loans to enterprises resident in the reporting economy” (OECD Library). The stock values in 2010 were taken from the OECD website in the section OECD Data- FDI stocks, except for the Republic of Korea, Switzerland, and Singapore which weren't in this dataset. Indeed, for these countries, I did the average of their FDI inflow in 2010 and 2011 to obtain the 2010 stocks' missing values. From 2011 to 2022, I calculated the stock values by summing the stock value in the previous year and the value of the inward flow in that year.

$$FDIstock_t = FDIstock_{(t-1)} + FDIflow_t$$

For the FDI inflow, the maximum value is 877745479520.7524 which corresponds to the FDI inflow in the European Union in 2011 while the minimum value is -242167615576.1180 for Switzerland in 2020. Both the flows and the stocks have a high variability, the values are respectively in a range of 1119913095096.8704 and 74936945479369.95000. A big range means that the variability is high and also looking at the standard error is probable to find some outliers. To check visually the outliers I computed the boxplot below (Figure 3.2) which shows many outliers over and below the box for stocks and flows.

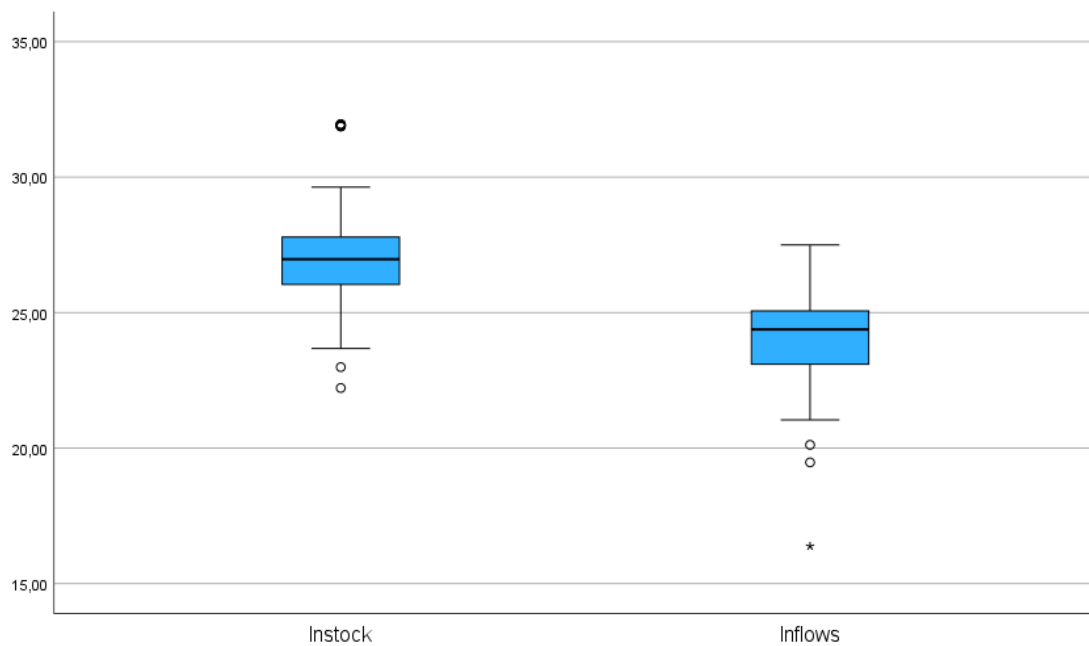
Figure 3.2: Boxplot of FDI flows and stock.



Source: personal elaboration of data from World Bank Group and OECD.

To reduce variability there are four different ways. The first option is to remove the outliers but, in this analysis, it will imply deleting some critical values damaging the results of the whole regression. The second way is to transform the variable using the natural logarithm of it because in this way the variability is reduced. The third way is to substitute the outliers values with the mean but also in this case the final dataset will be different from the real one. Lastly, the results could be reported twice, one with and one without the outliers. For my analysis, I chose the second solution and transformed the two dependent variables into their logarithm function. After the transformation, I computed again the graphs, and, as Figure 3.3 shows, the outliers are reduced and the boxplots are cleaner. All the next computations will be done using the natural logarithm.

*Figure 3.3: Boxplot of the logarithm of FDI stock and logarithm of FDI flows*



Source: Personal elaboration of data from World Bank Group and OECD.

### 3.3.2 Independent Variables

The nine variables are chosen for the regression based on the literature of the previous chapters and the availability of data. They are all from the World Bank in the World Development Indicator database.

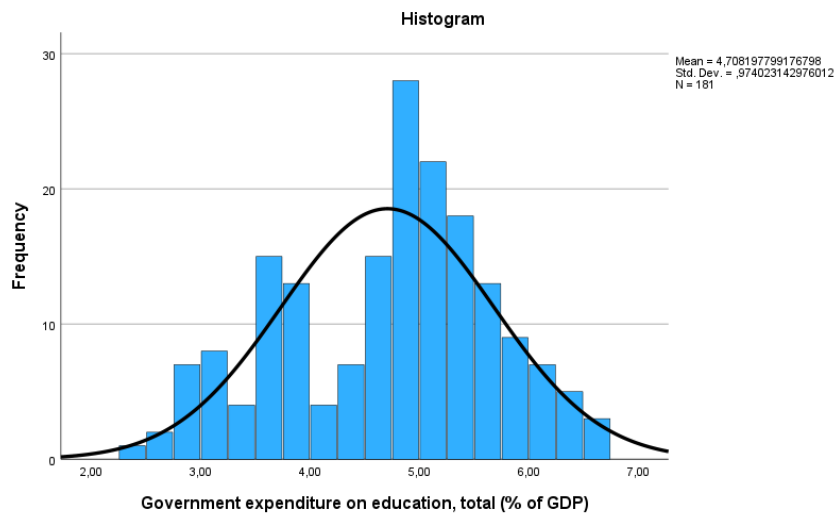
### **1. Government expenditure on education, total (% of GDP)**

**Hypothesis 1: Ceteris paribus, an increase in Government expenditure on education results in a rise in Foreign Direct Investment.**

“General Government expenditure on education (current, capital, and transfers) is expressed as a percentage of GDP. It includes expenditure funded by transfers from international sources to Government” (UIS, 2023). A high percentage of GDP indicates a high priority given to education and the willingness to devolve part of the public expenses to the education system. The education system's effectiveness has been regarded as a key factor influencing the quality of human resources because it creates the workforce of the future. Consequently, it affects the location attractiveness of FDI because especially the strategic asset-seeking FDI is determined by the quality of labor. Moreover, investments made by the Government in areas such as education can stimulate economic growth increase economic performance, and productivity, and so attract more Foreign Direct Investment, having a major long-term impact on the inflows (Grant, 2017). For this reason, Government spending should focus on productive economic activities, leading to increased local competitiveness, and attracting international capital such as market-seeking and asset-seeking FDI (Hanushek & Dennis, 2000). Shah and Iqbal (2016) studied the Pakistan Government spending related to the inflow of FDI and discovered a positive long-term correlation between government expenditure for education and FDI. Lee and Barro (2001), discovered a positive relationship between the expenditure for students and teachers and their educational achievement and quality, increasing productivity and so attractiveness for new FDI.

For this variable, there are 181 observations all in a small range with only a 0.974 standard deviation. As shown in Figure 3.4 below the curve is left skewed meaning that there are more small values decreasing the overall mean.

Figure 3.4: Histogram of Government expenditure variable



Source: personal elaboration of data from World Bank Group.

## 2. Employment to population ratio, 15+, total (%) (national estimate)

**Hypothesis 2: Ceteris paribus, an increase in the Employment to population ratio results in a rise in Foreign Direct Investment.**

“The employment-to-population ratio is the proportion of a country's population that is employed. Employment is defined as persons of working age who, during a short reference period, were engaged in any activity to produce goods or provide services for pay or profit” (International Labour Organization, 2024). The employment-to-population ratio measures how effectively an economy offers jobs for those who wish to work. A high ratio suggests that a big share of the population is employed. A lower employment-to-population ratio, on the other hand, it is not always bad because it might be interpreted positively, particularly for young people, if it is the result of higher level of education.

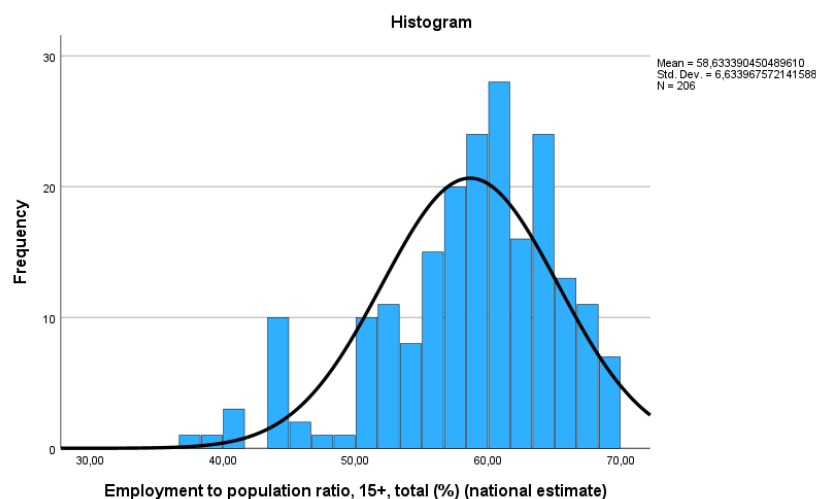
A high percentage of employers is a determinant of FDI because it implies that a large proportion of the population is employed and can work also for international enterprises. This means the availability of a huge pool of accessible labor, which is appealing to foreign investors, particularly those looking to engage in businesses that require a workforce. This ratio is a useful statistic that frequently provides more information than the unemployment rate by itself. Although a high ratio is often regarded as advantageous, it does not represent employment quality because it would



need other indicators such as wages, hours worked, unemployment, and working conditions. Indeed, high values can signify some unfavorable conditions such as restricted educational opportunities, resulting in youth joining the workforce before finishing their studies (International Labor Organization, 2015).

This variable has a quite big range, about 32,47 with 206 observations. The mean is 58.633% with a minimum value in Argentina in 2020 of 36.71% to a maximum of 69.18% in China in 2010. The distribution counts a lot of small values that demonstrate the negative skewness of the histogram below.

Figure 3.5: Histogram of Employment to population ratio



Source: personal elaboration of data from World Bank Group

### 3. Urban population (% of total population)

#### **Hypothesis 3: Ceteris paribus, an increase in Urban population results in a rise in Foreign Direct Investment**

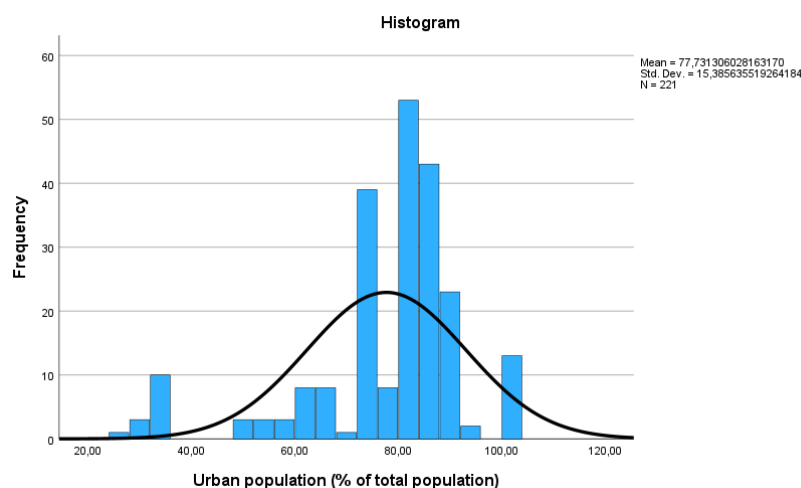
The term "urban population" describes the individuals who, according to national statistics authorities, live in urban regions. The value refers to the percentage of the total population, so it is the number of people living in an area classified as "urban" divided by the overall population of that country. It is important to use caution when interpreting these numbers, as many nations classify their inhabitants as "urban" or "rural," frequently based on different variables making the comparison with other countries more difficult. The fact that metropolitan areas usually have higher population

densities than rural ones greatly increases their attractiveness for FDI because they are large marketplaces. Indeed, FDI is attracted to nations with large urban populations because investors believe that demand for products and services in these urban areas will increase. Investors are encouraged to develop or extend their businesses in urban regions if there is a prospect of growing consumer demand, to exploit the market potential of cities. Moreover, compared to rural areas, metropolitan areas usually have better infrastructure and technologies, and the transportation of products and people is facilitated by well-developed networks, which include public transportation systems, roads, and highways. In addition to the physical infrastructure, modern communication infrastructure, including high-speed internet and telephones, are fundamental determinants of FDI allowing connectivity and information sharing.

For all these reasons the relationship between urban population and FDI should be positive. As Bhattacharya et al (2023) wrote: “higher urbanization will produce higher net FDI inflows”.

This variable does not have missing values however the values of Singapore are always 100% because there is no countryside in that country, making the maximum and the mean a bit distorted. The histogram below shows the frequency distribution that is negatively skewed.

*Figure 3.6: Histogram of Urban population*



Source: personal elaboration of data from World Bank Group

#### **4. Adjusted net national income per capita (current US\$)**

**Hypothesis 4: Ceteris paribus, an increase in Adjusted net national income per capita results in a rise in Foreign Direct Investment.**

The adjusted net national income is the Net National Income minus the Depreciation of natural capital, with the NNI being:

$GDP + \text{Net foreign factor income} - \text{Depreciation of fixed capital}.$

“Adjusted net national income (aNNI), can usefully complement GDP to assess economic progress ... this is a better measure of the available income that can be consumed or invested to increase the nation’s future consumption” (Hamilton & Ley, 2010. P. 1 and 3).

Raising a country's overall wealth is a prerequisite for raising its level of living and it can be done by focusing on three main types of capital: produced, human, and natural capital. The first concerns the tangible resources produced by humans and used in creating commodities, buildings, machines, and services. Human capital is the combination of an individual's abilities, knowledge, and experience that enable people to perform work and create value for the economy. Lastly, natural capital consists of natural resources, including land, forests, water, and mineral resources essential to human life and many businesses and industries. These three forms of capital work together to support a country's economic growth and capacity for long-term development. If an economic balance sheet regularly includes the depreciation of the assets, Stiglitz (2006) observed that conventional metrics of economic performance, like GDP, don't consider the depreciation of the natural capital. Because GDP is the total amount of products and services generated in a nation; it does not account for capital that is used up or depreciated during production. This omission may cause the misjudging of the real situation of the economy of a country. For example, a nation may perceive an increase in GDP through the transfer of natural resources to foreign investors, but this could not result in a substantial increase in gross national product, since foreigners benefit from the value of what is produced (Stiglitz, 2006). For this reason, adjusted net income per capita it is a variable used as a determinant of FDI in addition to the growth of GDP.

This variable has a big standard deviation because of the variability of the income in the different countries considered. Indeed, I calculated if there are some outliers, that are values outside the interquartile range. Firstly, I computed the interquartile range with the function: analysis → descriptive statistics → frequencies → statistics → quartile. The table below is the output of the software.

Figure 3.7: Table of Statistics of Adjusted net national income per capita current \$

N	Valid	203
	Missing	18
Percentiles	25	7652.47
	50	23960.53
	75	40434.74

Source: personal elaboration of data from World Bank Group

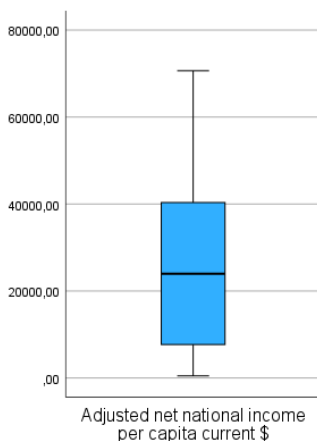
The Interquartile range =  $Q3 - Q1$  where  $Q3$  is the percentile 75 and  $Q1$  is the percentile 25. In this case, the IQR is 32782,2657.

Smaller outlier =  $Q1 - 1.5 * IQR \rightarrow 7652.469921 - 1.5 * 32782.2657 = 7652.469921 - 49173.3985 = -41520,9286$ .

Higher outlier =  $Q3 + 1.5 * IQR \rightarrow 40434.735696 + 1.5 * 32782.2657 = 40434.735696 + 49173.3985 = 89608.1341$ .

So, all the values below -41520.9286 and above 89608.1341 are outliers. However, being the minimum value of 476.8990 and the maximum of 70650.7602, there aren't any outliers in this distribution. In addition, also the boxplot below (Figure 3.8) shows that there aren't any outliers so the best option is to leave the data as they are.

Figure 3.8: Boxplot of Adjusted net national income



Source: personal elaboration of data from World Bank Group

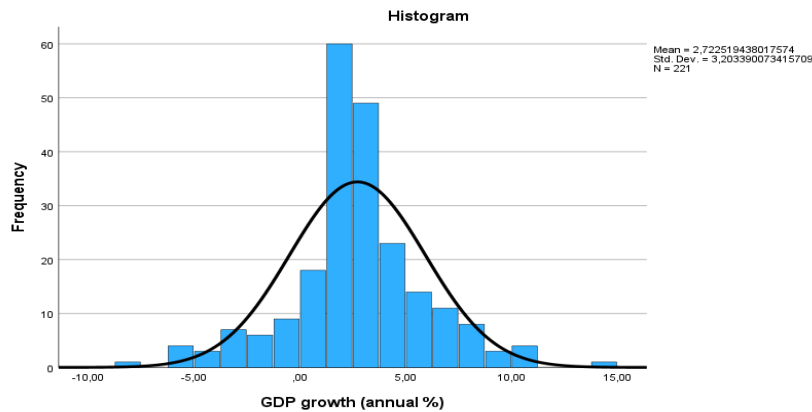
## 5. GDP growth (annual %)

### **Hypothesis 5: Ceteris paribus, an increase in GDP growth results in a rise in Foreign Direct Investment.**

“Gross domestic product (GDP) is the standard measure of the value of final goods and services produced by a country during a period” (OECD, 2019. P. 16). Gross means that GDP considers the entire output of goods and services without excluding the capital asset depreciation during the manufacturing process. Before accounting for the deterioration or gradual loss of value of these capital goods, it represents the entire cost of production. Domestic because it calculates the total output of all institutional residents in the nation, regardless of their ownership, covering both foreign and native-owned businesses operating inside the nation's boundaries. Product is the sum of goods and services bought for investment, consumption, or government use, together with investments in fixed assets, and net exports (OECD, 2019).

GDP growth is the “annual percentage growth rate of GDP at market prices based on constant local currency. Aggregates are based on constant 2015 prices, expressed in U.S. dollars.” (World Bank DataBank). It offers an overview of variations in an economy's output volume. Economic growth can be approximated to GDP growth and it is a positive indicator for Foreign Direct Investment inflows since it usually results in higher investment levels and offers host countries different benefits. According to Nunnenkamp and Spatz (2002), FDI inflow is strongly influenced by market size and market potential, which are commonly proxied by GDP level and GDP growth rate. This variable has the minimum value in 2020 in Mexico reaching -8.651% and its maximum value is in 2010 in Singapore with 14.519% of GDP growth. The mean is 2.72% showing that the trend is generally positive in these years.

Figure 3.9: Histogram of GDP growth



Source: personal elaboration of data from World Bank Group

## 6. Political Stability and Absence of Violence/Terrorism: Estimate

**Hypothesis 6: Ceteris paribus, an increase in the Political Stability and Absence of Violence/Terrorism index results in a decrease in Foreign Direct Investment.**

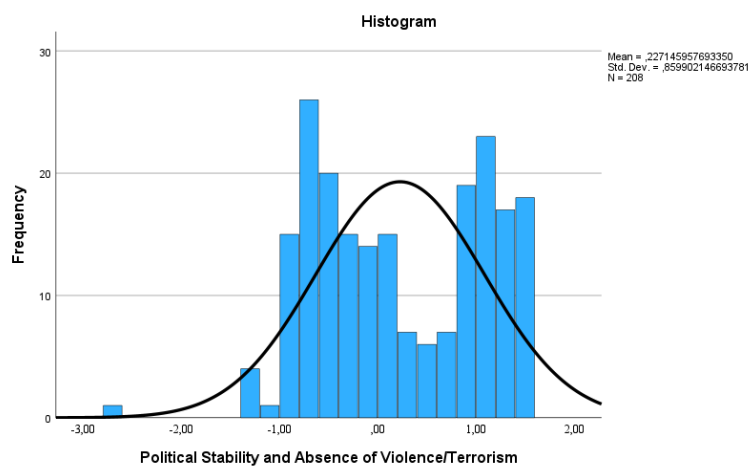
Political Stability and Absence of Violence/Terrorism index measures perceptions of the possibility of political instability such as politically motivated violence and terrorism (Kaufmann, et al., 2010). The estimation provides the nation's score on the overall indication in standard normal distribution units, between -2.5 and 2.5.

Hakson (2010) verified the hypothesis that “FDI inflows are high for politically unstable countries” (Hakson, 2010. P. 60). Consequently “FDI inflows have a positive relationship with corruption index, while negative relationship with democratic index” (Hakson, 2010. P. 62). In fact, corruption has a positive effect on FDI inflows and inward performance, but political factors have a negative impact meaning that countries with substantial corruption in government and low political rights have more FDI inflow. Moreover, according to Lucas (1990), political risk has a significant impact on capital flows, particularly foreign direct investment because it is one of the most important considerations for investors looking to invest in emerging countries. Political instability in these nations, which includes issues such as government instability, civil unrest, political violence, corruption, and abrupt policy changes, can have a considerable influence on investment decisions. Despite the increased political risk associated with politically unstable nations, Lucas (1990) believes that FDI inflows may still be significant in these regions. While political risk is a substantial factor restricting

capital flows, it may not always make the FDI inflows decrease, particularly in developing nations where other advantages may exceed the risks for some investors. On the contrary, According to Groznykh et al (2020), the importance of political stability changes based on the nations that receive Foreign Direct Investment. Political stability is more significant in developed nations, particularly for investors in those nations. This is because developed economies prioritize nations with good external policies, stable political systems, low levels of corruption, and advantageous investment profiles when they want to invest. For this reason, developing nations need to make improvements to their political landscapes and establish attractive investment environments to draw in more Foreign Direct Investment from industrialized economies. In general, this variable can be analyzed as a determinant of FDI but their relationship is not a clear sign and needs to be studied.

This variable is one of the two scales of measurement among all the variables. Even if the estimation for the whole world has a range from -2.5 to 2.5 with the countries and the periods chosen the range is between -2.702 and 1.599 with a mean of 0.227.

*Figure 3.10: Histogram of Political Stability and Absence of Violence/Terrorism*



Source: personal elaboration of data from World Bank Group

**7. Labor force with advanced education (% of total working-age population with advanced education)**

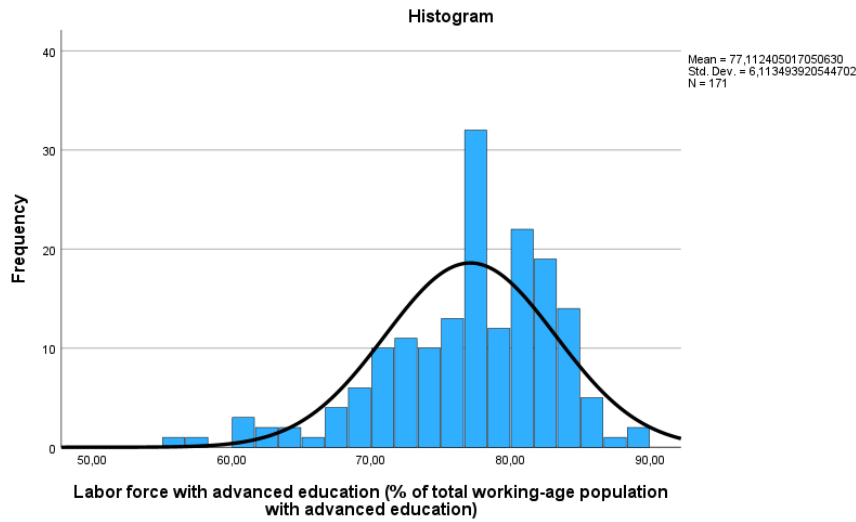
**Hypothesis 7: Ceteris paribus, an increase in the Labor force with advanced education results in a rise in Foreign Direct Investment.**

According to the International Standard Classification of Education (2011), advanced education includes short-cycle tertiary education, a bachelor's degree, a master's degree, and a doctorate. This ratio represents the proportion of graduates who are currently employed out of the total number of graduates. This measure shows how a country exploits its highly educated workforce while preserving their skills. It means that a high ratio represents a high opportunity to find a job for a person with a high level of education after having completed his/her studies. A high percentage may indicate a strong demand for skilled workers in the labor market, representing an economy ready to expand, innovate, and compete internationally. A high number of graduate workers can be interpreted as a sign of the country's capacity to innovate and be competitive. The advanced skills and knowledge of graduates can be essential for innovation and technological development, factors that can attract investors interested in benefiting from an environment rich in research and development. This situation may make the country more attractive to foreign investors, as it suggests that there is an availability of highly skilled labor, innovation, and technological development. By tracking this indicator over time, improvements in employment rates over the years or significant changes in response to economic or technological changes can be observed.

This variable has the lowest number of observations, 171/221 because it is one of the most difficult data to obtain among the periods and countries. The mean is 77.112 with the lowest value of 56.578. The skewness is highly negative so, the normal curve has a long left tail showing that there are many small values.



Figure 3.11: Histogram of Labor force with advanced education



Source: personal elaboration of data from World Bank Group

## 8. Taxes on income, profits, and capital gains (% of revenue)

**Hypothesis 8: Ceteris paribus, an increase in Taxes on income, profits, and capital gains results in a decrease in Foreign Direct Investment.**

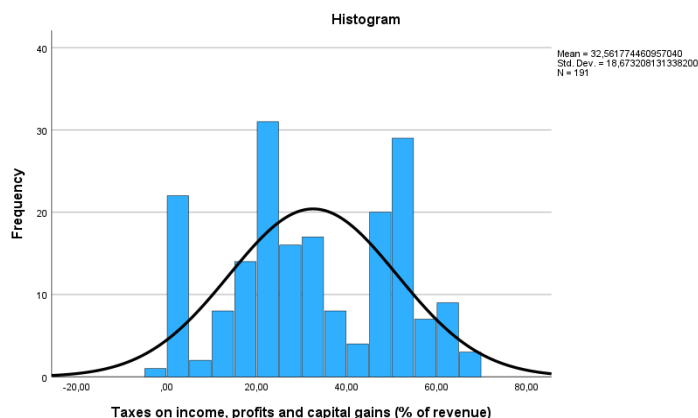
“Taxes on income, profits, and capital gains are levied on the actual or presumptive net income of individuals, on the profits of corporations and enterprises, and on capital gains, whether realized or not, on land, securities, and other assets. Intragovernmental payments are eliminated in consolidation.” (The WorldBank DataBank)

High taxes in the host nation typically discourage foreign direct investment. This is because foreign firms consider profit taxes when assessing the potential profitability of an investment in a country. Consequently, countries with lower profit taxes tend to be more attractive to foreign investors because they offer more opportunities to maximize net profits. (Stoewhase & Haufler, 2003). “While lower tax rates in the recipient countries fail to significantly attract FDI, higher taxes tend to discourage new FDI inflows” (Bénassy-Quéré et al., 2000. P. 26). It means that corporate taxes alone, cannot attract FDI but high rates can discourage them. The first reason is that lower tax rates alone may not be enough to encourage investors to invest in a particular country without considering other factors. The second reason is that higher tax rates in host countries may discourage new FDI flows because of the reduction of net returns that foreign

investors can earn from their investments, making one country less attractive than others with lower tax rates. Investors may prefer to invest in countries with more favorable tax regimes to maximize their returns on investment. According to Djankov et al. (2010), there is a significant and substantial impact of effective tax rates on investment and Foreign Direct Investment. Specifically, an increase in the first-year effective tax rate leads to a reduction in the investment rate and the FDI rate.

This variable has a high range, because the minimum and the maximum are distant, respectively 67.857 in 2022 in Australia and -1.350 in 2016 in Russia. The negative value seems to be an error, but I did a double check on the dataset, and it is correct meaning that this data reflects a peculiar situation in Russia. The mean is 32.56 and the skewness is quite negative meaning that there are more small values than big ones.

Figure 3.12: Histogram of Taxes on income, profits, and capital gains.



Source: personal elaboration of data from World Bank Group

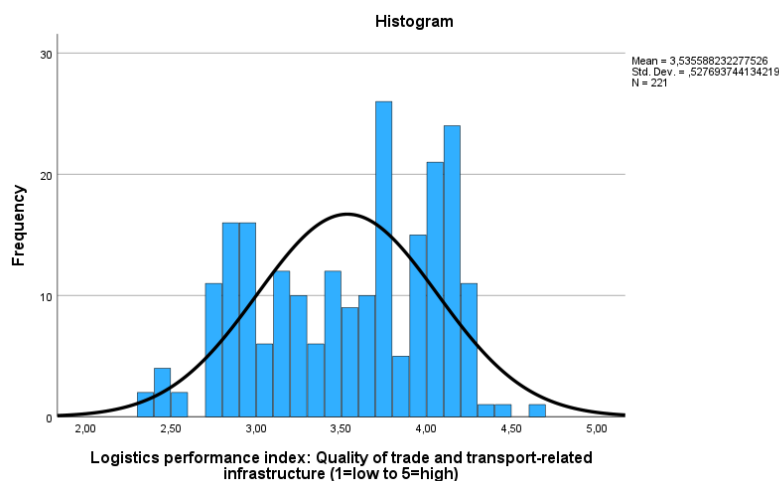
## 9. Logistics performance index: Quality of trade and transport-related infrastructure (1=low to 5=high)

**Hypothesis 9: Ceteris paribus, an increase in Logistics performance index in a rise in Foreign Direct Investment.**

“Logistics professionals' perception of country's quality of trade and transport related infrastructure (e.g. ports, railroads, roads, information technology), on a rating ranging from 1 (very low) to 5 (very high). Scores are averaged across all respondents”. (The WorldBank DataBank). Logistics is meant as a network of services that support the

physical movement of goods, trade across borders, and trade within borders. It includes transportation, warehouse movement, brokerage, express delivery, and operations. A nation's logistics performance, as determined by the LPI, assesses its capacity to coordinate the flow of goods effectively, facilitate cross-border trade, and carry out domestic business. (World Bank's Global Trade and Regional Integration Team, 2023). "Moreover, LPI is considered a factor to positively impact FDI inflows into a country since adequate infrastructure facilities, efficient transportation systems, etc., boost a country's logistics performance". According to Sung-Hee (2018) "Countries with better logistic performance are attractive for investment because of low transaction costs" (Wannisinghe, Jayakody et al. P. 45). Indeed, effective logistics systems improve the whole supply chain, reducing transportation costs and avoiding delays. Nations with a high logistics performance index attract investors because they provide a favorable environment for conducting business. This variable is the second scale of the dataset that ranges from 1 to 5 but with this data, the minimum is 2.38 and the maximum 4.6 meaning that the situation is quite positive without the presence of really small values which would have represented inefficiency.

Figure 3.13: Histogram of Logistic Performance Index



Source: personal elaboration of data from World Bank Group

### 3.4 THE EMPIRICAL MODEL

To investigate the determinants of 17 countries' FDI inflow and stocks during different periods, based on the related literature and considering the availability of data, the empirical model is set as follows:

$$\text{FDIflows}_i = \alpha + \beta_1 v_{1i} + \beta_2 v_{2i} + \beta_3 v_{3i} + \beta_4 v_{4i} + \beta_5 v_{5i} + \beta_6 v_{6i} + \beta_7 v_{7i} + \beta_8 v_{8i} + \beta_9 v_{9i} + \varepsilon_i$$

$$\text{FDIstocks}_i = \alpha + \beta_1 v_{1i} + \beta_2 v_{2i} + \beta_3 v_{3i} + \beta_4 v_{4i} + \beta_5 v_{5i} + \beta_6 v_{6i} + \beta_7 v_{7i} + \beta_8 v_{8i} + \beta_9 v_{9i} + \varepsilon_i$$

where  $\text{FDIflows}_i$  = Foreign direct investment, net inflows (BoP, current US\$) for the country  $i$  and  $\text{FDIstocks}_i$  = Foreign Direct Investment stocks (current US\$) for the country  $i$ , are the dependent variables and

$v_1$ = Government expenditure on education, total (% of GDP)

$v_2$ = Employment to population ratio, 15+, total (%) (national estimate)

$v_3$ = Urban population (% of total population)

$v_4$ = Adjusted net national income per capita current \$

$v_5$ = GDP growth (annual %)

$v_6$ = Political Stability and Absence of Violence/Terrorism

$v_7$ = Labor force with advanced education (% of total working-age population with advanced education)

$v_8$ = Taxes on income, profits, and capital gains (% of revenue)

$v_9$ = Logistics performance index: Quality of trade and transport-related infrastructure (1=low to 5=high)

are the explanatory variables,  $\alpha$  is the intercept term and  $\beta$  is the partial regression coefficient. There is one for  $\beta$  each independent variable because they represent how the mean value of the determinant variable changes per unit change in an independent. The intercept term “gives the mean or average effect on  $Y$  of all the variables excluded from the model, although its mechanical interpretation is the average value of  $Y$  when  $X_2$  and  $X_3$  are set equal to zero” (Gujarati & Porter, 2009. P. 189) and  $\varepsilon$  is the stochastic error.

To reduce the multicollinearity the dependent variables are transformed in logarithm using the function: transform  $\rightarrow$  compute variable  $\rightarrow$  LN(FDIstock) and LN(FDIflows)  $\rightarrow$  target variable: LNstocks and LNflows.

### 3.5 REGRESSION ANALYSIS

The regression is computed with the nine independent variables to see how they influence the FDI. To do the regression I used the SPSS software. Firstly, I did the regression using the logarithm of the inflow and the stock. The best model is the one with the natural logarithm of the stocks, so I used this one for my empirical analysis.

However, before running the regression is important to look at the correlation between the independent variables. This is because if there is multicollinearity the results will be misleading and not explanatory of the real situation. This problem exists when two or more variables of a regression model are highly correlated. It may occur on different occasions such as during the collection of the data because the population has some limits, when there are time series and there is a common pattern of the variables (Gujarati & Porter, 2009).

To analyse the correlation the process is: analyse → correlate → bivariate.

Putting all the independent variables the software generates a matrix that informs on the correlation existing between the variables, and on the strength of the correlation. The Pearson correlation coefficient “measures this strength of (linear) association” (Gujarati & Porter, 2009. P. 20). The coefficient might vary from -1 to 1. A value of 1 implies a complete positive correlation, which means that if one variable grows, the other increases correspondingly. A value of -1 implies a complete negative correlation, which means that when one variable grows, the other decreases accordingly. Lastly, a value of 0 indicates no linear relationship between the two variables. Between them, all the possible values represent a positive or negative correlation. The significance level (Sig. 2-tailed) linked with the correlation coefficient shows whether the observed association is statistically significant or not. In this case, the level is fixed at 0.01. If the p-value is < 0.001 or < 0.05, it indicates that the observed associations are statistically significant and are denoted respectively with one \* or two \*.

Figure 3.14: Correlation matrix

		Government expenditure on education, total (% of GDP)	Employment to population ratio, 15+, total (%) (national estimate)	Adjusted net national income per capita current \$	Political Stability and Absence of Violence/Terrorism	Labor force with advanced education (% of total working-age population with advanced education)	Taxes on income, profits and capital gains (% of revenue)	Logistics performance index: Quality of trade and transport-related infrastructure (1=low to 5=high)	Urban population (% of total population)	GDP growth (annual %)
Government expenditure on education, total (% of GDP)	Pearson Correlation	1	-0.0372**	-0.005	-0.037	0.311**	0.296**	-0.199**	0.011	-0.276**
	Sig. (2-tailed)		<.001	0.947	0.637	<.001	<.001	.007	.878	<.001
	N	181	171	178	169	143	164	181	181	181
Employment to population ratio, 15+, total (%) (national estimate)	Pearson Correlation	-.372**	1	.461**	.514**	.103	.056	.383**	.357**	.239**
	Sig. (2-tailed)	<.001		<.001	<.001	.182	.462	<.001	<.001	<.001
	N	171	206	189	193	171	177	206	206	206
Adjusted net national income per capita current \$	Pearson Correlation	-.005	.461**	1	.826**	.221**	.347**	.776**	.455**	-.093
	Sig. (2-tailed)	.947	<.001		<.001	.005	<.001	<.001	<.001	.187
	N	178	189	203	191	157	186	203	203	203
Political Stability and Absence of Violence/Terrorism	Pearson Correlation	-.037	.514**	.826**	1	.438**	.455**	.783**	.596**	-.088
	Sig. (2-tailed)	.637	<.001	<.001		<.001	<.001	<.001	<.001	.204
	N	169	193	191	208	158	179	208	208	208
Labor force with advanced education (% of total working-age population with advanced education)	Pearson Correlation	.311**	.103	.221**	.438**	1	.207*	.272**	.542**	.035
	Sig. (2-tailed)	<.001	.182	.005	<.001		.012	<.001	<.001	.652
	N	143	171	157	158	171	147	171	171	171
Taxes on income, profits and capital gains (% of revenue)	Pearson Correlation	.296**	.056	.347**	.455**	.207*	1	.539**	-.012	-.006
	Sig. (2-tailed)	<.001	.462	<.001	<.001	.012		<.001	.869	.931
	N	164	177	186	179	147	191	191	191	191
Logistics performance index: Quality of trade and transport-related infrastructure (1=low to 5=high)	Pearson Correlation	-.199**	.383**	.776**	.783**	.272**	.539**	1	.317**	.030
	Sig. (2-tailed)	.007	<.001	<.001	<.001	<.001	<.001		<.001	.656
	N	181	206	203	208	171	191	221	221	221
Urban population (% of total population)	Pearson Correlation	.011	.357**	.455**	.596**	.542**	-.012	.317**	1	-.238**
	Sig. (2-tailed)	.878	<.001	<.001	<.001	<.001	.869	<.001		<.001
	N	181	206	203	208	171	191	221	221	221
GDP growth (annual %)	Pearson Correlation	-.276**	.239**	-.093	-.088	.035	-.006	.030	-.238**	1
	Sig. (2-tailed)	<.001	<.001	.187	.204	.652	.931	.656	<.001	
	N	181	206	203	208	171	191	221	221	221

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

Source: personal elaboration of data from World Bank Group

Table 3.14 shows the correlation of the variables of the models. A high value of correlation suggests potential multicollinearity issues that may cause problems when running the regression. In this case, the variable highly correlated with the highest number of the other variables is GDP growth. For this reason, I decide to exclude it from the regression to avoid potential collinearity issues.

After the Correlation analysis, I did the Multivariate Regression (analyze → regression → linear) which created three tables. The first one is the Model Summary which shows the R and R squared. The R represents the degree of correlation while the R<sup>2</sup> “measures the proportion or percentage of the total variation in Y explained by the regression model” (Gujarati & Porter, 2009. P.76). However, it is even better to use the Adjusted R Square “because R2 tends to give an overly optimistic picture of the fit of the regression, particularly when the number of explanatory variables is not very small compared with the number of observations” (Gujarati & Porter, 2009. P. 202). Moreover, because there is more than one independent variable, it is better to look at the Adjusted R Square which is 0.558 meaning that the model explains 55.8% of the data.

*Figure 3.15: Model 1 Summary<sup>a</sup> Table*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.768 <sup>a</sup>	0.590	<b>0.558</b>	,0.88821

a. Predictors: (Constant), Logistics performance index: Quality of trade and transport-related infrastructure (1=low to 5=high), Government expenditure on education, total (% of GDP) , Urban population (% of total population), Labor force with advanced education (% of total working-age population with advanced education), Employment to population ratio, 15+, total (%) (national estimate), Taxes on income, profits and capital gains (% of revenue), Political Stability and Absence of Violence/Terrorism, Adjusted net national income per capita current \$

Source: personal elaboration of data from World Bank Group

The second table computed by the software is the Anova Table for the analysis of the variance which shows if the regression model is valid or not. On the one hand, the null hypothesis for ANOVA is that the regression model is not valid meaning that all the regression coefficients are 0. On the other hand, H1 states that the regression is valid so that at least one estimator is different from 0. To decide whether to accept or reject the hypothesis is important to understand the different levels of significance, determining the rejection zone. They represent the probability of rejecting H0 when it is true so they

must be very small. Usually, there are three significance levels, in a decreasing order with alpha equal to 0.01, 0.05, and 0.1. The first one is the most precise and the second is more commonly used but, in this study, both can be used for the description of the regression. If  $\text{Sig} < \alpha$ , which is fixed at 0.01 the predictors are significant while on the contrary they don't have much significance and the regression would be useless. So, if the p-value is very low, I can reject  $H_0$  and so my model is valid. In this case, the Sig is  $< 0.001$  so I can reject the hypothesis that says that the model is not significant, and I can study the regression.

Figure 3.16: Model 1 ANOVA<sup>a</sup> Table

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	115.769	8	14.471	18.343	<b>&lt;.001<sup>b</sup></b>
	Residual	80.469	102	0.789		
	Total	196.238	110			

a. Dependent Variable: Inflows

b. Predictors: (Constant), Logistics performance index: Quality of trade and transport-related infrastructure (1=low to 5=high), Government expenditure on education, total (% of GDP), Urban population (% of total population), Labor force with advanced education (% of total working-age population with advanced education), Employment to population ratio, 15+, total (%) (national estimate), Taxes on income, profits and capital gains (% of revenue), Political Stability and Absence of Violence/Terrorism, Adjusted net national income per capita current \$

Source: personal elaboration of data from World Bank Group

The third table of the regression is the one of the Coefficients. In the first row, there is the (Constant) which is the value of the dependent variable when the independent is 0 so it is the intercept of the regression line. The B column represents the slope of the regression line showing how a variation of the coefficient changes the dependent variable. Looking at the Sig. is possible to understand the strength of the significance. If the value of the beta is positive, it indicates a positive relationship between the variables; conversely, a negative value suggests the opposite. Because of the different scales of measurement used for the variables it is possible to compare the coefficient only by looking at the standardized coefficients beta.

According to Fischer (1956), the level of significance cannot be a general concept but must be adjusted depending on the research. Given the paper's focus on foreign direct investment and its drivers across several countries and periods, I chose the significance



level of 5%. As a result, if a variable has a Sig.<0.005 it is significant, otherwise if it is higher it won't influence the dependent one and its coefficient will be 0.

Figure 3.17: Model 1 Regression Results <sup>a</sup> Table

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
(Constant)	15.389	2.918		5.275	<,001					
<b>Government expenditure on education, total (% of GDP)</b>	,229	,134	,133	1,706	<b>,091</b>	,036	,167	,108	,662	1,512
Employment to population ratio, 15+, total (%) (national estimate)	,034	,025	,160	1,374	,173	,313	,135	,087	,296	3,376
<b>Urban population (% of total population)</b>	,047	,011	,354	4,148	<b>&lt;,001</b>	,183	,380	,263	,552	1,812
<b>Adjusted net national income per capita current \$</b>	7,048E-5	,000	1,066	6,397	<b>&lt;,001</b>	,416	,535	,406	,145	6,907
<b>Political Stability and Absence of Violence/Terrorism</b>	-2,174	,262	-1,301	-8,311	<b>&lt;,001</b>	,054	-,635	-,527	,164	6,091
Labor force with advanced education (% of total working-age population with advanced education)	-,022	,021	-,092	-1,048	,297	-,192	-,103	-,066	,526	1,901
Taxes on income, profits and capital gains (% of revenue)	,012	,007	,175	1,745	,084	,127	,170	,111	,399	2,506
Logistics performance index: Quality of trade and transport-related infrastructure (1=low to 5=high)	,505	,423	,216	1,194	,235	,260	,117	,076	,123	8,140

a. Dependent Variable: Inflows

Source: personal elaboration of data from World Bank Group

As shown in Table 3.17, the three variables in bold are highly significant, with a Sig.<0,001. They are urban population, adjusted net national income per capita, and political stability and absence of violence/terrorism. In addition to them, there is the Government expenditure on education variable that is significant at 0,1%.

To see if using another dependent variable, the results are more explicative I run the multivariate regression also using the LN of the stocks. With model 2 using the LN stocks rather than the LN flows, the table of the model summary 3.18 shows an adjusted  $R^2$  of 0,547 meaning that this new model explains 54,7% of the cases which is quite like the previous one.

*Figure 3.18: Model 2 Summary Table*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
2	,761 <sup>a</sup>	,579	<b>,547</b>	,89923

a. Predictors: (Constant), Logistics performance index: Quality of trade and transport-related infrastructure (1=low to 5=high), Government expenditure on education, total (% of GDP) , Urban population (% of total population), Labor force with advanced education (% of total working-age population with advanced education), Employment to population ratio, 15+, total (%) (national estimate), Taxes on income, profits and capital gains (% of revenue), Political Stability and Absence of Violence/Terrorism, Adjusted net national income per capita current \$

Source: personal elaboration of data from World Bank Group

Even the Anova Table 3.19 below confirms that this model is valid because the Sig. < 0.001 and it is possible to continue the analysis by looking at the Coefficients table which is the most important one.

*Figure 3.19: Model 2 ANOVA <sup>a</sup> Table*

Model		Sum of Squares	df	Mean Square	F	Sig.
2	Regression	118.954	8	14.869	18.389	<,001 <sup>b</sup>
	Residual	86.522	107	,809		
	Total	205.476	115			

a. Dependent Variable: Instock

b. Predictors: (Constant), Logistics performance index: Quality of trade and transport-related infrastructure (1=low to 5=high), Government expenditure on education, total (% of GDP), Urban population (% of total population), Labor force with advanced education (% of total working-age population with advanced education), Employment to population ratio, 15+, total (%) (national estimate), Taxes on income, profits and capital gains (% of revenue), Political Stability and Absence of Violence/Terrorism, Adjusted net national income per capita current \$

Source: personal elaboration of data from World Bank Group

Figure 3.20: Model 2 Regression Results <sup>a</sup> Table

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
(Constant)	22,234	2,840		7,828	<,001					
<b>Government expenditure on education, total (% of GDP)</b>	,387	,133	,222	2,911	<b>,004</b>	,187	,271	,183	,677	1,476
Employment to population ratio, 15+, total (%) (national estimate)	,016	,025	,075	,647	,519	,014	,062	,041	,292	3,423
<b>Urban population (% of total population)</b>	,055	,011	,410	4,970	<b>&lt;,001</b>	,080	,433	,312	,579	1,727
<b>Adjusted net national income per capita current \$</b>	4,987E-5	,000	,773	4,626	<b>&lt;,001</b>	,106	,408	,290	,141	7,088
<b>Political Stability and Absence of Violence/Terrorism</b>	-2,005	,246	-1,220	-8,144	<b>&lt;,001</b>	-,159	-,619	-,511	,175	5,706
<b>Labor force with advanced education (% of total working-age population with advanced education)</b>	-,067	,020	-,282	-3,407	<b>&lt;,001</b>	-,254	-,313	-,214	,573	1,746
<b>Taxes on income, profits and capital gains (% of revenue)</b>	,038	,007	,535	5,517	<b>&lt;,001</b>	,282	,471	,346	,418	2,390
Logistics performance index: Quality of trade and transport-related infrastructure (1=low to 5=high)	,116	,414	,049	,280	,780	,102	,027	,018	,129	7,780

a. Dependent Variable: Instock

Source: personal elaboration of data from World Bank Group

Table 3.20 shows the coefficient of the new model, using the natural logarithm of the stocks. Compared to model one, there are two more variables highly significant and the one that was significant at 0.1 now is at 0.005. In total, there are six significant variables. Five variables have a Sig.<0.001 and one <0.005. In contrast, the others have a p-value higher than alpha meaning that they don't influence the dependent variable

and their coefficient is automatically zero. There are two motivations why a coefficient should be non-significant. The first is that the p-value is too high, so the variable is not statistically significant and the second is the variable is too much connected to another independent variable. To verify if the insignificance of B is because of multicollinearity I look at the VIF column. If the values, there are  $> 10$  it means that they are too strongly correlated. In this case, the VIF for Employment to population ratio and Logistic Performance are respectively 3,4 and 7,78 meaning that there is not the problem of multicollinearity but only the p-value is too high.

### **3.6 RESULTS**

Starting from the first independent variable, the Government expenditure on education has a p-value lower than 0.005. This means we can reject  $H_0$  which states that the variable has no influence on the FDI stocks and accept  $H_1$  with a positive correlation. The standardized coefficient is 0.222 meaning that an increase of one unit of the expenditure on education by the Government generates an increase of 0.222 in the FDI stocks. This result is in line with the literature and confirms the hypothesis stated before of a positive impact of this variable on the FDI. However, among the significant variables, it has the lowest value, meaning that it influences the dependent variable less than the others.

The Employment-to-population ratio is not significant because the p-value is too high, so the null hypothesis cannot be rejected and this variable has no impact on the FDI stocks.

Urban population is strongly significant and impacts positively the FDI meaning that an increase of one unit in this variable, makes the FDI increase by 0.410. This positive correlation confirms hypothesis 3 and it is supported by the creation of a bilateral relationship between FDI and urbanization. Indeed, urbanization attracts FDI confirming the idea of Bhattacharya et al (2023) and FDI increases the number of people moving from the countryside to the cities stated also by Ainha and Tirtosuharto (2023).

The Adjusted Net National Income per capita measures the economic growth and in this analysis, it substitutes the GDP growth. They are both supposed to be positively correlated with FDI and in fact, the variable used in the regression has a standardized

coefficient of 0.773. It is the second variable that more impacts the FDI after the political stability highlighting its importance as a determinant of Foreign Direct Investment and confirming the fourth hypothesis.

The variable Political Stability and Absence of Violence is highly significant and has a strong negative impact on FDI. Indeed, an increase in the index implies a reduction in the FDI, as it is stated in hypothesis 6. This result is supported by the literature agreeing that FDI is commonly done in countries with high political instability. This means that when the index increases, the political situation becomes more stable, and there is a corresponding decrease in FDI.

The Labor Force with Advanced Education is strongly significant with a coefficient of -0.282 meaning that the impact is small and negative. This result is in contrast with the hypothesis stated before and an explanation of this is that a high number of graduated employees could indicate a more competitive labor market. This increase in skilled labor costs could discourage foreign firms from investing in the country if they are looking for cheap labor. This is because, rising average wage costs, especially if demand for skilled workers exceeds supply, could reduce the country's attractiveness to foreign investors. Because this study doesn't specify the nature of the FDI this result is not valid in all the contexts, this argument holds when talking about labor-intensive activities but not for strategic assets seeking. This is because, for the first kind of FDI, the cost of labor is one of the main determinants and skilled workers are not needed. In the situation of other kinds of FDI, the impact would be different and maybe positive.

The result of the variable Taxes on income, profits, and capital gains is not supported by the literature. Usually, this one should be negatively linked to FDI meaning that an increase in taxes reduces the foreign direct investment. However, the results in this regression are different showing that an increase of 1% in taxes causes an increase of FDI of 0.535. Under some conditions, a country may see modest but potentially significant advantages from having higher taxes on profit and income than others. Thanks to the tax earnings, the government could make investments in many fields, such as infrastructure and education fostering an attractive economic environment and trained workforce. Moreover, an increase in taxes could imply a more progressive tax structure in which higher incomes pay higher taxes reducing the inequality in observed incomes (Duncan & Peter, 2012).

Lastly, the Logistic performance index is not significant because its p-value is high even if the VIF is not, meaning that there is no multicollinearity but the error in accepting it as a determinant of FDI is too high. In conclusion, it doesn't impact the regression.

### **3.7 CONCLUSION AND POLICY IMPLICATIONS**

The regression had several results. Out of the nine independent variables, seven are significant and impact in different ways the FDI stocks.

The limited positive correlation between Government Expenditure on education and FDI stocks underscores a possible role of investment in education as a driver of FDI. This opportunity can be enhanced by trying to increase even more this kind of public expense and see if it has positive implications on the FDI. It can be used as a strategic economic lever with the idea that in the future the more educated pupils will create a more skilled workforce attracting foreign investors who are increasingly looking for skilled labor.

One variable that surprisingly doesn't result in significance is the employment ratio despite its apparent importance in the literature. Therefore, since this variable is not significant, in this study, there is no need to analyze its consequences and possible solutions in detail. However, it is important to investigate potential explanations for this and to think about directions for future research because its lack of significance may be due to methodological constraints, choice of the database, or other factors. Even though it wasn't significant in this specific analysis, the employment ratio is still a crucial component of economic development and should be given more consideration in future studies.

More significant and with a bigger impact on the FDI is the percentage of the urban population over the total population. It demonstrates that cities act as hubs of economic activity and innovation and foreign investors are looking forward to them. For this reason, policies should foster urban development, improve urban structure, and invest in public services, and modern and efficient urban infrastructure such as reliable public transportation, road and rail networks, telecommunications services, and access to sustainable energy. All these improvements will increase the life quality of people living in urban areas and the attractiveness of these to multinational enterprises seeking efficiency and profits. If the urban population increases the results said that the FDI

increases so strategies that encourage people to move from the countryside to the cities are useful to increase this investment. These strategies could be improving transportation and telecommunications infrastructure, providing incentives for businesses moving into the urban area, affordable housing policies, promoting cultural activities, and enhancing services such as education and health.

A variable with a significant impact on FDI is the Adjusted net Income per capita which represents the economic growth. A small increase in this value generates a big increase in the FDI stocks. This conclusion is obvious because of the importance of economic growth to attract any kind of investment. Specifically, some policy implications include changes in industrial politics to focus on strategic sectors, encourage entrepreneurship and innovation, improve the fiscal and wage system, and integrate the sustainability aspects into the economic policies.

The results show an expected correlation between a decline in FDI and an improvement in political stability. This is consistent with the theory that studied that FDI investors frequently choose politically unstable areas. This conclusion won't be in favor of promoting violence or instability but on the contrary, focuses on the reassessment of strategies in countries politically stable. It is needed a shift in the choice of international investors toward stable countries highlights that the risks there are higher than the benefits. It is important to communicate that stability is a competitive advantage because of lower risks and greater security of the investments.

The findings for the variable expressing the percentage of workers among educated people show that high values can discourage FDI. This conclusion contradicts the theory and raises the possibility that a high number of graduates might result in higher labor prices and a more competitive labor environment. These kinds of dynamics might discourage international companies looking to reduce costs, especially in sectors where labor is a critical component. To solve this problem, it is important to communicate the presence of a skilled workforce in sectors such as technology, engineering, and healthcare, where it is needed. In the others, such as manufacturing or agriculture the emphasis should be put on the availability of resources. Considering the rising labor cost as a negative factor a more flexible labor market policy could adjust the prices and make these countries more competitive.

Lastly, the unexpected finding regarding the relationship between taxes on income, profits, capital gains, and FDI requires further investigation. A plausible justification for this result is that increased tax income enables the government to allocate resources towards important sectors like education, work training, and infrastructure, increasing productivity and improving the business environment. However, this result needs further studies and should not be considered that important.



## CONCLUSION AND LIMITATIONS

In this paper, the analysis of the determinants of FDI has confirmed most hypotheses of previous studies in this field. The variables of government expenditure on education, urban population, adjusted net national income per capita, and others have been revealed to influence the FDI stocks. After having studied the literature, I chose the most influential and available determinants and found the best regression model. Six variables out of eight are significant and each one influences positively or negatively with different magnitude of the dependent variable. However, the employment-to-population ratio and the logistic index are not significant. The results show that an increase in education expenditure by the government leads to a positive increase in FDI stocks at a significance level of 0.005. The urban population is strongly significant, affecting FDI positively. Indeed, policies should improve urban structure, invest in public services and modern infrastructure, and foster urban development because encouraging people to move from rural areas to cities will increase FDI. The Adjusted Net National Income per capita, which measures economic growth, is the second variable that impacts more FDI after GDP growth. To exploit this advantage, industrial politics need to be changed, encouraging entrepreneurship and innovation, improving the fiscal and wage system, and integrating sustainability into economic policies. Political stability and the absence of violence have a strong negative impact on FDI, meaning that an increase in the index implies a reduction in FDI. Even if it is counterintuitive, it is in line with the literature. The variable of the Labor Force with Advanced Education has a small and negative impact, as it could discourage foreign firms from investing in the country. It is not always true but depends on the kind of FDI. To address this, it is important, depending on the kind of investment, to invest in a skilled workforce in sectors like technology, engineering, and healthcare, or focus on resource availability in manufacturing and agriculture. In the variable taxes on income, profits, and capital gains the results are not supported by the literature, as an increase in taxes can lead to an increase in FDI. For this reason, this result needs further explanation and other investigations.

This study presents some limitations such as the availability and consistency of data. An element of complexity is introduced by the different political and economic situations of the countries so it may be difficult to generate research results or universally applicable

considerations. Measurement and variable selection are other crucial issues even if the database used are well known and verified. Furthermore, the timeframe chosen of 13 years could not adequately capture the long-term consequences of some factors but it is useful to have a recent dataset. Even with the correlation matrix before the regression, there may be endogeneity issues, because some variables are endogenously connected to FDI. In summary, there are several limitations to this paper, all of which need to be properly considered to guarantee the accuracy and consistency of the results. However, this research is still very relevant even with the limitations because it offers insightful information that can guide policy decisions aimed at increasing and maintaining high levels of foreign investments, which are essential for economic growth and development.

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